As filed with the Securities and Exchange Commission on February 20, 2019.

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 20-F

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934

Or

☑ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

Or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Or

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of event requiring this shell company report ____________

For the transition period from N/A to N/A

Commission file number: 001-14930

HSBC Holdings plc

(Exact name of Registrant as specified in its charter)

N/A	United Kingdom
(Translation of Registrant's name into English)	(Jurisdiction of incorporation or organisation)

8 Canada Square
London E14 5HQ
United Kingdom
(Address of principal executive offices)

Gavin A Francis
8 Canada Square
London E14 5HQ
United Kingdom
Tel +44 (0) 20 7991 8888
Fax +44 (0) 20 7992 4880
(Name, Telephone, Email and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

Title of each class	Name of each exchange on which registered
Ordinary Shares, nominal value US$0.50 each.	London Stock Exchange
	Hong Kong Stock Exchange
	Euronext Paris
	Bermuda Stock Exchange
	New York Stock Exchange*
American Depository Shares, each representing 5 Ordinary Shares of nominal value US$0.50 each.	New York Stock Exchange
6.20% Non-Cumulative Dollar Preference Shares, Series A	New York Stock Exchange*

American Depositary Shares evidenced by American Depositary receipts, each representing one-fortieth of a Share of 6.20% Non-Cumulative Dollar Preference Shares, Series A	New York Stock Exchange
5.10% Senior Unsecured Notes Due 2021	New York Stock Exchange
4.00% Senior Unsecured Notes Due 2022	New York Stock Exchange
4.875% Senior Unsecured Notes Due 2022	New York Stock Exchange
7.625% Subordinated Notes due 2032	New York Stock Exchange
7.35% Subordinated Notes due 2032	New York Stock Exchange
6.5% Subordinated Notes 2036	New York Stock Exchange
6.5% Subordinated Notes 2037	New York Stock Exchange
6.8% Subordinated Notes Due 2038	New York Stock Exchange
6.100% Senior Unsecured Notes due 2042	New York Stock Exchange
8.125% Perpetual Subordinated Capital Securities Exchangeable at the Issuer's Option into Non-Cumulative Dollar Preference Shares	New York Stock Exchange
8.00% Perpetual Subordinated Capital Securities Exchangeable at the Issuer's Option into Non-Cumulative Dollar Preference Shares, Series 2	New York Stock Exchange
4.250% Subordinated Notes due 2024	New York Stock Exchange
5.250% Subordinated Notes due 2044	New York Stock Exchange
4.250% Subordinated Notes due 2025	New York Stock Exchange
3.400% Senior Unsecured Notes due 2021	New York Stock Exchange
4.300% Senior Unsecured Notes due 2026	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2021	New York Stock Exchange
2.950% Senior Unsecured Notes due 2021	New York Stock Exchange
3.600% Senior Unsecured Notes due 2023	New York Stock Exchange
3.900% Senior Unsecured Notes due 2026	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2021	New York Stock Exchange
2.650% Senior Unsecured Notes due 2022	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2022	New York Stock Exchange
4.375% Subordinated Notes due 2026	New York Stock Exchange
3.262% Fixed Rate/Floating Rate Senior Unsecured Notes due 2023	New York Stock Exchange
3.033% Fixed Rate/Floating Rate Senior Unsecured Notes due 2023	New York Stock Exchange
4.041% Fixed Rate/Floating Rate Senior Unsecured Notes due 2028	New York Stock Exchange
3.950% Fixed Rate/Floating Rate Senior Unsecured Notes due 2024	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2021	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2024	New York Stock Exchange
4.583% Fixed Rate/Floating Rate Senior Unsecured Notes due 2029	New York Stock Exchange
2.175% Resettable Senior Unsecured Notes due 2023	New York Stock Exchange
4.292% Fixed Rate/Floating Rate Senior Unsecured Notes due 2026	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2021	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2026	New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Securities Exchange Act of 1934: **None**

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Securities Exchange Act of 1934: **None**

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

Ordinary Shares, nominal value US$0.50 each **20,360,841,496**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☑ **Yes** ☐ No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. ☐ Yes ☑ **No**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☑ **Yes** ☐ No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). ☑ **Yes** ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☑	Accelerated filer	Non-accelerated filer

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP	International Financial Reporting Standards as issued by the International Accounting Standards Board ☑	Other

If "Other" has been checked in response to the previous question indicate by check mark which financial statement item the registrant has elected to follow.

☐ Item 17 ☐ Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

☐ Yes ☑ **No**

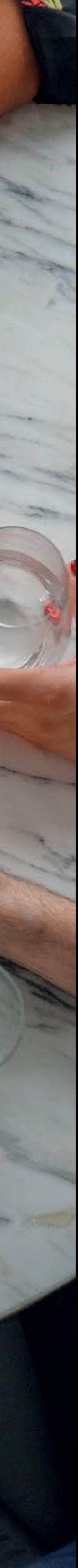
* Not for trading, but only in connection with the registration of American Depositary Shares.

Connecting customers to opportunities

HSBC aims to be where the growth is, enabling businesses to thrive and economies to prosper, and ultimately helping people to fulfil their hopes and realise their ambitions.

Inside front cover image
We are investing in digital technology to improve the service we provide to our customers. Our award-winning mobile apps are one of the ways we help them manage their money more quickly, conveniently and safely. This picture was taken by Terry Tam, who works for HSBC as an IT developer.

Employee photos
All the photos on the inside pages of this report, with the exception of Board and executive profiles, were taken by people working for HSBC in locations including the UK, China, India, Malta and Bangladesh. Many more employees across the Group's international network have contributed to HSBC Now Photo, an ongoing project that allows them to demonstrate their talent as photographers and show the diversity of the world around them.



Contents

This *Strategic Report* was approved by the Board on 19 February 2019.
Mark E Tucker

Group Chairman

None of the websites referred to in this *Form 20-F* (including where a link is provided), and none of the information contained on such websites, are incorporated by reference in this report.

Our values

Our values define who we are as an organisation and make us distinctive.

Dependable

We are dependable, standing firm for what is right and delivering on commitments.

Open

We are open to different ideas and cultures, and value diverse perspectives.

Connected

We are connected to our customers, communities, regulators and each other, caring about individuals and their progress.

As a reminder

Reporting currency

We use US dollars.

Adjusted measures

We supplement our IFRS figures with alternative performance measures used by management internally. These measures are highlighted with the following symbol: ◆

Further explanation may be found on page 34.

Strategic Report

An overview of how we are structured, what we do and where, our strategic priorities, the principal risks we face, and high-level performance information. The section is introduced by both the Group Chairman and the Group Chief Executive, and also explains the role of the Board.

Financial Review

Detailed reporting of our financial performance, at Group level as well as within our matrix structure. It also includes our full risk report and reporting on how we manage capital.

Corporate Governance

Details of our Board of Directors and senior management, and our approach to corporate governance and remuneration.

Financial Statements

Our financial statements and related notes and reports.

Additional Information

Important information for our shareholders, including contact information. Like any industry and company, we have our set of abbreviations and terminology. Accordingly, we provide an explanation of the abbreviations used. A glossary of key terms is available online at www.hsbc.com/investors.

Cautionary statement regarding forward-looking statements

The *Form 20-F* contains certain forward-looking statements with respect to HSBC's financial condition, results of operations and business, including the strategic priorities and 2020 financial, investment and capital targets described herein.

Statements that are not historical facts, including statements about HSBC's beliefs and expectations, are forward-looking statements. Words such as 'expects', 'targets', 'anticipates', 'intends', 'plans', 'believes', 'seeks', 'estimates', 'potential' and 'reasonably possible', variations of these words and similar expressions are intended to identify forward-looking statements. These statements are based on current plans, estimates and projections, and therefore undue reliance should not be placed on them. Forward-looking statements speak only as of the date they are made. HSBC makes no commitment to revise or update any forward-looking statements to reflect events or circumstances occurring or existing after the date of any forward-looking statements.

Written and/or oral forward-looking statements may also be made in the periodic reports to the US Securities and Exchange Commission, summary financial statements to shareholders, proxy statements, offering circulars and prospectuses, press releases and other written materials, and in oral statements made by HSBC's Directors, officers or employees to third parties, including financial analysts.

Forward-looking statements involve inherent risks and uncertainties. Readers are cautioned that a number of factors could cause actual results to differ, in some instances materially, from those anticipated or implied in any forward-looking statement. These include, but are not limited to:

- Changes in general economic conditions in the markets in which we operate, such as continuing or deepening recessions and fluctuations in employment beyond those factored into consensus forecasts; changes in foreign exchange rates and interest rates, including the accounting impact resulting from financial reporting in respect of hyperinflationary economies; volatility in equity markets; lack of liquidity in wholesale funding markets; illiquidity and downward price pressure in national real estate markets; adverse changes in central banks' policies with respect to the provision of liquidity support to financial markets; heightened market concerns over sovereign creditworthiness in over-indebted countries; adverse changes in the funding status of public or private defined benefit pensions; and consumer perception as to the continuing availability of credit and price competition in the market segments we serve; and deviations from the market and economic assumptions that form the basis for our ECL measurements;
- Changes in government policy and regulation, including the monetary, interest rate and other policies of central banks and other regulatory authorities; initiatives to change the size, scope of activities and interconnectedness of financial institutions in connection with the implementation of stricter regulation of financial institutions in key markets worldwide; revised capital and liquidity benchmarks which could serve to deleverage bank balance sheets and lower returns available from the current business model and portfolio mix; imposition of levies or taxes designed to change business mix and risk appetite; the practices, pricing or responsibilities of financial institutions serving their consumer markets; expropriation, nationalisation, confiscation of assets and changes in legislation relating to foreign ownership; changes in bankruptcy legislation in the principal markets in which we operate and the consequences thereof; general changes in government policy that may significantly influence investor decisions; extraordinary government actions as a result of current market turmoil; other unfavourable political or diplomatic developments producing social instability or legal uncertainty which in turn may affect demand for our products and services; the costs, effects and outcomes of product regulatory reviews, actions or litigation, including any additional compliance requirements; and the effects of competition in the markets where we operate including increased competition from non-bank financial services companies, including securities firms.
- Factors specific to HSBC, including our success in adequately identifying the risks we face, such as the incidence of loan losses or delinquency, and managing those risks (through account management, hedging and other techniques). Effective risk management depends on, among other things, our ability through stress testing and other techniques to prepare for events that cannot be captured by the statistical models it uses; and our success in addressing operational, legal and regulatory, and litigation challenges; and other risks and uncertainties we identify in 'top and emerging risks' on pages 100 to 111.

Certain defined terms

Unless the context requires otherwise, 'HSBC Holdings' means HSBC Holdings plc and 'HSBC', the 'Group', 'we', 'us' and 'our' refer to HSBC Holdings together with its subsidiaries. Within this document the Hong Kong Special Administrative Region of the People's Republic of China is referred to as 'Hong Kong'. When used in the terms 'shareholders' equity' and 'total shareholders' equity', 'shareholders' means holders of HSBC Holdings ordinary shares and those preference shares and capital securities issued by HSBC Holdings classified as equity. The abbreviations '$m', '$bn' and '$tn' represent millions, billions (thousands of millions) and trillions of US dollars, respectively.

Highlights

Our international network, access to high-growth markets and balance sheet strength help us deliver long-term value for our stakeholders.

Group

For year ended 31 Dec 2018

Reported profit before tax
($bn)

2018	**19.9**
2017	17.2
2016	7.1

$19.9bn
(2017: $17.2bn)

Adjusted profit before tax
($bn)

2018	**21.7**
2017	21.1
2016	18.9

$21.7bn
(2017: $21.1bn)

Reported revenue
($bn)

2018	**53.8**
2017	51.4
2016	48.0

$53.8bn
(2017: $51.4bn)

At 31 Dec 2018

Reported risk-weighted assets
($bn)[1]

2018	**865**
2017	871
2016	857

$865bn
(2017: $871bn)

Common equity tier 1 ratio
(%)[1]

2018	**14.0**
2017	14.5
2016	13.6

14.0%
(2017: 14.5%)

Total assets
($bn)

2018	**2,558**
2017	2,522
2016	2,375

$2,558bn
(2017: $2,522bn)

About HSBC

With assets of $2.6tn at 31 December 2018, HSBC is one of the world's largest banking and financial services organisations.

More than
39 million
customers bank with us

We employ around
235,000
people around the world[2]

We have around
200,000
shareholders in 130 countries and territories

For footnotes, see page 89.

Strategy highlights

In June 2018, we set out eight strategic priorities against which we committed to tracking our performance until the end of 2020. Below is a selection of highlights from our progress in 2018.

11% adjusted revenue growth in Asia

14% revenue growth in transaction banking

2 percentage point improvement in employee engagement to 66%

6 of 8 HSBC 'scale markets' improved by two ranks or maintained a top-three rank in customer satisfaction for RBWM

Awards

Selected awards and recognitions

Euromoney Trade Finance Survey 2019
Top Global Trade Finance Bank

Euromoney Cash Management Survey 2018
Best Global Cash Manager for Corporates
Best Global Cash Manager for Financial Institutions

Euromoney Awards for Excellence 2018
World's Best Bank for Transaction Services
World's Best Bank for Corporates
North America's Best Bank for Transaction Services
Asia's Best Bank for Sustainable Finance
Middle East's Best Bank for Financing

Insurance Asset Management Awards 2018
Best Emerging Markets Manager of the Year

The Banker Investment Banking Awards 2018
Most Innovative Investment Bank of the Year

PWM/The Banker Global Private Banking Awards 2018
Best Private Bank in Hong Kong
Best Private Bank in the UK

Our global businesses

Our operating model consists of four global businesses and a Corporate Centre, supported by HSBC Operations, Services and Technology, and 11 global functions, including risk, finance, compliance, legal, marketing and human resources.

Retail Banking and Wealth Management ('RBWM')

We help 38 million customers across the world to manage their finances, buy their homes, and save and invest for the future.

Our HSBC Premier and Advance propositions are aimed at mass affluent and emerging affluent customers who value international connectivity. For customers with simpler banking needs, we offer a full range of products and services reflecting local requirements.

Commercial Banking ('CMB')

We support approximately 1.5 million business customers in 53 countries and territories, ranging from small enterprises focused primarily on their domestic markets, through to large companies operating globally.

Our services include working capital, term loans, payment services and international trade facilitation, as well as expertise in mergers and acquisitions, and access to financial markets.

Global Banking and Markets ('GB&M')

We serve approximately 4,100 clients in more than 50 countries and territories. We support major government, corporate and institutional clients worldwide.

Our product specialists continue to deliver a comprehensive range of transaction banking, financing, advisory, capital markets and risk management services.

Global Private Banking ('GPB')

We serve high net worth and ultra high net worth individuals and families, including those with international banking needs.

Services provided include Investment Management, which includes advisory and brokerage services, and Private Wealth Solutions, which comprises trusts and estate planning, to protect and preserve wealth for future generations.

Adjusted profit before tax

RBWM	CMB	GB&M	GPB
$7.1bn	$7.7bn	$6.1bn	$0.3bn
(2017: $6.5bn)	(2017: $6.8bn)	(2017: $5.8bn)	(2017: $0.3bn)

Adjusted risk-weighted assets

RBWM	CMB	GB&M	GPB
$126.9bn	$321.2bn	$281.0bn	$16.8bn
(31 Dec 2017: $118.1bn)	(31 Dec 2017: $289.8bn)	(31 Dec 2017: $293.2bn)	(31 Dec 2017: $15.8bn)

Our global businesses are presented on an adjusted basis, which is consistent with the way in which we assess the performance of our global businesses.

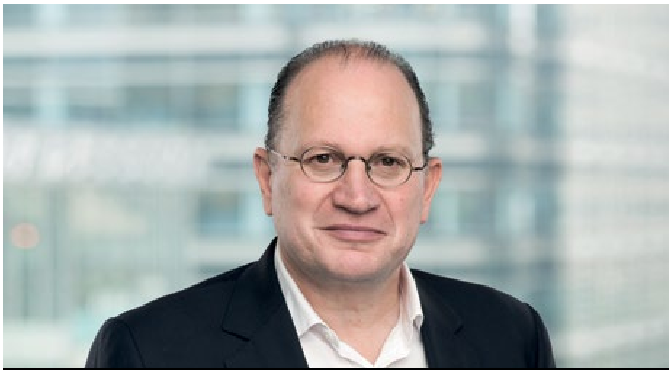
Delivery against Group financial targets

Return on tangible equity	Adjusted jaws	Dividends per ordinary share in respect of 2018
8.6%	(1.2)%	$0.51
Target: >11% by 2020 (2017: 6.8%)	Target: positive	Target: sustain

For further details, see page 17.

Group Chairman's statement

Our ability to meet our targets depends on being able to help our customers manage the present uncertainty and capture the opportunities that unquestionably exist.



Mark E Tucker Group Chairman

HSBC is in a strong position. Our performance in 2018 demonstrated the underlying health of the business and the potential of the strategy that John Flint, our Group Chief Executive, announced in June.

"The fundamentals for growth in Asia remain strong in spite of a softer regional economic outlook."

Despite a challenging external environment in the fourth quarter, all of our global businesses delivered increased profits and the Group achieved a higher return on tangible equity in 2018. Asia again contributed a substantial portion of the Group's profits, notably in Retail Banking and Wealth Management and Commercial Banking. Overall, the Group delivered reported profit before tax of $19.9bn, up 16% on 2017, and adjusted profit before tax of $21.7bn, up 3%.

This performance allows us to approve a fourth interim dividend of $0.21, bringing the total dividend for 2018 to $0.51.

The Board of Directors

There were a number of Board changes in 2018.

Jonathan Symonds became Deputy Group Chairman. Iain Mackay left the business after 11 years, with the last eight spent as Group Finance Director. My thanks go to Iain for his dedicated service to the Group, and in particular for the integral role he played in executing the Group strategy and improving the quality of our financial reporting. Ewen Stevenson joined the Board as Group Chief Financial Officer on 1 January this year.

We said goodbye to Phillip Ameen, Joachim Faber and John Lipsky, all of whom retired from the Board. I am very grateful to each of them for their invaluable advice and counsel. Their departures led to a reduction in the size of the Board as part of our ongoing work to simplify, clarify and strengthen governance arrangements.

We also cut the number of Board committees from seven to five and simplified subsidiary governance. I believe this creates clearer and stronger lines of authority and accountability, enabling the Board to devote more time to priority areas.

We welcome the new UK Corporate Governance Code, which places greater emphasis on how the Board considers the interests of all stakeholders in its discussions and decision making, and promotes a strong internal culture.

We see the new Code as an opportunity to further enhance our existing stakeholder engagement, ensuring that the business as a whole can continue to develop constructive and considerate relationships with all those with whom we work. We will include details of this in the *Annual Report and Accounts 2019*.

"The Board fully endorses the Group's commitment to develop and support our people and we offer the Group Management Board our wholehearted support in realising that ambition."

Connecting customers to opportunities

The financial targets that John announced in June remain appropriate, even as the global economic outlook becomes less predictable. Our ability to meet them depends on being able to help our customers manage the present uncertainty and capture the opportunities that unquestionably exist.

The system of global trade remains subject to political pressure, and differences between China and the US will likely continue to inform sentiment in 2019. However, the conclusion of major trade agreements – including the Comprehensive and Progressive Agreement for Trans-Pacific Partnership; the EU's landmark bilateral agreements with Japan and Singapore; and the potential ratification of the US-Mexico-Canada Agreement in 2019 – provide important counterweights that could give impetus to international trade in the year ahead.

The fundamentals for growth in Asia remain strong in spite of a softer regional economic outlook. The structural and financial reforms underway across the region should continue to support economic development. China remains subject to domestic and external pressures, but we expect it to maintain strong growth. We also expect further financial liberalisation to form part of China's response to changing external conditions. This will benefit domestic and international customers and investors.

The US economy and the influence of the Federal Reserve remain central to global sentiment. We expect policymakers to adopt a more cautious stance in 2019, even as the economy continues to grow. A slowdown in the pace of US interest rate rises could carry positive implications for Asian economies and businesses, as well as for US growth. Both the Mexican and Canadian economies are poised to grow at a steady pace.

Many of our UK customers are understandably cautious about the immediate future, given the prolonged uncertainty surrounding the UK's exit from the European Union. HSBC UK, our new UK ring-fenced bank, has an important role in supporting our customers as they prepare for a range of possible outcomes. Our universal banking business in France will also help provide continuity to our customers in the UK and the rest of Europe. In Europe, as elsewhere, we are confident in our ability to help customers make the most of the opportunities they see.

There are more risks to global economic growth than this time last year, and we remain alive and responsive to all possibilities. Our strong balance sheet and revenue base equip us to navigate these risks and, most importantly, enable us to help our customers negotiate their own paths.

Fulfilling our potential

Enabling our people to do their jobs to the best of their ability is a priority for the Board, and for me personally. They are essential to our present and future success. The Board fully endorses the Group's commitment to develop and support our people and we offer the Group Management Board our wholehearted support in realising that ambition.

"Our strong balance sheet and revenue base equip us to navigate these risks and, most importantly, enable us to help our customers negotiate their own paths."

I had the honour of officially opening the new headquarters of HSBC UK in Birmingham in December. As well as providing a new home for the UK ring-fenced bank, One Centenary Square houses the European hub of HSBC University, our global learning and development centre. Since then, we have opened new HSBC University hubs at our new premises in Dubai, and in Mexico City. These cutting-edge facilities form part of our response to the complex challenges our employees now face working for a global bank in an unpredictable environment. HSBC University aims not only to equip them with the right skills, but also to help them understand the culture that will continue to make HSBC a unique organisation.

Many thanks

My thanks go to John and each of the 235,000 people who work for HSBC. Their hard work, commitment and talent has been key to the Group's progress in 2018. Our challenge and shared purpose is to build on that good work through the rest of 2019 and beyond. I have every confidence we can do so.

Mark E Tucker
Group Chairman
19 February 2019

Group Chief Executive's review

Helping our people be at their best is the critical enabler of our business strategy and fundamental to delivering our financial targets.

John Flint Group Chief Executive

In June 2018, I set out a plan to get HSBC growing again and to create value for shareholders. While this targets clear financial outcomes, it has our customers at its centre. We want to bring more of HSBC to more people and to serve them in the best possible way.

"We want to bring more of HSBC to more people and to serve them in the best possible way."

The eight strategic priorities that I outlined in June are the key to achieving these aims. We are seeking to connect more customers to our international network and high-growth markets. We are working to improve our capital efficiency and to turn our US business around. We are investing in technology and our digital capabilities to serve our customers better and stay competitive. We are also taking steps to support our people more effectively and help them be at their best.

I am encouraged by our progress so far. We are growing customer numbers and capturing market share in our scale markets and from our international network. Our US business is short of where we want it to be, but is moving in the right direction. Our investment in technology is making our business simpler, safer, and easier for our customers to use. We have launched new products and made strategic hires in mainland China and Hong Kong that are materially improving our service to international clients. We have also established our UK ring-fenced bank.

These were important factors in our 2018 financial performance. Revenue growth in our four global businesses helped deliver higher Group reported and adjusted profit before tax. Group return on tangible equity – our headline measure – was also up significantly from 6.8% in 2017 to 8.6%. This is a good first step towards meeting our return on tangible equity target of more than 11% by 2020.

Engaging our people

HSBC has a strong and proud culture. We understand our role and our purpose, and that HSBC exists to serve others. As Group Chief Executive, I have a responsibility to nurture and preserve those aspects of our culture that serve us well. I also recognise that I have a responsibility to improve aspects of our behaviours that may be impeding our performance.

In my first year in this role, I started a conversation throughout the bank about how we help our people be the best version of themselves. This is part of a broader ambition to create what we call the healthiest human system in our industry.

There is more that we can do to create an environment that is sufficiently supportive, protective and engaging. We need to have more open and honest conversations. This is the least that our people should be able to expect. If we cannot provide it, it hurts our ability to serve not just our customers, but all the stakeholder groups on whom our success depends. It also impedes our ability to deliver our strategy and our targets.

We have started by signalling to our people that creating a safe and supportive working environment is a strategic priority for the business. Leaders are being encouraged to model the right behaviours and provide direction on the type of behaviour we expect. We are also opening conversations around issues like mental health, well-being, bullying and harassment.

We are making material changes to the organisation that allow us to support our people more effectively. Our governance procedures are being simplified and strengthened to reduce complexity and make it easier for people to do their jobs. We are also helping our people work more flexibly. On learning and development, we have opened new HSBC University hubs around the world and improved access to digital training.

"HSBC has a strong and proud culture. We understand our role and our purpose, and that HSBC exists to serve others."

At an individual level, every person at HSBC is being encouraged to think about how we create the healthiest human system in our industry, and to play an active role in doing so. We are regularly collecting feedback from our people and it is informing the action we are taking.

The early signs are positive. In 2018, 66% of our employees said they would recommend HSBC as a great place to work, up from 64% the previous year. While this demonstrates an improvement in a relatively short space of time, it also shows that we have much further to go. This work will continue into 2019 and beyond. If we are successful, then we will materially improve all aspects of HSBC's performance, including delivery of our strategy.

Business performance

All four global businesses grew adjusted revenue in 2018.

Retail Banking and Wealth Management had a very good year. Higher interest rates, rising customer numbers, and growth of more than $20bn in our UK and Hong Kong mortgage book all contributed to a strong rise in Retail Banking adjusted revenue. Despite a good performance in the first three quarters of the year, Wealth Management adjusted revenue fell slightly in 2018 due to the effects of market volatility in the fourth quarter.

Commercial Banking had an excellent 2018, delivering double-digit adjusted revenue growth on the back of an outstanding performance in Global Liquidity and Cash Management. Credit and Lending generated adjusted revenue growth from higher balances, despite lower margins from increased competition. Solid performances in Asia and Europe enabled Global Trade and Receivables Finance to grow adjusted revenue despite an increasingly difficult environment for trade.

Global Banking and Markets grew adjusted revenue in spite of considerably reduced market activity in the fourth quarter. Our market-leading transaction banking franchises generated strong increases in adjusted revenue, which exceeded the reduction in markets-related revenue from Rates, Credit, and Equities.

Global Private Banking returned to growth in 2018 on the back of new business won in Hong Kong. Adjusted revenue from deposits also increased on the back of interest rate rises.

Adjusted jaws was negative for 2018. While adjusted costs were broadly as we expected for the full year, adjusted revenue fell short due to market weakness in the fourth quarter. Positive jaws remains an important discipline in delivering our financial targets and we remain committed to it in 2019.

Expected credit losses were slightly higher than loan impairment charges in 2017, reflecting the uncertain economic outlook in the UK and heightened downside risks.

Our common equity tier 1 ratio of 14% was lower than at the same point in 2017, due mainly to adverse foreign exchange movements and the impact of higher lending.

"Despite more challenging market conditions at the end of year and a weaker global economic outlook, we are committed to the targets we announced in June."

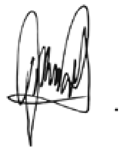
We returned a total of $2bn to shareholders through share buy-backs in 2018, reflecting our desire to neutralise the impact of scrip dividends over the medium term. We remain committed to this policy, subject to regulatory approval.

Outlook

We have made a good start to 2019. Our Group revenue performance in January was ahead of our plan for the month and actual credit performance remained robust, albeit with some softening of credit performance in the UK. We continue to prepare for the UK's departure from the EU in order to provide continuity for our customers in the UK and mainland Europe. Our well-established universal bank in France gives us a major advantage in this regard. Our immediate priority is to help our customers manage the present uncertainty.

Despite more challenging market conditions at the end of the year and a weaker global economic outlook, we are committed to the targets we announced in June. We remain alert to the downside risks of the current economic environment, especially those relating to the UK economy, global trade tensions and the future path of interest rates. We will be proactive in managing costs and investment to meet the risks to revenue growth where necessary, but we will not take short-term decisions that harm the long-term interests of the business.

We plan to achieve positive adjusted jaws in 2019 and remain focused on achieving a return on tangible equity of over 11% by 2020, while maintaining a stable dividend.



John Flint
Group Chief Executive
19 February 2019

Our strategy

Our strategy enables us to connect customers to opportunities. It is supported by long-term global trends and our strong combination of strategic advantages.

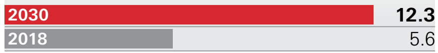
Long-term trends

Our industry continues to be affected by several long-term and global trends.

The world is expected to continue to become more connected as global flows of trade, finance and data continue to grow.

Source: Oxford Economics, *Bilateral Trade in Services* (2018).

Global services exports
($tn)



Global trade growth is expected to continue and trade within regions is expected to be a key driver, accounting for over 40% of goods volume growth.

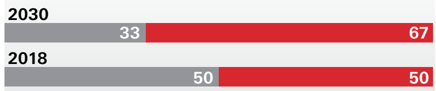
Source: McKinsey & Company.

Global trade volume growth of goods, 2017–2025 ($tn)

Half of the world's population is now considered middle class or wealthier, and this proportion is expected to grow to approximately two-thirds by 2030. Almost nine in 10 of the next billion middle-class consumers will be Asian.

Source: Brookings, *A Global Tipping point: Half the world is now middle class or wealthier* (2018).

Global population by income segment
(% of total)

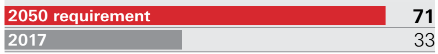


Key
Vulnerable or poor
Middle class or wealthier

Climate change is accelerating and global temperatures are trending significantly higher. Investment in renewable energy capacity will be needed to limit the global temperature increase to 2°C.

Source: OECD, *Investing in Climate, Investing in Growth (2017)*; BP, *Statistical Review of World Energy*; HSBC analysis.

Renewables share of megawatts installed capacity for plants in operation in G20 countries
(%)



Client examples

Imagination: creative agency, UK

Imagination, a creative agency and fast-growing global authority on brand experience, found itself outgrowing its banking relationship and constrained by its bank's local focus. HSBC provided Imagination with the benefits of a robust international network including greater access to debt and liquidity, an optimised banking experience across 10 countries through HSBCnet, and an integration with Imagination's enterprise resource planning system for holistic viewing of transactions and account details.

Euroimmun: medical diagnostics, Germany

Euroimmun was acquired by a US medical technology company. Both companies were long-standing CMB clients, so HSBC was mandated with settlement of the consideration. An introduction to HSBC's GPB business in Germany led to Euroimmun's largest shareholder and its Chief Financial Officer placing the majority of sale proceeds with GPB. Through collaboration between our CMB, GB&M and GPB businesses, we were able to provide multi-product solutions during critical events for the client.

CLP Holdings Limited ('CLP'): power and utilities, Hong Kong

CLP, a Hong Kong-listed pan-Asian power business, is committed to supporting the Hong Kong government's target to reduce carbon intensity by 65–70% by 2030 from 2005 levels. HSBC has assisted CLP as Sole Adviser in establishing the 'CLP climate action finance framework' to attract qualified investments in the transitioning to a low-carbon economy. Under this framework, HSBC acted as a joint bookrunner on the debut $500m Reg S Energy Transition Bond issued by Castle Peak Power Company Limited, to help finance the development of a new gas-fired generation unit in Hong Kong.

The long-term trends outlined on the previous page reinforce our strategic advantages as a leading international bank with exceptional access to the fastest growing markets and robust balance sheet strength.

Strategic advantages

Leading international bank

- More than 50% of Group client revenue linked to international clients
- 'World's Best Bank for Transaction Services'[3]
- Chosen by large corporates across regions as their lead international bank[4]

International client revenue[5]
(% of total)

2018	54.3
2017	54.2

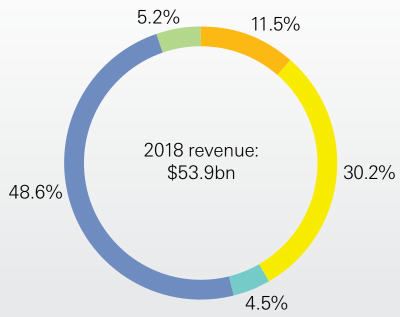
Transaction banking revenue
($bn)

2018	16.6
2017	14.5

Exceptional access to high-growth markets

- Wide breadth of access to high-growth developing markets in Asia, the Middle East and Latin America
- Investment aligned to high-growth markets to deliver shareholder value
- Committed to enhanced customer service and investments in technology to help capture growth opportunities

Geographical revenue mix[6]



Key
- North America
- Europe
- Middle East and North Africa
- Asia
- Latin America

Balance sheet strength

- Continue to maintain strong capital, funding and liquidity position with diversified business model
- Conservative approach to credit risk and liquidity management
- Low earnings volatility
- Foundation for sustained dividend; strong capacity for distribution to shareholders

Common equity tier 1 ratio
(%)

2018	14.0
2017	14.5

ECL/LICs as % of average gross loans and advances to customers
(bps)

2018	18
2017	19

Liquidity coverage ratio
(%)

2018	154
2017	142

For footnotes, see page 89.

Strategic priorities

We entered the next phase of our strategy in 2018, focused on growth and creating value for our stakeholders.

Return to growth and value creation

In our June 2018 Strategy Update, we outlined eight strategic priorities to deliver growth, improve returns, empower our people, and enhance our customer experience. Each priority has a target or set of targeted outcomes by 2020. The table opposite contains a summary of our progress, with additional details provided below.

Growth from areas of strength

Strategic priority 1: We made a strong start in accelerating growth from our Asian franchise after making select investments in areas such as Hong Kong and our wealth business. Overall, Asia adjusted revenue was 11% higher than the previous year with double-digit growth in Hong Kong, mainland China and the Pearl River Delta. Despite some market uncertainty, we continued to support customers as we increased loan balances by 9%. Our wealth business in Asia[7] gained positive momentum with double-digit revenue growth in Private Banking and Asset Management, and 4% growth in RBWM Wealth distribution. However, Asia Insurance manufacturing revenue was down 11% versus 2017 due to adverse market conditions.

We continue to support clients and economies through the China-led Belt and Road Initiative, and *FinanceAsia* recognised our market leadership by awarding us the 'Best Belt and Road Bank' in Asia for the second consecutive year.

In sustainable finance, our goal is to be a leading partner for our clients to help the world's transition to a low-carbon economy. We have made good progress with our ambition to provide $100bn of sustainable financing, facilitation and investment by 2025, with a cumulative total of $28.5bn delivered in 2017 and 2018. For further details on our sustainable finance commitment, see page 27.

Strategic priority 2: We completed the set-up of our UK ring-fenced bank, HSBC UK, six months ahead of the legal deadline, and we opened our new UK head office in Birmingham. We supported our retail customers' purchasing of homes, as we grew our mortgage market share to 6.6%[8]. For our corporate clients, we launched our largest ever dedicated SME fund, with £12bn of funding, including £1bn of funding to help UK companies grow overseas. While HSBC UK has seen initial growth in retail customers (up by 251,000, a growth of 2%), we are still driving initiatives to grow our commercial customer base.

Strategic priority 3: We continue to make investments to enable growth in our international network. In Global Trade and Receivables Finance ('GTRF'), we are investing in a transformation of our operating model to help clients and colleagues conduct trade and manage capital more efficiently. In Securities Services, we are developing our digital proposition across many products. We are on track to achieve our target of mid to high single-digit revenue growth by 2020. International client revenue was up 7% compared with 2017; transaction banking revenue grew 14%, driven by double-digit growth across Global Liquidity and Cash Management ('GLCM'), Foreign Exchange and Securities Services. GTRF revenue grew by 2%, reflecting the subdued global trade environment.

Turnaround of low-return businesses

Strategic priority 4: The US turnaround is our most challenging strategic priority. Our US return on tangible equity ('RoTE') increased from 0.9% to 2.7%, supported by favourable expected credit losses, and capital released to HSBC Holdings. However, significant improvement is required to achieve our 2020 targeted outcome of greater than 6% RoTE in the US. Investments in our platforms and products are supporting organic growth. Our active customer base in RBWM increased by nearly 200,000 to 1.3 million people. We grew CMB revenue by 7% and transaction banking revenue in GB&M by 9%.

Strategic priority 5: To enhance returns for our shareholders, we have committed to improving our capital efficiency. In 2018, our revenue over risk-weighted assets ('RWAs') ratio grew by 0.3 percentage points to 6.2%, driven by broad-based revenue growth across our four global businesses. We continue to redeploy RWAs to higher-return businesses.

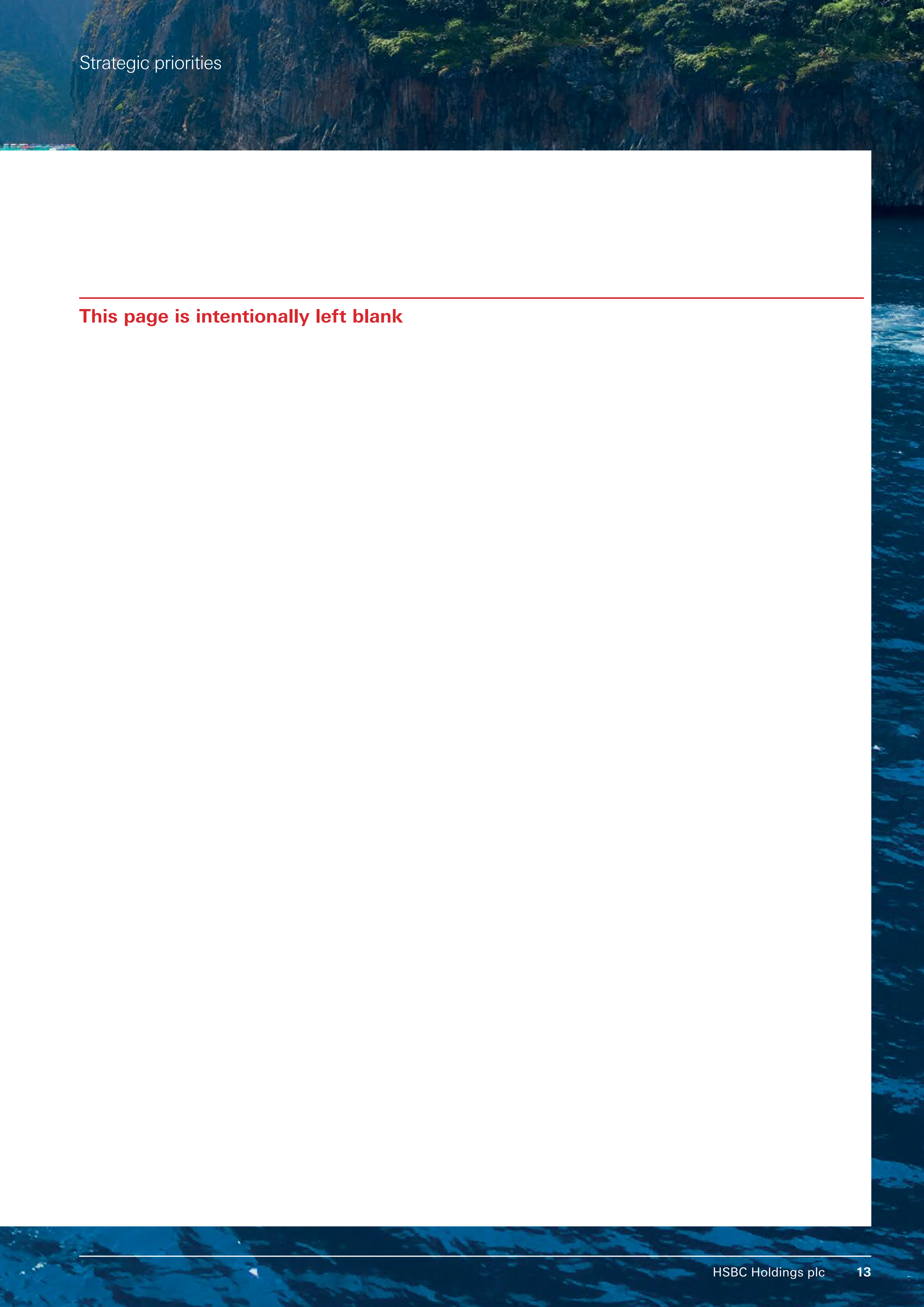
Putting the customer at the centre

Strategic priority 6: We aim to create the capacity to invest in growth and technology through a combination of cost discipline and revenue growth. We did not achieve our target of positive adjusted jaws in 2018, in part due to unexpected market volatility in the last two months of the year, which impacted revenue. However, we remain committed to the discipline of positive adjusted jaws. Our revenue growth helped support $4.1bn in investment for business growth, productivity, regulatory and mandatory purposes. We are already seeing results, with approximately 45% of retail customers now digitally active and more than 30% of sales through digital channels[9]. In CMB, we halved the onboarding time to an average of 11 days for clients.

Strategic priority 7: We exist, at our core, to serve our customers and we made a commitment in June 2018 to improve customer service in our eight 'scale markets'[10]. We are measuring our performance against customer satisfaction indices. In 2018, six markets in RBWM and three markets in CMB sustained a top-three rank and/or improved by two ranks in customer satisfaction.

Empower our people

Strategic priority 8: We have committed to simplifying the organisation and investing in the future skills of our employees. We continue to improve our employee engagement, as reflected in the improvement of our employee advocacy by two percentage points to 66%. Our ESG rating is derived from the impact we have on our wider stakeholders. We are currently rated an 'Average performer', and we are driving several initiatives to achieve an 'Outperformer' rating. Information on how we are empowering our people can be found in the 'How we do business' section on pages 22 to 29, with additional details in our *ESG Update* in April 2019.



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Financial overview

Reported results

This table shows our reported results for the last three years ended 31 December 2018, 2017 and 2016.

HSBC adopted the requirements of IFRS 9 'Financial Instruments' on 1 January 2018, with the exception of the provisions relating to the presentation of gains and losses on financial liabilities designated at fair value, which were adopted on 1 January 2017.

Under IFRS 9, the recognition and measurement of expected credit losses differs from the approach under IAS 39. The change in expected credit losses relating to financial assets under IFRS 9 is recorded in the income statement under 'change in expected credit losses and other credit impairment charges' ('ECL'). As prior periods have not been restated, changes in impairment of financial assets in the comparative periods remain in accordance with IAS 39 and are recorded in the income statement under 'loan impairment charges and other credit risk provisions' ('LICs') and are therefore not necessarily comparable to ECL recorded for the current period.

All commentary in this financial overview compares the 2018 results with 2017, unless otherwise stated.

Reported results	2018 $m	2017 $m	2016 $m
Net operating income before change in expected credit losses and other credit impairment charges ('revenue')	**53,780**	51,445	47,966
ECL/LICs	**(1,767)**	(1,769)	(3,400)
Net operating income	**52,013**	49,676	44,566
Total operating expenses	**(34,659)**	(34,884)	(39,808)
Operating profit	**17,354**	14,792	4,758
Share of profit in associates and joint ventures	**2,536**	2,375	2,354
Profit before tax	**19,890**	17,167	7,112

Reported profit before tax

Reported profit before tax of $19.9bn was $2.7bn or 16% higher, mainly reflecting growth in revenue. Operating expenses fell by $0.2bn, as increases, mainly associated with investments to grow the business, were more than offset by a net favourable movement in significant items, which included the non-recurrence of our costs to achieve programme.

Reported profit before tax included a net favourable movement of significant items of $2.1bn, which is described in more detail on page 34. Excluding these items and a favourable effect of foreign currency translation differences of $0.1bn, profit before tax increased by $0.6bn or 3%.

Reported revenue

Reported revenue of $53.8bn was $2.3bn or 5% higher, which reflected revenue growth in all global businesses, although revenue fell in Corporate Centre. The increase in reported revenue included a favourable effect of foreign currency translation differences of $0.1bn, broadly offset by a net adverse movement in significant items of $0.1bn.

Significant items included:

– a net loss on disposals, acquisitions and investment in new businesses of $0.1bn in 2018, compared with a net gain of $0.3bn in 2017.

This was partly offset by:

– a net release of provisions related to customer redress programmes in the UK of $0.1bn in 2018, compared with net charges of $0.1bn in 2017; and

– lower adverse fair value movements on financial instruments (up $0.1bn).

Excluding significant items and foreign currency translation differences, revenue increased by $2.3bn or 4%.

Reported ECL/LICs

In 2018, reported ECL of $1.8bn related mainly to RBWM ($1.2bn), notably in Mexico, the UK and Asia, as well as CMB ($0.7bn).

In 2017, reported LICs were $1.8bn, notably in RBWM ($1.0bn) as well as in CMB ($0.5bn) and GB&M ($0.5bn). This was partly offset by net releases in Corporate Centre of $0.2bn.

Foreign currency translation differences between the periods were $0.1bn favourable.

Reported operating expenses

Reported operating expenses of $34.7bn were $0.2bn or 1% lower, as an increase in operating expenses from near- and medium-term investments to grow the business, together with higher performance-related pay, were more than offset by a net favourable movement in significant items of $2.1bn. Significant items included:

– the non-recurrence of costs to achieve, which were $3.0bn in 2017; and

– customer redress programme costs of $0.1bn in 2018, compared with $0.7bn in 2017.

These were partly offset by:

– settlements and provisions in connection with legal and regulatory matters of $0.8bn in 2018. This compared with a net release of $0.2bn in 2017;

– a provision in relation to past service costs of guaranteed minimum pension benefits equalisation of $0.2bn in 2018; and

– the non-recurrence of gains on the partial settlement of pension obligations of $0.2bn in 2017.

Excluding significant items and adverse foreign currency translation differences of $0.1bn, operating expenses increased by $1.8bn or 6%.

Reported share of profit in associates and joint ventures

Reported share of profit in associates of $2.5bn was $0.2bn or 7% higher, primarily reflecting an increase in income from Bank of Communications Co., Limited ('BoCom').

Excluding the favourable effect of foreign currency translation differences of $41m, share of profit in associates increased by $0.1bn.

Dividends

On 19 February 2019, the Board announced a fourth interim dividend of $0.21 per ordinary share.

Adjusted performance

Our reported results are prepared in accordance with IFRSs as detailed in the Financial Statements on page 263.

We also present alternative performance measures. Adjusted performance is an alternative performance measure used to align internal and external reporting, identify and quantify items management believes to be significant, and provide insight into how management assesses period-on-period performance.

Alternative performance measures are highlighted with the following symbol: ◆

To derive adjusted performance, we adjust for:

- the year-on-year effects of foreign currency translation differences; and
- the effect of significant items that distort year-on-year comparisons, which are excluded in order to improve understanding of the underlying trends in the business.

For reconciliations of our reported results to an adjusted basis, including lists of significant items, see page 66.

Adjusted results ◆

This table shows our adjusted results for 2018 and 2017. These are discussed in more detail on the following pages.

Adjusted results ◆	2018 $m	2017 $m	Adverse $m	Favourable $m	(%)
Net operating income before change in expected credit losses and other credit impairment charges ('revenue')	**53,940**	51,661		**2,279**	**4%**
ECL/LICs	**(1,767)**	(1,713)	**(54)**		**(3)%**
Total operating expenses	**(32,990)**	(31,231)	**(1,759)**		**(6)%**
Operating profit	**19,183**	18,717		**466**	**2%**
Share of profit in associates and joint ventures	**2,536**	2,416		**120**	**5%**
Profit before tax	**21,719**	21,133		**586**	**3%**

Adjusted profit before tax ◆

On an adjusted basis, profit before tax of $21.7bn was $0.6bn or 3% higher, reflecting revenue growth from all global businesses, although revenue fell in Corporate Centre. Operating expenses increased, primarily reflecting the impact of investments to grow the business. In addition, ECL in 2018 were $1.8bn compared with LICs of $1.7bn in 2017.

From 1 July 2018, Argentina was deemed a hyperinflationary economy for accounting purposes. The impact of applying IAS 29 'Financial Reporting in Hyperinflationary Economies' from 1 July 2018 and presenting in accordance with IAS 21 'The Effects of Changes in Foreign Exchange Rates' resulted in a $160m reduction in profit before tax. The effects of hyperinflation accounting in Argentina have not been deemed a significant item and are therefore included within adjusted results.

Reconciliation of reported to adjusted profit before tax	2018 $m	2017 $m
Adjusted profit before tax	**21,719**	21,133
Currency translation	**—**	87
Significant items:	**1,829**	3,879
– costs of structural reform	**361**	420
– costs to achieve	**—**	3,002
– customer redress programmes	**93**	763
– disposals, acquisitions and investment in new businesses	**165**	(221)
– fair value movements on financial instruments	**100**	245
– gain on partial settlement of pension obligation	**—**	(188)
– past service costs of guaranteed minimum pension benefits equalisation	**228**	—
– restructuring and other related costs	**66**	—
– settlements and provisions in connection with legal and regulatory matters[22]	**816**	(198)
– currency translation on significant items	**—**	56
Reported profit before tax	**19,890**	17,167

Adjusted performance continued

Adjusted revenue

Adjusted revenue of $53.9bn increased by $2.3bn or 4%, reflecting revenue growth in all global businesses, partly offset by lower revenue in Corporate Centre.

- In RBWM, revenue increased by $1.7bn or 8%, driven by growth in Retail Banking, reflecting deposit and lending balance growth, and the benefit of wider deposit margins in Hong Kong. These factors were partly offset by margin compression on mortgages in Hong Kong and the UK. Revenue in Wealth Management decreased, as a result of lower life insurance manufacturing revenue, partly offset by higher investment distribution revenue.
- In CMB, revenue rose $1.6bn or 12%, notably in Global Liquidity and Cash Management ('GLCM') as we benefited from wider deposit margins, primarily in Hong Kong, and growth in average balances mainly in the UK. In addition, revenue increased in Credit and Lending ('C&L'), notably in the UK and Hong Kong due to higher average balances.
- In GB&M, revenue was $0.2bn or 1% higher mainly due to growth in GLCM and Securities Services from interest rate rises and higher average balances. These increases were partly offset by lower revenue in Global Markets as revenue growth in Foreign Exchange was more than offset by reductions in Rates and Credit due to subdued client activity and spread compression.
- In GPB, revenue was $0.1bn or 4% higher, mainly in Hong Kong from higher deposit revenue as we benefited from wider margins, and from higher investment revenue. This increase was partly offset by lower revenue resulting from client repositioning.
- In Corporate Centre, negative adjusted revenue of $0.2bn compared with adjusted revenue of $1.2bn in 2017. This reduction was largely in Central Treasury, and included the adverse effects of hyperinflation accounting in Argentina of $231m. Revenue from our legacy portfolios also decreased, mainly due to losses on portfolio disposals.

Movement in adjusted revenue compared with 2017	2018 $m	2017 $m	Variance $m	%
Retail Banking and Wealth Management	**21,935**	20,220	**1,715**	**8%**
Commercial Banking	**14,885**	13,247	**1,638**	**12%**
Global Banking and Markets	**15,512**	15,285	**227**	**1%**
Global Private Banking	**1,785**	1,723	**62**	**4%**
Corporate Centre	**(177)**	1,186	**(1,363)**	**(115)%**
Total	**53,940**	51,661	**2,279**	**4%**

Adjusted ECL/LICs

In 2018, adjusted ECL were $1.8bn. These included charges in RBWM ($1.2bn), notably against our unsecured lending balances in Mexico, the UK and Asia. In the UK, ECL also included charges related to the current economic uncertainty.

In CMB, ECL of $0.7bn reflected charges in most regions, including a charge in the UK relating to the current economic uncertainty, partly offset by releases in North America.

These charges were partly offset by a net release in Corporate Centre of $0.1bn related to the legacy credit portfolio in the UK.

In 2017, adjusted LICs of $1.7bn mainly related to RBWM ($1.0bn). These included LICs in Mexico, the UK and Hong Kong against unsecured lending balances. In CMB, LICs of $0.5bn in 2017 included charges in Asia, the UK, Mexico and the UAE, partly offset by net releases in North America.

Adjusted operating expenses

Adjusted operating expenses of $33.0bn were $1.8bn or 6% higher. This mainly reflected near- and medium-term investments to grow the business (up $0.9bn). In RBWM, these were primarily to grow our franchise through front-line recruitment, marketing and developing digital capabilities, including products and customer propositions. In GB&M, we made strategic hires and invested in new capabilities and functionalities for Global Markets, Global Banking and Securities Services, and also continued to invest in the HSBC Qianhai Securities joint venture in mainland China. We also increased our investment in productivity programmes (up $0.3bn), mainly in Technology and Operations.

Performance-related pay increased by $0.2bn and volume-related growth increased by $0.2bn.

The cost savings from our productivity programmes absorbed the impact of inflation. Our UK bank levy charge remained broadly unchanged.

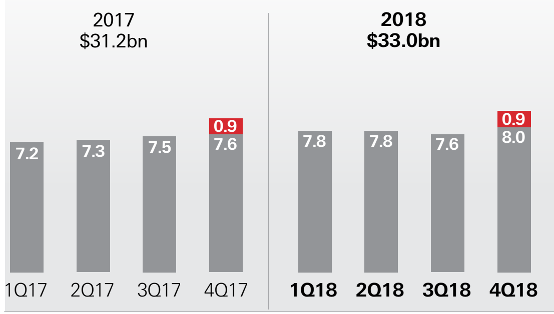
The number of employees expressed in full-time equivalent ('FTE') staff at 31 December 2018 was 235,217, an increase of 6,530 from 31 December 2017. This increase reflected investments in business growth programmes across RBWM, GB&M and CMB. Additionally, the number of contractors as at 31 December 2018 was 10,854, a decrease of 2,040 from 31 December 2017.

The effect of hyperinflation accounting in Argentina reduced adjusted operating expenses by $63m.

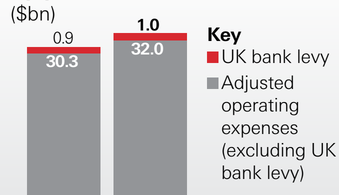
Adjusted share of profit in associates and joint ventures

Adjusted share of profit in associates of $2.5bn was $0.1bn or 5% higher than in 2017, reflecting an increase in income from BoCom.

Adjusted operating expenses^
($bn)



Adjusted operating expenses by year
($bn)



* UK bank levy charge for 2018 included $41m incurred in 1Q18.
^ Quarterly adjusted operating expenses are presented at average 4Q18 exchange rates.

Balance sheet and capital

Balance sheet strength

Total reported assets of $2.6tn were $36.4bn or 1% higher than at 31 December 2017 on a reported basis, and 5% higher on a constant currency basis. We continued our targeted asset growth, notably in Asia.

Distributable reserves

The distributable reserves of HSBC Holdings at 31 December 2018 were $30.7bn, compared with $38.0bn at 31 December 2017. The decrease was primarily driven by distributions to shareholders of $10.1bn, which were higher than distributable profits generated of $5.7bn, as well as share buy-backs of $2.0bn, partly offset by gains from IFRS 9 transitional adjustments of $1.0bn and fair value gains net of tax due to movements in our own credit risk of $0.9bn. A decrease of $3.0bn arose from the re-presentation of the 2017 share buy-back.

Capital strength

We manage our capital in an effort to ensure we exceed current regulatory requirements and are well placed to meet those expected in the future. We monitor our position using capital ratios. These measure capital relative to a regulatory assessment of risks taken. We quantify how these risks relate to our businesses using RWAs.

Details of these risks are included on page 193.

Our CET1 ratio at 31 December 2018 was 14.0%, down from 14.5% at 31 December 2017. This decrease was primarily driven by foreign currency translation differences, the share buy-back and an increase in RWAs due to balance sheet growth.

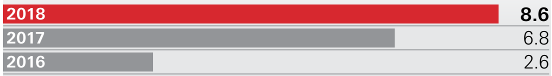
Further details on movements in capital are included on page 150.

Adoption of IFRS 9

HSBC adopted the requirements of IFRS 9 on 1 January 2018, with the exception of the provisions relating to the presentation of gains and losses on financial liabilities designated at fair value, which were adopted from 1 January 2017. The adoption of IFRS 9 reduced our net assets at 1 January 2018 by $1.6bn.

Delivery against Group financial targets

Return on tangible equity
(%)

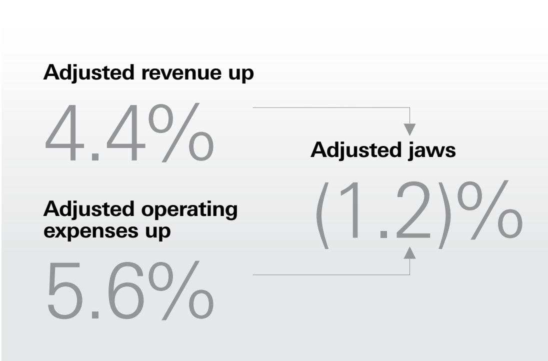


Return on tangible equity

Our target is to achieve a reported return on tangible equity ('RoTE') of more than 11% by the end of 2020. We intend to do this while maintaining a common equity tier 1 ('CET1') ratio of greater than 14%.

RoTE is calculated as reported profit attributable to ordinary shareholders less changes in goodwill and the present value of in-force long-term insurance business, divided by average tangible shareholders' equity. A targeted reported RoTE of 11% in 2020 is broadly equivalent to a reported return on equity ('RoE') of 10%.

In 2018, we achieved a RoTE of 8.6% compared with 6.8% in 2017.



Adjusted jaws

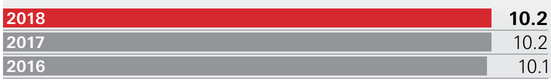
Adjusted jaws measures the difference between the rates of change in adjusted revenue and adjusted operating expenses.

Our target is to maintain positive adjusted jaws on an annual basis, while noting the sensitivity of the impact on adjusted jaws of unexpected movements in revenue or operating expenses growth.

Positive jaws occurs when the figure for the percentage change in revenue is higher than, or less negative than, the corresponding rate for operating expenses.

In 2018, adjusted revenue increased by 4.4% and our adjusted operating expenses increased by 5.6%. Adjusted jaws was therefore negative 1.2%.

Total dividends declared in respect of the year
($bn)



Dividends

We plan to sustain the annual dividend in respect of the year at its current level for the foreseeable future. Growing our dividend will depend on the overall profitability of the Group, delivering further release of less efficiently deployed capital and meeting regulatory capital requirements in a timely manner.

To achieve these financial targets by 2020, we aim to deliver mid-single-digit growth in revenue, low- to mid-single-digit growth in operating expenses, and approximately 1–2% annual growth in RWAs. Given the current economic environment, we will seek to offset some or all of any possible weaker-than-planned revenue growth with actions to manage operating expenses and investments.

Global businesses

We manage our products and services globally through our global businesses.

Retail Banking and Wealth Management

Key events

- In RBWM, we grew active customers by 1.2 million in 2018 through our continued investments in strategic initiatives to drive growth in key markets and through lending products. We grew our mortgage book by over $20bn in the UK and Hong Kong, strengthening our position in these markets. We increased credit card issuances by 24%, notably in the UK, Mexico, the US and Hong Kong.
- We upgraded our wealth proposition in Asia through the launch of HSBC Life in Hong Kong, the improvement of our wealth investment capability for mobile banking in China, and the enhancement of our wealth product offering in Hong Kong for high net worth investors.
- We listened to our customers and have acted on feedback to improve product features and have made it easier for customers to bank with us through digital transformation. The PayMe app in Hong Kong processes three million transactions per month and the Connected Money app in the UK has had more than 200,000 downloads since its launch in May 2018.

Management view of adjusted revenue	2018 $m	2017 $m	2016 $m	2018 vs 2017 $m	2018 vs 2017 %
Retail Banking	**15,262**	13,456	12,690	**1,806**	**13**
– current accounts, savings and deposits	**8,534**	6,296	5,186	**2,238**	**36**
– personal lending	**6,728**	7,160	7,504	**(432)**	**(6)**
mortgages	**1,937**	2,372	2,585	**(435)**	**(18)**
credit cards	**2,880**	2,886	3,018	**(6)**	**—**
other personal lending[23]	**1,911**	1,902	1,901	**9**	**—**
Wealth Management	**6,104**	6,215	5,230	**(111)**	**(2)**
– investment distribution[24]	**3,383**	3,279	2,902	**104**	**3**
– life insurance manufacturing	**1,656**	1,870	1,362	**(214)**	**(11)**
– asset management	**1,065**	1,066	966	**(1)**	**—**
Other[25]	**569**	549	563	**20**	**4**
Net operating income[26]	**21,935**	20,220	18,483	**1,715**	**8**
Adjusted RoRWA (%)[27]	**5.8**	5.6	4.7		
RoTE excluding significant items and UK bank levy (%)	**21.0**	21.6	16.3		

For footnotes, see page 89.

Financial performance

Adjusted profit before tax of $7.1bn was $0.6bn or 9% higher, reflecting revenue growth, partly offset by higher operating expenses.

Adjusted revenue of $21.9bn was $1.7bn or 8% higher, with an increase in Retail Banking partly offset by Wealth Management. Revenue growth was strong in Hong Kong and the UK in particular, with notable increases in India and mainland China, and in our Latin American markets.

In Retail Banking, revenue was up $1.8bn or 13%. This reflected improved deposit margins from rising interest rates, together with deposit balance growth of $21bn or 3% and lending balance growth of $31bn or 9%. These factors were partly offset by mortgage margin compression from higher funding costs, primarily in Hong Kong and the UK.

In Wealth Management, revenue was down $0.1bn or 2% due to net adverse movements in market impacts of $0.6bn in life insurance manufacturing. In Wealth Management:

- life insurance manufacturing revenue decreased by $0.2bn or 11%, reflecting adverse movements in market impacts of $0.3bn in 2018, compared with a favourable movement of $0.3bn in 2017. This was partly offset by growth in the value of new business written ($0.2bn) and favourable actuarial assumption changes and experience variances ($0.2bn); and
- investment distribution revenue increased by $0.1bn due to higher sales of insurance products and bonds. Revenue from the sale of equity and mutual funds was stable as strong trading conditions in the first half of the year were offset by a slowdown in the second half of the year.

In 2018, the credit quality of our loan portfolio remained stable at 34 basis points of average gross loans. Adjusted ECL of $1.2bn mainly related to charges in Mexico, the UK and Asia, notably against unsecured lending. In the UK, ECL also included charges related to the current economic uncertainty. This compared with adjusted LICs of $1.0bn in 2017, notably related to charges in Mexico, the UK and Hong Kong against unsecured lending balances.

Adjusted operating expenses of $13.7bn were $0.9bn or 7% higher. This primarily reflected a $0.6bn increase relating to investments, including $0.4bn in marketing and digital capabilities to help deliver improved customer service, and $0.1bn in staff to support business growth, particularly in the UK, Hong Kong, mainland China (including the Pearl River Delta) and the US.

Adjusted profit before tax

($bn)

Change in adjusted profit before tax

+9%

The 'Management view of adjusted revenue' tables provide a breakdown of revenue by major products, and reflect the basis on which each business is assessed and managed.

Commentary is on an adjusted basis, which is consistent with how we assess the performance of our global businesses.

Commercial Banking

Key events

- In CMB, we achieved double-digit growth in revenue and profit before tax. Growth was broadly based, with revenue increases across all major products and regions.
- We continued to improve customer experience and satisfaction, surveying over 18,000 customers across 40 markets in 2018 through the 'Moments of Truth' programme. Through this programme we improved global scores across key customer interactions and have driven improvements through more than 100 actions taken to address customer feedback. Through these client surveys we have seen a 17% year-on-year increase in customers reporting they have had a good or better onboarding experience.
- We continued to invest in our digital capabilities and we simplified online journeys on HSBCnet for around 41,000 clients across 36 countries. We also halved average onboarding times for our relationship-managed customers, and completed landmark trade transactions on the Voltron and we.trade platforms.
- We increased sustainable financing through both facilitation (green bonds and equity capital markets) and growth in financing (green loans and leases). In 2018, CMB contributed over $4bn towards the Group's sustainable financing target.

Financial performance

Adjusted profit before tax of $7.7bn was $0.8bn or 12% higher, driven by increased revenue, partly offset by higher operating expenses. ECL of $0.7bn in 2018 compared with LICs of $0.5bn in 2017.

Adjusted revenue of $14.9bn was $1.6bn or 12% higher with increases in all products, most notably GLCM.

Management view of adjusted revenue	**2018 $m**	2017 $m	2016 $m	**2018 vs 2017 $m**	**2018 vs 2017 %**
Global Trade and Receivables Finance	**1,865**	1,821	1,833	**44**	**2**
Credit and Lending	**5,342**	5,101	5,053	**241**	**5**
Global Liquidity and Cash Management	**5,802**	4,775	4,249	**1,027**	**22**
Markets products, Insurance and Investments and Other[28]	**1,876**	1,550	1,521	**326**	**21**
Net operating income[26]	**14,885**	13,247	12,656	**1,638**	**12**
Adjusted RoRWA (%)[27]	**2.5**	2.4	2.2		
RoTE excluding significant items and UK bank levy (%)	**14.0**	14.0	13.0		

For footnotes, see page 89.

- In GLCM, revenue was $1.0bn or 22% higher, with growth across all regions. The increase was mainly in Hong Kong from wider margins, and in the UK from wider margins and average balance sheet growth. In C&L, revenue growth of $0.2bn or 5% reflected average balance sheet growth in the UK and Hong Kong, partly offset by margin compression. In addition, revenue increased by $44m or 2% in GTRF despite challenging market conditions, with growth reflecting higher average balances in Asia and the UK.
- Revenue growth was primarily in Asia (up 18%), mainly from increases in Hong Kong (up 21%) and mainland China (up 22%), as well as in the UK (up 10%). There was also notable revenue growth in the US (up 7%), Canada (up 8%), Latin America (up 20%) and MENA (up 5%).
- Corporate customer value from our international subsidiary banking proposition grew by 19%*.

Adjusted ECL were $0.7bn in 2018, reflecting charges across most regions, including a charge in the UK related to uncertainty in the economic outlook, partly offset by releases in North America. This compared with adjusted LICs of $0.5bn in 2017, which reflected charges in Asia, the UK, Mexico and the UAE, partly offset by net releases in North America.

Adjusted operating expenses of $6.5bn were $0.5bn or 9% higher, reflecting increased staff costs (up $0.2bn), including higher performance-related pay. In addition, we continued to increase our investment in digital capabilities (up $0.1bn), improvements in operational efficiency and customer experience, as well as regulatory and compliance.

Adjusted profit before tax
($bn)

Change in adjusted profit before tax

+12%

* Analysis relates to corporate client income, which includes total income from GB&M synergy products, including foreign exchange and debt capital markets. This measure differs from reported revenue in that it excludes Business Banking and Other and internal cost of funds.

Global Banking and Markets

Key events

- In GB&M, we are making good progress with our strategic plan, increasing revenue and profit before tax while reducing risk-weighted assets by 4%. In 2018, performance was particularly strong in transaction banking products, with continued growth in GLCM (up 20%) and Securities Services (up 11%). We have continued to expand the product offerings and capabilities from our securities joint venture in China.
- We acted as the sole green structuring adviser on a $1.25bn green sukuk bond for the Republic of Indonesia, the first ever international offering of green securities by an Asian sovereign.

Financial performance

Adjusted profit before tax of $6.1bn was $0.2bn or 4% higher, reflecting increased revenue and a $26m release of ECL in 2018, compared with LICs of $0.4bn in 2017. This was partly offset by higher operating expenses as we continued to invest in the business. We have continued to deliver RWA savings, with net reductions of 4% ($12bn), including savings from management initiatives of $30bn during 2018. This reduction was partly offset by targeted lending growth.

With effect from the fourth quarter of 2018, interest earned on capital deployed, which was previously disclosed within 'Other' revenue, has been allocated to product lines. The 2017 comparatives have been re-presented on the new basis, with no effect on total adjusted revenue.

Adjusted revenue of $15.5bn was $0.2bn or 1% higher, and included a net favourable movement of $0.1bn on credit and funding valuation adjustments. The increase in revenue primarily reflected the strength of our transaction banking franchises, which more than offset the effects of economic uncertainty and reduced client activity.

- GLCM recorded double-digit growth (up $0.4bn or 20%) as we increased average balances by 4% through continued momentum in winning client mandates, and from favourable interest rate movements, notably in Asia.

Management view of adjusted revenue	2018 $m	2017 $m	2016 $m	2018 vs 2017 $m	2018 vs 2017 %
Global Markets	**6,490**	7,009	6,731	**(519)**	**(7)**
– FICC	**5,271**	5,714	5,720	**(443)**	**(8)**
Foreign Exchange	**3,022**	2,622	2,777	**400**	**15**
Rates	**1,482**	2,147	2,148	**(665)**	**(31)**
Credit	**767**	945	795	**(178)**	**(19)**
– Equities	**1,219**	1,295	1,011	**(76)**	**(6)**
Securities Services	**1,973**	1,772	1,577	**201**	**11**
Global Banking	**4,115**	4,048	3,819	**67**	**2**
Global Liquidity and Cash Management	**2,645**	2,213	1,884	**432**	**20**
Global Trade and Receivables Finance	**809**	757	689	**52**	**7**
Principal Investments	**224**	327	221	**(103)**	**(31)**
Credit and funding valuation adjustments[29]	**(183)**	(262)	(55)	**79**	**30**
Other[30,31]	**(561)**	(579)	(59)	**18**	**3**
Net operating income[26,31]	**15,512**	15,285	14,807	**227**	**1**
Adjusted RoRWA (%)[27]	**2.1**	2.0	1.8		
RoTE excluding significant items and UK bank levy (%)	**10.5**	10.6	10.2		

For footnotes, see page 89.

- Securities Services revenue rose $0.2bn or 11% as we grew average assets under management and average assets under custody from increased client mandates, growth in equity markets early in 2018, and higher interest rates.
- Global Banking revenue increased $67m or 2% as growth in secured lending balances, gains on corporate lending restructuring and lower adverse movements on portfolio hedges were partly offset in our capital markets businesses, due to challenging market conditions and narrower spreads.
- GTRF revenue grew by 7% as we grew average lending balances while also reducing risk-weighted assets.

This was partly offset by:

- Global Markets revenue decreased by $0.5bn or 7% as economic uncertainty and reduced primary issuance led to subdued client activity and spread compression, which resulted in lower revenue in Rates (down $0.7bn or 31%) and Credit (down $0.2bn or 19%). This was partly offset by higher revenue in Foreign Exchange (up $0.4bn or 15%), from increased volatility in emerging markets.
- Principal Investments revenue fell by $0.1bn or 31% from lower gains on mark-to-market revaluation of investments, and on asset sales, compared with 2017.

Net adjusted ECL releases of $26m in 2018 related to releases against a small number of clients in the US and Europe, notably in the oil and gas sector, partly offset by charges in the UK against exposures in the retail and construction sectors.

In 2017, adjusted LICs of $0.4bn were primarily against two large corporate exposures in Europe.

Adjusted operating expenses increased $0.5bn or 5%, as cost-saving initiatives were more than offset by investment in business growth and efficiency initiatives, and in regulatory programmes. We also incurred higher revenue-related taxes and costs.

Adjusted profit before tax
($bn)

Change in adjusted profit before tax

+4%

Global Private Banking

Key events

- In GPB, revenue increased by 10% in key markets targeted for growth, mostly in Asia (up 18%). We have added 101 new revenue generating employees globally, with 71 in Asia.
- We were named Best Private Bank in both Hong Kong and the UK at the *PWM/The Banker* Private Banking awards 2018.
- We had net new money inflows of $15bn in key markets targeted for growth, of which almost 60% came from collaboration with our other global businesses. In 2018, one in every three new GPB client relationships was introduced by CMB.

Management view of adjusted revenue	2018	2017	2016	2018 vs 2017	
	$m	$m	$m	$m	%
Investment revenue	**717**	700	738	**17**	**2**
Lending	**391**	393	420	**(2)**	**(1)**
Deposit	**497**	404	345	**93**	**23**
Other	**180**	226	267	**(46)**	**(20)**
Net operating income[26]	**1,785**	1,723	1,770	**62**	**4**
Adjusted RoRWA (%)[27]	**2.1**	1.9	1.7		
RoTE excluding significant items and UK bank levy (%)	**9.9**	7.1	5.6		

For footnotes, see page 89.

Financial performance

Adjusted profit before tax of $344m was $48m or 16% higher, reflecting revenue growth and a net release of ECL. This was partly offset by higher operating expenses.

Adjusted revenue of $1.8bn increased by $62m or 4%, mainly in Hong Kong from higher deposit revenue as margins widened following interest rate rises, and from higher investment revenue from strong mandate flows. Other income decreased including lower revenue following client repositioning.

In 2018, there was a net release of adjusted ECL of $8m. This compared with adjusted LICs of $16m in 2017.

Adjusted operating expenses of $1.4bn were $38m or 3% higher, due to higher staff costs, reflecting investment to support growth, mainly in Asia.

Adjusted profit before tax
($m)

Change in adjusted profit before tax

+16%

Corporate Centre[32]

Financial performance

Adjusted profit before tax of $0.5bn was $1.1bn or 67% lower, reflecting lower revenue and higher ECL, partly offset by lower operating expenses.

We recorded negative adjusted revenue of $0.2bn in 2018 compared with adjusted revenue of $1.2bn in 2017. This reduction reflected lower revenue in Central Treasury and legacy portfolios, and a reduction in Other income.

Central Treasury revenue was $1.1bn lower, reflecting:

- higher interest expense on debt issued by HSBC Holdings (up $0.4bn), from an increase in issuances and higher average cost of debt issued;
- lower revenue in Balance Sheet Management ('BSM') (down $0.3bn), mainly from de-risking activities undertaken during 2017 in anticipation of interest rate rises, lower reinvestment yields and lower gains on disposals;
- adverse fair value movements of $0.3bn in 2018 compared with favourable movements of $0.1bn in 2017, relating to the economic hedging of interest rate and exchange rate risk on our long-term debt with long-term derivatives; and
- a $0.2bn loss arising from adverse swap mark-to-market movements following a bond reclassification under IFRS 9 'Financial Instruments'.

Management view of adjusted revenue	2018	2017	2016	2018 vs 2017	
	$m	$m	$m	$m	%
Central Treasury[33]	**662**	1,728	1,706	(1,066)	(62)
Legacy portfolios	**(93)**	(26)	26	(67)	>(100)
Other[34]	**(746)**	(516)	(188)	(230)	(45)
Net operating income[26]	**(177)**	1,186	1,544	(1,363)	(115)
RoTE excluding significant items and UK bank levy (%)	**(5.7)%**	(5.2)%	(1.9)%		

For footnotes, see page 89.

Revenue from legacy portfolios was down $0.1bn, reflecting losses on disposals.

Other income decreased by $0.2bn, mainly from the adverse effects of hyperinflation accounting in Argentina.

Adjusted ECL releases of $0.1bn in 2018 and net adjusted LICs releases of $0.2bn in 2017 were both primarily related to our legacy credit portfolio.

Adjusted operating expenses of $1.9bn were $0.2bn or 9% lower due to the favourable impact of hyperinflation accounting in Argentina and lower costs in relation to the run-off of the CML portfolio, which was completed during 2017.

Adjusted income from associates increased by $0.1bn or 4%. Our associate, The Saudi British Bank, announced a merger agreement with Alawwal Bank in Saudi Arabia. The merger, subject to shareholder and regulatory approval, is expected to be completed in 2019 and would dilute HSBC's shareholding in the merged bank from 40% to 29.2%.

How we do business

Supporting sustainable growth

We conduct our business intent on supporting the sustained success of our customers, people and communities.

Overview

Our purpose is to be where the growth is, connecting customers to opportunities. We help enable businesses to thrive and economies to prosper, helping people to fulfil their hopes and dreams and realise their ambitions.

To achieve our purpose, we need to build strong relationships with all of our stakeholders – including customers, employees and the communities in which we operate. This will help enable us to deliver our strategy and operate our business in a way that is sustainable.

In this section, we provide information about our customers, employees and our approach to creating a responsible business culture. We also provide an update on our sustainability strategy, including progress towards our $100bn sustainable finance commitment and our second disclosure for the Task Force on Climate-related Financial Disclosures ('TCFD').

Our *Environmental, Social and Governance ('ESG') Update* will be published in April 2019 and will be available on our website at www.hsbc.com/our-approach/measuring-our-impact. It will provide further detail on the topics covered in this section.

Customers

We create value by providing the products and services our customers need, and aim to do so in a way that fits seamlessly into their lives. This helps us to build long-lasting relationships with our customers. We maintain trust by striving to protect our customers' data and information, and delivering fair outcomes for them – and if things go wrong, we need to address complaints in a timely manner. Operating with high standards of conduct is central to our long-term success and underpins our ability to serve our customers.

In this section, we focus on RBWM, our largest global business by number of customers, and on our two largest markets – the UK and Hong Kong. We measure and report on customer data for all of our global businesses within our *ESG Update*.

For footnotes, see page 89.

Our largest global business

RBWM

Supports approximately 38 million customers worldwide

Our largest markets

UK

$399bn in total customer accounts

Hong Kong

$485bn in total customer accounts

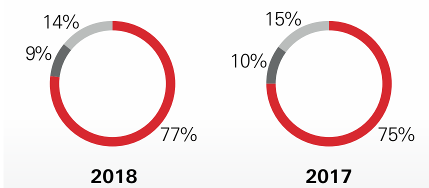
Customer recommendation index†
RBWM

	UK	Hong Kong
2018	75%	71%
2017	72%	72%

† The index uses the 0-10 rating scale for the customer recommendation question to create a 100 point index. Surveys are based on a relevant and representative subset of the market. Data provided by Kantar.

Complaint resolution[35]
Time taken to resolve complaints (excluding payment protection insurance complaints)

RBWM



Key
- Same day or next working day
- Between 2–5 days
- Longer than 5 days

Acting on feedback in RBWM

We listen to our customers, and know that asking their opinion on our service is core to understanding their needs and concerns. Their feedback has helped us to become more accessible through improved digital experiences and our overall customer service. We continue to focus on simplifying our processes and will launch our new mobile banking app into more markets. We are working to make things easy, personable and transparent.

Senior leaders have ultimate responsibility for customer service standards and monitor these through key metrics aligned to performance objectives. These include:

– how customers feel about recommending us; and
– the speed and quality of complaint resolution.

Complaints are recorded and analysed so that we can learn what went wrong and why. Complaint resolution remains a priority for us and in 2018 we saw a slight improvement in the percentage of complaints resolved within the same or next working day.

In the charts and tables on page 22, we outline our 2018 performance on customer recommendation for our UK and Hong Kong markets, and complaint resolution for our 10 largest markets.

In the following table, we have highlighted some examples of how customer feedback has driven improvements for our RBWM customers.

What our customers are telling us	Our response
Make banking more accessible	– We simplified our login process by rolling out biometrics (Apple's Touch ID and HSBC Voice ID) to 18 markets. – In the UK, we trained our front-line employees to become 'Digital Experts'. In branch or on the phone, they teach our customers how to complete their task digitally. In 2018, 85% of new customers opened accounts through a supported digital experience.
Make it easy to understand our fees and charges	– In Singapore, we simplified our mortgage application forms and offer letters, so customers can be clear about their repayment schedule, terms and conditions, and fees and charges. – Through digital messaging we are raising customer awareness around overdrafts. In the UK, we expanded the volume of overdraft alerts, which we first introduced in 2017, sending more than 26 million alerts in 2018.
Make our processes easier	– In the UK, we have continued to simplify our mortgage process. Through automatic valuations, improved credit policies and increased underwriter availability, applications can be approved within 10 days. – To make investing more accessible, we equipped our branch employees in Hong Kong, China and Singapore with tablets and launched an online financial health check. Customers can now understand their investment options in their own time, without a specialist appointment.

Digital

As part of our strategy, we are committed to using technology to enhance our customers' experience. In 2018, we focused efforts on improving the online and mobile banking experience for our customers and building upon machine learning. This will help enable us to analyse our customers' speech, language and tone to better understand their queries and respond with the right solution more quickly.

Globally,
44%
of RBWM customers are digitally active

Taking responsibility for the service we deliver

We define conduct as delivering fair outcomes for customers and supporting the orderly and transparent operation of financial markets. This is central to our long-term success and ability to serve customers. We have clear policies, frameworks and governance in place to protect them. These cover the way we behave; design products and services; train and incentivise employees; and interact with customers and each other. Our conduct framework guides activities to strengthen our business and increases our understanding of how the decisions we make affect customers and other stakeholders. Details on our conduct framework are available at www.hsbc.com. For further information on conduct, see page 88.

Our employees

Our people are critical to our success, and we have made a commitment to build the healthiest human system in our industry to enable them to thrive. As we work towards this, we are focused on fostering a culture in which our employees feel valued, empowered to share their views, and able to fulfil their potential.

Listening to our people

Understanding how our people feel about HSBC is vital. It helps us ensure that we are giving them the right support to achieve their potential and to serve our customers well.

We capture the views of our people on a range of topics, such as our strategy, culture and working environment, through our employee survey, Snapshot. Results are presented to the Group Management Board and relevant executive committees. This means that we can take action based on the feedback.

We track employee advocacy by asking whether they would recommend HSBC as a great place to work. Currently, 66% would recommend HSBC, an increase from 64% in 2017. Analysis in 2018 showed us that trust in leadership, career development and recognising our people for their behaviour and performance are what drives a positive response to this question.

HSBC Exchange provides a forum for employees to share their open and honest views. Typically, these are meetings held without an agenda, meaning people can discuss what matters most to them. We know from Snapshot that when people participate in Exchange meetings, they feel more able to speak up, have more trust in leadership and report higher levels of well-being. More than half of our employees took part in an Exchange meeting during 2018. For example, our Global Banking and Markets global business hosted a series of Exchanges on the subject of culture and conduct, and Exchanges were held Group-wide as part of the conversation around the healthiest human system.

Snapshot and Exchange provide robust feedback that we use to improve the employee experience. For instance, our people fed back that mental well-being is important. We already provide employee assistance lines in every country, and in 2019 we will provide additional mental health education and support to line managers. Our focus will be on spotting the signs of mental ill-health, having open conversations and signposting where to find support.

Employee retention

85.5%

(2017: 85.7%)

Enabling a diverse and inclusive environment for all

Our commitment

We are committed to a thriving environment where people are valued, respected and supported to fulfil their potential. By building upon the extraordinary range of ideas, backgrounds, styles and perspectives of our employees, we can drive better outcomes for our stakeholders including customers, communities, suppliers and shareholders.

Gender balance at senior levels

Gender balance in leadership is an area where we are making progress but we recognise the need to improve. In 2018, we signed up to the 30% Club campaign commitment to reach 30% women in senior leadership roles (classified as 0–3 in our global career band structure) by 2020. In order to achieve that aspirational target, we set an objective that more than 27.6% of our senior leadership should be women by the end of 2018. We achieved 28.2%.

Gender diversity statistics

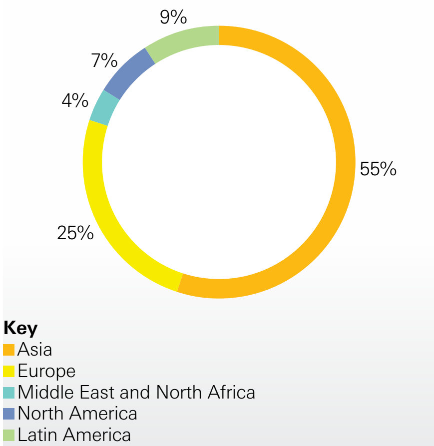
	Male		Female	
Holdings Board	9	64%	5	36%
Group Management Board	17	89%	2	11%
Combined executive committee and direct reports*	148	74%	51	26%
Senior leadership	6,887	72%	2,701	28%
Senior leadership RBWM	752	69%	331	31%
Senior leadership CMB	652	74%	226	26%
Senior leadership GB&M	2,398	80%	608	20%
Senior leadership GPB	387	69%	174	31%
Senior leadership HOST	645	72%	245	28%
All employees	115,391	48%	125,276	52%

Key
- Male
- Female

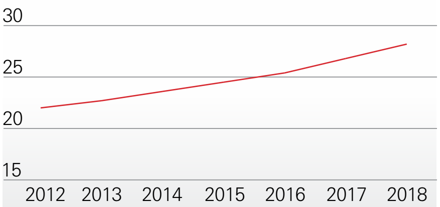
* Combined executive committee and direct reports includes HSBC executive Directors, Group Managing Directors, and their direct reports (excluding administrative staff) plus Company Secretary.

Our employees continued

Employees ('FTEs') by region



Female share of HSBC senior leadership headcount
(%)



Employee networks

We have seven global employee networks as well as our HSBC Communities, which include common interest groups. They provide spaces for colleagues to speak up about internal and commercial issues and opportunities, make connections, and learn from each other. The networks focus on gender, age, ethnicity, LGBT+, faith, working parents, carers, and ability. Our HSBC Communities focus on a variety of topics, including flexible working, military and veterans, and Chinese culture.

More information about our diversity and inclusion activity and our *UK Gender Pay Gap Report* is available at www.hsbc.com/our-approach/measuring-our-impact.

Whistleblowing

We think it is important to have a culture where our people feel able to speak up. Individuals are encouraged to raise concerns about wrongdoing or unethical conduct through the usual reporting and escalation channels. However, we understand that there are circumstances where people need to raise concerns more discreetly. HSBC Confidential is a global whistleblower platform that enables all of our people to raise issues in confidence and without fear of retaliation.

Whistleblowing concerns are investigated thoroughly and independently. Some of the common themes that have been referred to HSBC Confidential include behaviour and conduct, allegations of fraud, and weaknesses with information security. Remedial activity has been undertaken where appropriate, including disciplinary action, dismissal, as well as adjustments to variable pay, performance ratings and behaviour ratings. Processes have also been enhanced where needed.

Cases raised (subject to investigation)

Substantiated closed cases

HSBC does not condone or tolerate any acts of retaliation against those who raise concerns, and has a strict policy prohibiting any such acts. The outcomes of allegations of retaliation are reported to senior management. Making malicious or false claims is incompatible with our values.

The Group Audit Committee has responsibility for oversight of the Group's whistleblowing arrangements and receives regular updates on the status of whistleblowing arrangements and outcomes.

We promoted the Group's whistleblowing arrangement through a training and awareness campaign in 2018 and this is reflected in the increase in the number of cases compared with 2017.

A responsible business culture

HSBC's purpose is to connect people with opportunities. With this purpose comes the responsibility to protect our customers, our communities and the integrity of the financial system.

Non-financial risks

We use a range of tools to monitor and manage our non-financial risks, including our risk appetite, risk map, top and emerging risks, and stress testing processes. During 2018, we continued to strengthen our approach to managing operational risk as set out in the operational risk management framework ('ORMF'). The approach sets out governance, appetite and provides a single view of non-financial risks that matter the most and associated controls. It incorporates a risk management system to enable active risk management. The enhancement and embedding of the risk appetite framework for non-financial risk and improving the consistency of the adoption of the end-to-end risk and control assessment processes has been a particular focus and while there remains more to do, progress has been made in 2018 to strengthen the control environment and the management of non-financial risk.

For further details on our non-financial risks and the 'Top and emerging risks', see pages 30 and 31.

Cybersecurity

Cybersecurity continues to be a focus area for HSBC and is routinely reported at the Board level to ensure appropriate visibility, governance and executive support for our ongoing cybersecurity activities. We continue to strengthen and invest significantly in both business and technical controls in order to prevent, detect and respond to an increasingly hostile cyber threat environment. These include enhancing controls to protect against advanced malware, data leakage, infiltration of payments systems and denial of service attacks.

For additional information, please see the 'Top and emerging risks' section on page 30.

Financial crime compliance

In order to help protect the integrity of the global financial system, we have made, and continue to make, significant investments in our ability to detect, deter and prevent financial crime. We have exited customers, products and countries where we deemed the financial crime risk too high to manage. We are also working with governments and other banks to advance our collective interests in this area. These steps are enabling us to reduce the risk of financial crime much more effectively.

Our risk appetite has been set formally. Further details may be found in the Risk section on page 30.

Anti-bribery and corruption

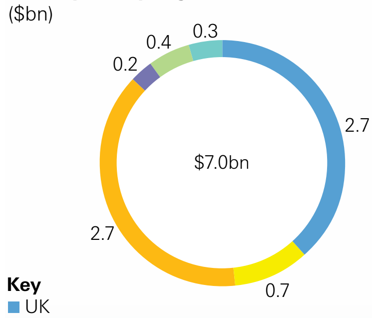
We are committed to high standards of ethical behaviour and operate a zero-tolerance approach to bribery and corruption, which we consider unethical and contrary to good corporate governance. We require compliance with all anti-bribery and corruption laws in all markets and jurisdictions in which we operate. We have a global anti-bribery and corruption policy, which gives practical effect to global initiatives, such as the Organisation of Economic Co-operation and Development ('OECD') Convention on Combating Bribery of Foreign Public Officials in International Business Transactions and Principle 10 of the United Nations Global Compact. We continue to invest in technology and training. In 2018, 98% of our workforce were trained via a mandatory e-learning course and more than 12,000 employees, who undertake activities with a high risk of bribery, received targeted role-based training.

Tax

We are committed to applying both the letter and spirit of the law in all territories where we operate. We aim to have open and transparent relationships with all tax authorities, ensuring that any areas of uncertainty or dispute are agreed and resolved in a timely manner. As a consequence, we believe that we pay our fair share of tax in the jurisdictions in which we operate.

We have adopted the UK Code of Practice on Taxation for Banks, which was introduced in 2009, and manage tax risk in accordance with a formal tax risk management framework.

Taxes paid by region
($bn)



We apply a number of tax initiatives introduced after the global financial crisis with the aim of increasing transparency. These initiatives address both the tax positions of companies and of their customers. These include:

- the US Foreign Account Tax Compliance Act ('FATCA');
- the OECD Standard for Automatic Exchange of Financial Account Information (the 'Common Reporting Standard');
- the Capital Requirements (Country by Country Reporting) Regulations;
- the OECD Base Erosion and Profit Shifting ('BEPS') initiative; and
- the UK legislation on the corporate criminal offence ('CCO') of failing to prevent the facilitation of tax evasion.

Human rights

HSBC's commitment to respecting human rights, principally as they apply to our employees, our suppliers and through our lending, is set out in our 2015 Statement on Human Rights. This statement, along with our *ESG Updates* and our statements under the UK's Modern Slavery Act ('MSA'), which include further information, is available on www.hsbc.com/our-approach/measuring-our-impact. Our next MSA statement will be published in April 2019.

Other matters

Information on our corporate governance is on page 197, and information on legal proceedings and regulatory matters can be found on page 328.

Supporting sustainable growth

We recognise our wider obligations to the communities where we operate, and understand economic growth must also be sustainable. Our sustainable growth initiatives are set out in an integrated strategy aligned to our Group strategy and our global business operations.

In 2018, we contributed $105m to charitable programmes and our employees volunteered 264,000 hours to community activities during the working day. We continued our flagship environmental partnership, the HSBC Water Programme.

Sustainable finance

We define sustainable finance as any form of financial service that integrates ESG criteria into business or investment decisions. Sustainable finance covers the financing and investment activities needed to support the United Nations Sustainable Development Goals ('SDGs') and the Paris Agreement. The Paris Agreement aims to limit the risk of an increase in temperatures to 2°C above pre-industrial levels.

To achieve the Paris Agreement and facilitate the transition to a low-carbon world, over $100tn of infrastructure investment will be required in the next 15 years[36]. We recognise the critical role finance has to play in this transition.

Our sustainable finance commitments reflect our ambition to be a leading global partner to the public and private sectors in helping with the transition to a low-carbon economy, achieving the SDGs, and supporting positive societal impacts.

For footnotes, see page 89.

HSBC's sustainable finance commitments

In November 2017, we published five sustainable finance commitments. In this section, we summarise the progress update against these commitments:

For our full commitments, see our *ESG Supplement* released in November 2017.

1 Provide and facilitate $100bn of sustainable financing and investment by 2025

- We have provided $28.5bn of financing, investing, and facilitation since 1 January 2017 (see details on page 28).

2 Source 100% of our electricity from renewable sources by 2030, with an interim target of 90% by 2025

- We signed renewables power purchase agreements that cover 29% of our electricity consumption, which is up two percentage points from 2017, and decreased energy consumption per FTE by 19% since 2011 (details on our carbon dioxide emissions can be found on page 88).

3 Reduce our exposure to thermal coal and actively manage the transition path for other high-carbon sectors

- We rolled out a framework to measure transition risks across our six higher-transition risk sectors in our loan portfolio. Further information can be found in the 'Risk management' section of our TCFD disclosure on page 29.
- We updated our energy policy to align lending guidelines to science-based climate change-related targets (see additional details on page 126).

4 Adopt the recommendations of the TCFD to improve transparency

- Further details of our second TCFD disclosure are on page 29.

5 Lead and shape the debate around sustainable finance and investment

- We published 25 articles on HSBC's Centre of Sustainable Finance (www.sustainablefinance.hsbc.com). This included 'Managing financial system stability and climate change – a preliminary guide', which was the product of collaboration and engagement with individuals in various businesses, functions and geographies across HSBC.
- We intensified engagement with leading regulatory and industry bodies to promote sustainable finance, for example by leading a capital markets workstream of UK Green Finance Taskforce.
- We provided forums for client engagement and dialogue through proprietary events, including a breakfast at the World Economic Forum in 2018 called 'Financing the sustainable silk road'.

Progress towards $100bn sustainable finance commitment

As part of our drive to deliver growth from areas of strength, we are committed to helping our clients transition to a low-carbon economy, supporting the achievement of the SDGs, and supporting positive societal impacts.

Cumulative progress through 2018

Since the start of 2017, we have achieved $28.5bn of our commitment to provide and facilitate $100bn of sustainable financing and investment by 2025. A data dictionary, including detailed definitions of contributing activities, may be found on our website www.hsbc.com/our-approach/measuring-our-impact.

Facilitation

We provide advisory services to facilitate the flow of capital and to provide access to capital markets. Products include: green, social, and sustainable bonds; debt capital markets; and equity capital markets.

Cumulative progress*
($bn)

21.4

2018	**11.1**
2017	10.3

2018 highlights

- HSBC ranked number two in Dealogic's green, social and sustainability bonds league table and number one in the sustainability bonds table.
- HSBC Malaysia issued the world's first SDG sukuk bond, aligned to the United Nations SDG principles.
- Impact reporting for our green and SDG Bonds can be found on our website www.hsbc.com/investors/fixed-income-investors/green-and-sustainability-bonds.

Financing

We provide lending for specific finance activities. Products include project finance (e.g. financing of renewable infrastructure projects), and green loans (e.g. financing of eligible green products).

Cumulative progress*
($bn)

5.8

2018	**5.3**
2017	0.5

2018 highlights

- HSBC participated in the development of the green loan principles, published by the Loan Markets Association ('LMA') in March 2018.
- HSBC provided the first ever green loan in Singapore aligned to the LMA green loan principles.

Investments

We provide investments into defined socially responsible investment ('SRI') and low-carbon funds.

Cumulative progress*
($bn)

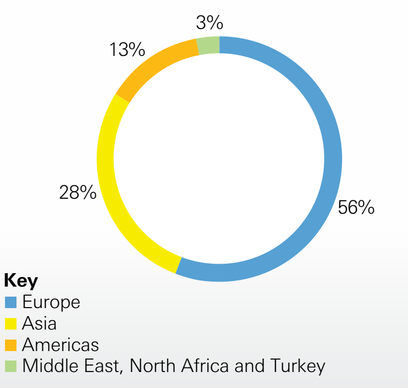
1.3

2018	**1.1**
2017	0.2

2018 highlights

- HSBC created two Global Lower Carbon funds.
- We achieved a rating of A+/A using United Nations Principles of Responsible Investment ('UN PRI'). This covers all of our funds, of which SRI represents approximately 1% of our total assets under management.

Geographical breakdown of our progress



Awards

***GlobalCapital* Sustainable and Responsible Capital Markets Awards 2018:**

Most Impressive Financial Institution Green/SRI Bank Issuer

Most Impressive Investment Bank for Asia Pacific Green/SRI Capital Markets

***Euromoney* Awards 2018:**

Asia's Best Bank for Sustainable Finance

***Extel* Awards 2018:**

No.1 Provider of Integrated Climate Change

Other transition activities

- Margin-linked loans: We have provided $1.1bn of committed facilities where the loan margin is linked to sustainability indicators.
- We are working with clients on a sustainable supply chain finance solution.
- Since January 2017, we have advised on more than $2bn of mergers and acquisitions transactions for renewable energy customers.

* PwC provided limited assurance over progress towards the $100bn sustainable finance commitment as at 31 December 2018 in accordance with International Standard on Assurance Engagement 3000 (Revised) 'Assurance Engagements other than Audits and Reviews of Historical Financial Information'. This can be found on our website www.hsbc.com/our-approach/measuring-our-impact. Further information on the external assurance of our contribution to sustainable finance and our overall ESG assurance planning will be included in our next *ESG Update* and on our website at www.hsbc.com.

Task Force on Climate-related Financial Disclosures ('TCFD')

We all have a role to play in limiting climate change and supporting the transition to a low-carbon economy, and we are a signatory to the disclosure recommendations by the Financial Stability Board's task force. This represents our second disclosure under the framework.

Governance

Mitigating climate change is a key priority for our senior leadership, with sustainable finance metrics included in the Group's strategic priorities. In 2018, there were two presentations on sustainability to the HSBC Holdings Board, two to the Group Audit Committee, four to the Group Risk Committee, and two to the HSBC Group Management Board. Senior leadership have engaged with regulators, industry associations and non-governmental organisations on this topic, such as through the Bank of England consultation on climate change, the Group Chairman's participation in the One Planet Summit and the Group Chief Executive's designation as a World Economic Forum climate leader. A summarised list of HSBC's sustainability-related memberships is available at: www.hsbc.com/our-approach/measuring-our-impact/sustainability-memberships.

Strategy

Supporting the transition to a low-carbon economy is a key part of HSBC's strategy, and new products have been offered to facilitate this, along with a pledge to provide $100bn of sustainable finance by 2025. To date, we have reached $28.5bn of that goal. For further information, see page 28. We recognise many clients across sectors are making significant shifts towards the low-carbon economy. During 2019, we intend to develop new metrics to help measure these activities, with an aim to publish in next year's disclosure.

We believe education of our people is crucial on this topic. We gave sustainability training to more than 2,300 employees during 2018 and launched a sustainability online learning programme for all employees globally, with content developed in collaboration with the University of Cambridge Institute for Sustainability Leadership.

We report on the emissions of our own operations via CDP (formerly the Carbon Disclosure Project). This is available, as well as other information related to the sustainability of our own operations, at: www.hsbc.com/our-approach/measuring-our-impact.

Risk management

We are increasingly incorporating climate-related risk, both physical and transition, into how we manage and oversee risks internally and with our customers. Climate risk is now included as a theme in our 'Top and emerging risks report' to ensure that it receives monthly management oversight via the Risk Management Meeting of the Group Management Board ('RMM') (see page 30). In addition, our Board-approved risk appetite statement contains a qualitative statement on our approach to sustainability, which will be further expanded in 2019 to include climate risk explicitly.

We have a number of sustainability risk policies covering specific sectors. In 2018, we updated our energy policy to limit the financing of high-carbon-intensity energy projects, while still supporting energy customers on their transition to a low-carbon economy. From the release of the new energy policy in April 2018 until the end of 2018, HSBC financed no new coal-fired power plants.

Transition risk, in the context of climate change, is the possibility that a customer's ability to meet its financial obligations will deteriorate due to the global movement from a high-carbon to a low-carbon economy. HSBC is working to embed transition risk into its day-to-day credit risk management. The aim is that over time, each wholesale counterparty will receive a client transition risk rating based on their susceptibility to, and ability to manage transition risk.

We have identified six higher transition risk sectors based on their contribution to global carbon dioxide emissions. These sectors are: oil and gas; building and construction; chemicals; automotive; power and utilities; and metals and mining. Over time we may identify additional sectors as having higher transition risk depending on a variety of factors, including country-level carbon dioxide reduction plans per the Paris Agreement.

The table below presents our exposure to the six higher transition risk sectors. These figures capture all lending activity, including environmentally responsible customers and sustainable financing. Further details on our approach to the quantification of exposures can be found in footnote 37 on page 89. This is expected to evolve over time as we develop new climate-related metrics.

Next steps

HSBC's TCFD disclosures will continue to evolve and expand over time. In line with TCFD recommendations, our *Annual Report and Accounts* will start to disclose the additional climate risk-related metrics relating to our portfolio for specific sectors, as the availability of sufficient, reliable and relevant customer data permits.

Sector	% of total wholesale loans and advances to customers and banks in 2018[37]
Oil and gas	≤ 3.9%
Building and construction	≤ 3.8%
Chemicals	≤ 3.9%
Automotive	≤ 3.4%
Power and utilities	≤ 3.0%
Metals and mining	≤ 2.8%
Total	≤ 20.8%

Total wholesale loans and advances to customers and banks amount to $668bn.

For footnotes, see page 89.

Risk overview

We actively manage risk to help protect and enable the business.

Managing risk

HSBC has maintained a conservative and consistent approach to risk throughout its history, helping to ensure we protect customers' funds, lend responsibly and support economies. By carefully aligning our risk appetite to our strategy, we aim to deliver sustainable long-term shareholder returns.

All employees are responsible for the management of risk, with the ultimate accountability residing with the Board. We have a strong risk culture, which is embedded through clear and consistent communication and appropriate training for all employees. A comprehensive risk management framework is applied throughout the Group, with governance and corresponding risk management tools. This framework is underpinned by our risk culture and reinforced by the HSBC Values.

Our Global Risk function oversees the framework and is led by the Group Chief Risk Officer, an executive Director. It is independent from the global businesses, including our sales and trading functions, to provide challenge, appropriate oversight and balance in risk/reward decisions.

HSBC's risk appetite defines our desired forward-looking risk profile, and informs the strategic and financial planning process. It is articulated in our risk appetite statement, which is approved by the Board. Key elements include:

- risks that we accept as part of doing business, such as credit risk and market risk;
- risks that we incur as part of doing business, such as operational risk, which are actively managed to remain below an acceptable tolerance; and
- risks for which we have zero tolerance, such as knowingly engaging in activities where foreseeable reputational risk has not been considered.

We operate a wide-ranging stress testing programme undertaking both internal and regulatory stress tests. In 2018, we participated in the Bank of England's ('BoE') annual stress test, which showed that our capital ratios, after taking account of CRD IV restrictions and strategic management actions, exceeded the BoE's requirements.

Internal stress tests are an important element in our risk management and capital management frameworks. They assess the impacts of potential adverse macroeconomic, geopolitical and other HSBC-specific events. The selection of scenarios reflects our top and emerging risks identification process and our risk appetite. Stress testing analysis helps management understand the nature and extent of vulnerabilities to which the Group is exposed.

Key risk appetite metrics

Component	Measure	Risk appetite	2018
Returns	Return on tangible equity ('RoTE')*	≥11.0%	**8.6%**
Capital	CET1 ratio – CRD IV end point basis	≥13.5%	**14.0%**
Change in expected credit losses and other credit impairment charges	Change in expected credit losses and other credit impairment charges as a % of advances: RBWM	≤0.50%	**0.34%**
	Change in expected credit losses and other credit impairment charges as a % of advances: wholesale (CMB, GB&M and GPB)	≤0.45%	**0.12%**

* Our target is to achieve a reported RoTE of more than 11% by the end of 2020.

Our risk management framework and risks associated with our banking and insurance manufacturing operations are described on pages 112 and 125, respectively.

Top and emerging risks

Our top and emerging risks framework helps enable us to identify forward-looking risks so that we may take action either to prevent them materialising or limit their effect.

Top risks are those that may have a material impact on the financial results, reputation or business model of the Group in the year ahead. Emerging risks are those that have large unknown components and may form beyond a one-year horizon. If any of these risks were to occur, they could have a material effect on HSBC.

During 2018, we made five changes to our top and emerging risks to reflect our assessment of their potential effects on the Group. Firstly, 'Libor replacement' (now renamed 'Interbank offered rate transition' or 'Ibor transition') was added as a new risk due to the ongoing effort by global regulators to reform benchmark rates and the work required to evaluate the impact of this transition on HSBC's products and services. Secondly, 'Climate-related risk' has also been added, to help monitor and mitigate the impacts of climate change on the Group and our customers, as well as support our commitment to Sustainable Finance. Thirdly, 'Execution risk' was removed following the successful completion of a number of high-priority programmes. In addition, two thematic risks were renamed to better reflect the challenges facing the Group. The new names are used in the table that follows, which details our current 13 top and emerging risks.

Our current top and emerging risks are summarised on the next page and discussed in more detail on page 100.

Our approach to identifying and monitoring top and emerging risks is described on page 113.

▲ Risk heightened during 2018
▶ Risk remained at the same level as 2017
● Thematic risk renamed during 2018

Risk	Trend	Mitigants
Externally driven		
Economic outlook and capital flows	▶	We actively monitor our credit and trading portfolios, including undertaking stress tests, to identify sectors and clients that may come under stress due to: escalating tariffs and other trade restrictions; an economic slowdown in the eurozone and mainland China; and adverse outcomes of negotiations concerning the UK's exit from the EU.
Geopolitical risk	▲	We continually assess the impact of geopolitical events on our businesses and exposures, and take steps to mitigate them, where required, to help ensure we remain within our risk appetite. We have also strengthened physical security at our premises where the risk of terrorism is heightened.
The credit cycle	▶	We undertake detailed reviews of our portfolios and are assessing proactively customers and sectors likely to come under stress as a result of geopolitical or macroeconomic events, reducing limits where appropriate.
Cyber threat and unauthorised access to systems	▲	We continue to strengthen our cyber-control framework and improve our resilience and cybersecurity capabilities, including threat detection and analysis, access control, payment systems controls, data protection, network controls and back-up and recovery.
● Regulatory developments including conduct, with adverse impact on business model and profitability	▶	We engage with regulators to help ensure new regulatory requirements are effectively implemented, and work with them in relation to their investigations into historical activities.
Financial crime risk environment	▶	We have integrated the majority of our Global Standards reforms into our day-to-day operations, and expect to complete the transition to business and function management in 2019. We continue to enhance our financial crime risk management capabilities and we are investing in the next generation of tools to fight financial crime through the application of advanced analytics and artificial intelligence.
● Ibor transition	▲	We are evaluating the impact of the replacement of Ibor (including Libor) with alternative risk-free rates on HSBC's products, services and processes as the industry accord evolves, with the intention of minimising disruption through appropriate mitigating actions.
Climate-related risks	▶	We are committed to helping finance the transition to a low-carbon economy and continue to make progress in this area (see the Group's TCFD year-two response on page 29). We regularly review our sustainability risk policies to ensure they remain fit-for-purpose while still supporting customers.
Internally driven		
IT systems infrastructure and resilience	▶	We continue to monitor and improve service resilience across our technology infrastructure, enhancing our problem diagnosis/resolution and change execution capabilities to reduce service disruption to our customers.
● Risks associated with workforce capability, capacity and environmental factors with potential impact on growth	▶	We continue to monitor workforce capacity and capability requirements in line with HSBC's published growth strategy and any emerging issues in the markets in which we operate. These issues can include changes to immigration and tax rules as well as industry-wide regulatory changes.
Risks arising from the receipt of services from third parties	▶	We continue to strengthen essential governance processes and relevant policies relating to how we identify, assess, mitigate and manage risks across the range of third parties with which we do business. This includes control monitoring and assurance throughout the third-party life cycle.
Enhanced model risk management expectations	▲	We have evolved our capability and practice for model risk management by enhancing the second line of defence Model Risk Management function, strengthening the model oversight committee structure through the chairmanship of the Group Chief Risk Officer and attendance of global business CEOs, and evolving our model risk governance framework.
Data management	▲	We continue to improve our insights, data aggregation, reporting and decisions through ongoing improvement of our data governance, data quality, data privacy, data infrastructure and architecture framework.

UK withdrawal from the European Union

The UK is due to formally leave the European Union ('EU') in March 2019. However, there is no certainty on the future relationship between the UK and the EU or indeed an implementation period. This creates market volatility and economic risk, particularly in the UK. Our Group's global presence and diversified client base should help to mitigate the impact of the UK's withdrawal from the EU. While there may be some changes to the provision of products and services for our clients and employees based in the UK and EU, we are taking mitigating actions to help minimise any potential disruption. These include expanding our product offerings available in our European entities, migrating customers where necessary and transferring some of our European branch network from HSBC Bank plc to our subsidiary in France. Our existing footprint in the EU, and in particular our subsidiary in France, has provided a strong foundation for us to build upon. As part of our stress testing programme, a number of internal macroeconomic and event-driven scenarios were considered alongside a scenario set by the Bank of England to support our planning for, and assessment of, the impact of the UK's withdrawal from the EU. The results confirmed that we are well positioned in the event of potential shocks.

For further details, please refer to our top and emerging risks on page 100.

Our approach to the UK's withdrawal from the European Union is described in more detail in 'Areas of special interest' on page 111.

Remuneration

Our remuneration policy supports the achievement of our strategic objectives by balancing reward for short- and long-term sustainable performance.

Remuneration principles

The remuneration strategy for our employees is based on a series of key principles.

What we do

- Focus on total compensation with a strong link between pay and performance
- Judge not only what is achieved, but also how it is achieved, in line with the HSBC Values
- Operate a thorough performance management and HSBC Values assessment process
- Recognise and reward our employees for outstanding positive behaviour
- Design our policy to align compensation with long-term stakeholder interests
- Apply our employee recognition and conduct framework to strengthen the alignment between risk and reward across the Group

What we don't do

- Reward inappropriate or excessive risk taking or short-term performance at the expense of long-term company sustainability
- Use only a formulaic approach to determine bonuses for our executives
- Award discretionary bonuses to employees rated unacceptable against the HSBC Values and behaviours
- Allow our employees to hedge against their unvested or retained awards
- Offer employment contracts with a notice period of more than 12 months
- Have pre-arranged individual severance agreements

Embedding our values in our remuneration framework

Instilling the right behaviours and driving and encouraging actions that are aligned to organisational values and expectations are essential. We therefore have a number of mechanisms to reinforce our values.

Mechanisms	Outcomes
Behavioural rating for all employees	– Subject to compliance with local labour laws, employees receive a behaviour rating based on their adherence to HSBC Values to ensure performance is judged not only on what is achieved, but also on how it is achieved.
Performance management	– Performance objectives define what our employees need to achieve, how and when, in line with business and role priorities. Objectives are initially created by our employees at the start of the year. Objectives are then tracked and updated by employees throughout the year as priorities change. – Performance management for all our employees is underpinned by our 'Everyday Performance and Development' programme. This approach involves frequent, holistic and meaningful conversations throughout the year between a manager and employee. The conversations provide an opportunity to discuss progress, provide feedback and recognise behaviours, identify any support that may be needed, and address any issues that could be affecting the employee's sense of well-being.
Conduct recognition	– The employee recognition and conduct framework provides a set of guidelines designed to reward exceptional conduct and handle any conduct breaches consistently across the Group. – Rewarding positive conduct may take the form of use of our global recognition programme 'At Our Best', or via positive adjustments to performance and behaviour ratings and variable pay. – The framework also provides guidance on applying negative adjustments to performance and behaviour ratings and to variable pay, alongside disciplinary sanctions, where conduct breaches have been identified.

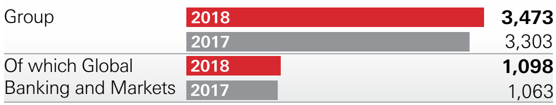
How we set our variable pay pool

When deciding on the variable pay pool, the Group Remuneration Committee considers a number of factors, which are set out in the following table:

Performance and risk appetite statement	– Our variable pay pool takes into account our performance in the context of our risk appetite.
Countercyclical funding methodology	– To dampen effects of economic cycles, the variable pay pool's size has a floor and a ceiling, and we also limit the payout ratio as performance increases to prevent the risk of inappropriate behaviour.
Distribution of profits	– Our funding methodology ensures that the distribution of post-tax profit between capital, shareholders and variable pay is appropriate, and that the majority of post-tax profit is allocated to capital and shareholders.
Commerciality and affordability	– We face challenges arising from being headquartered in the UK, which has more stringent reward practices. We take into account these challenges in determining the size of the variable pay pool to help ensure we can continue to attract and retain talent in key markets.

Our variable pay pool was $3,473m, an increase of 5.1% compared with 2017.

Variable pay pool
($m)



Variable pay for our executive Directors

Variable pay for our executive Directors is driven by scorecard achievement. Targets in the scorecard are set according to our key performance indicators to ensure linkages between our strategy and remuneration policies and outcome.

See the Directors' remuneration report on page 231 for further details.

Remuneration for our executive Directors

Our remuneration policy for executive Directors was approved at our 2016 Annual General Meeting ('AGM') and is intended to apply for three performance years until the AGM in 2019. We will be putting forward a new remuneration policy for shareholder approval at the AGM. Details of the proposed policy can be found on page 220.

The table below shows the amount our executive Directors earned in 2018. For details of Directors' pay and performance for 2018, see the Directors' remuneration report on page 217.

(in £000)		Base salary	Fixed pay allowance	Cash in lieu of pension	Annual incentive	AML DPA Award[38]	LTI[39]	Sub-total	Taxable benefits	Non-taxable benefits	Notional returns	Total
John Flint[40]	**2018**	**1,028**	**1,459**	**308**	**1,665**	**—**	**—**	**4,460**	**40**	**28**	**54**	**4,582**
	2017	—	—	—	—	—	—	—	—	—	—	—
Stuart Gulliver[41,43]	**2018**	**171**	**241**	**51**	**282**	**1,530**	**—**	**2,275**	**65**	**6**	**41**	**2,387**
	2017	1,250	1,700	375	2,127	—	—	5,452	500	71	63	6,086
Iain Mackay[42,43]	**2018**	**700**	**950**	**210**	**1,088**	**1,057**	**—**	**4,005**	**80**	**44**	**33**	**4,162**
	2017	700	950	210	1,334	—	—	3,194	64	37	42	3,337
Marc Moses	**2018**	**700**	**950**	**210**	**1,324**	**695**	**—**	**3,879**	**13**	**38**	**33**	**3,963**
	2017	700	950	210	1,358	—	—	3,218	16	38	42	3,314

For footnotes, see page 89.

Financial summary

Use of non-GAAP financial measures

Our reported results are prepared in accordance with IFRSs as detailed in the Financial Statements starting on page 253.

To measure our performance we also use non-GAAP financial measures, including those derived from our reported results that eliminate factors that distort year-on-year comparisons. The 'adjusted performance' measure used throughout this report is described below, and where others are used they are described. All non-GAAP financial measures are reconciled to the closest reported financial measure.

The global business segmental results on pages 64 to 72 are presented on an adjusted basis in accordance with IFRS 8 'Operating Segments', as detailed in 'Basis of preparation' on page 64.

Adjusted performance

Adjusted performance is computed by adjusting reported results for the effects of foreign currency translation differences and significant items, which both distort year-on-year comparisons.

We consider adjusted performance provides useful information for investors by aligning internal and external reporting, identifying and quantifying items management believes to be significant, and providing insight into how management assesses year-on-year performance.

Significant items

'Significant items' refers collectively to the items that management and investors would ordinarily identify and consider separately to improve the understanding of the underlying trends in the business.

The tables on pages 67 to 70 and pages 78 to 84 detail the effects of significant items on each of our global business segments and geographical regions in 2018, 2017 and 2016.

Foreign currency translation differences

Foreign currency translation differences reflect the movements of the US dollar against most major currencies during 2018.

We exclude them to derive constant currency data, allowing us to assess balance sheet and income statement performance on a like-for-like basis and better understand the underlying trends in the business.

Foreign currency translation differences

Foreign currency translation differences for 2018 are computed by retranslating into US dollars for non-US dollar branches, subsidiaries, joint ventures and associates:

- the income statements for 2017 and 2016 at the average rates of exchange for 2018; and
- the balance sheets at 31 December 2017 and 31 December 2016 at the prevailing rates of exchange on 31 December 2018.

No adjustment has been made to the exchange rates used to translate foreign currency-denominated assets and liabilities into the functional currencies of any HSBC branches, subsidiaries, joint ventures or associates. The constant currency data of HSBC's Argentinian subsidiaries has not been adjusted further for the impacts of hyperinflation. When reference is made to foreign currency translation differences in tables or commentaries, comparative data reported in the functional currencies of HSBC's operations has been translated at the appropriate exchange rates applied in the current period on the basis described above.

Changes to presentation from 1 January 2018

IFRS 9

HSBC adopted the requirements of IFRS 9 'Financial Instruments' on 1 January 2018, with the exception of the provisions relating to the presentation of gains and losses on financial liabilities designated at fair value, which were adopted on 1 January 2017. The impact of transitioning to IFRS 9 at 1 January 2018 on the consolidated financial statements of HSBC was a decrease in net assets of $1.6bn, arising from:

- a decrease of $2.2bn from additional impairment allowances;
- a decrease of $0.9bn from our associates reducing their net assets;
- an increase of $1.1bn from the remeasurement of financial assets and liabilities as a consequence of classification changes, mainly from revoking fair value accounting designations for certain long-dated issued debt instruments; and
- an increase in net deferred tax assets of $0.4bn.

The effect of IFRS 9 on the carrying value of investments in associates has been updated from the effect disclosed in our *Annual Report and Accounts 2017* and in our *Report on Transition to IFRS 9 'Financial Instruments' 1 January 2018* as a result of those entities publicly reporting their expected transition impacts. This resulted in a further decrease in net assets of $0.6bn, net of tax.

Refer to 'Standards applied during the year ended 31 December 2018' on page 263 and Note 37 'Effects of reclassification and remeasurement upon adoption of IFRS 9' for further detail.

Income statement presentation

The classification and measurement requirements under IFRS 9, which was adopted from 1 January 2018, is based on an entity's assessment of both the business model for managing the assets and the contractual cash flow characteristics of the assets. The standard contains a classification for items measured mandatorily at fair value through profit and loss as a residual category. Given its residual nature, the presentation of the income statement has been updated to separately present items in this category which are of a dissimilar nature or function, in line with IAS 1 'Presentation of Financial Statements' requirements. Comparative data has been re-presented. There is no net impact on total operating income.

Prior to 2018, foreign exchange exposure on some financial instruments designated at fair value was presented in the same line in the income statement as the underlying fair value movement on these instruments. In 2018, we grouped the entire effect of foreign exchange exposure in the profit and loss and presented it within 'Net trading activities' in 'Net income from financial instruments held for trading or managed on a fair value basis'. Comparative data has been re-presented. There is no net impact on total operating income and the impact on 'changes in fair value of long-term debt and related derivatives' in 2017 was $(517)m (2016: $1,978m; 2015: $110m; 2014: $130m).

IAS 29

From 1 July 2018, Argentina was deemed a hyperinflationary economy for accounting purposes.

The results of HSBC's operations with a functional currency of the Argentine peso have been prepared in accordance with IAS 29 'Financial Reporting in Hyperinflationary Economies' as if the economy had always been hyperinflationary. The results of those operations for the year ended 31 December 2018 are stated in terms of current purchasing power using the Indice de Precios al Consumidor at 31 December 2018, with the corresponding adjustment presented in other comprehensive income ('OCI'). In accordance with IAS 21 'The Effects of Changes in Foreign Exchange Rates', the results have been translated and presented in US dollars at the prevailing rate of exchange on 31 December 2018. The Group's comparative information presented in US dollars has not been restated.

The impact of applying IAS 29 and the hyperinflation provisions of IAS 21 in the current year was a decrease in the Group's profit before tax of $160m, comprising a decrease in revenue of $231m, offset by a decrease in expected credit losses of $8m, and a decrease in operating expenses of $63m.

Critical accounting estimates and judgements

The results of HSBC reflect the choice of accounting policies, assumptions and estimates that underlie the preparation of HSBC's consolidated financial statements. The significant accounting policies, including the policies which include critical accounting estimates and judgements, are described in Note 1.2 on the Financial Statements. The accounting policies listed below are highlighted as they involve a high degree of uncertainty and have a material impact on the financial statements:

- Impairment of amortised cost financial assets and financial assets measured at fair value through other comprehensive income ('FVOCI'): The most significant judgements relate to defining what is considered to be a significant increase in credit risk, determining the lifetime and point of initial recognition of revolving facilities, and in making assumptions and estimates to incorporate relevant information about past events, current conditions and forecasts of economic conditions. A high degree of uncertainty is involved in making estimations using assumptions that are highly subjective and very sensitive to the risk factors. See Note 1.2(i) on page 269.
- Hedge accounting and the replacement of major interest rate reference rates: The financial markets are going through a significant reform and replacement of the major interest rate reference rates. These interbank offered rates ('Ibors'), such as Libor and Euribor, are currently widely used as benchmarks for a large volume and broad range of financial products and contracts. This results in significant accounting judgement being involved in determining whether certain hedge accounting relationships that hedge variability of cash flows and interest rate risk due to changes in Ibors continue to qualify for hedge accounting as at 31 December 2018. See Note 1.2(h) on page 273.
- Deferred tax assets: The most significant judgements relate to those made in respect of expected future profitability. See Note 1.2(l) on page 273.
- Valuation of financial instruments: In determining the fair value of financial instruments a variety of valuation techniques are used, some of which feature significant unobservable inputs and are subject to substantial uncertainty. See Note 1.2(c) on page 267.
- Impairment of interests in associates: Impairment testing involves significant judgement in determining the value in use, and in particular estimating the present values of cash flows expected to arise from continuing to hold the investment, based on a number of management assumptions. The most significant judgements relate to the impairment testing of our investment in Bank of Communications Co., Limited ('BoCom'). See Note 1.2(a) on page 265.
- Goodwill impairment: A high degree of uncertainty is involved in estimating the future cash flows of the cash-generating units ('CGUs') and the rates used to discount these cash flows. See Note 1.2(a) on page 265.
- Provisions: Significant judgement may be required due to the high degree of uncertainty associated with determining whether a present obligation exists, and estimating the probability and amount of any outflows that may arise. See Note 1.2(m) on page 273.

Given the inherent uncertainties and the high level of subjectivity involved in the recognition or measurement of the items above, it is possible that the outcomes in the next financial year could differ from the expectations on which management's estimates are based, resulting in the recognition and measurement of materially different amounts from those estimated by management in these Financial Statements.

Consolidated income statement

Summary consolidated income statement

	Footnotes	2018 $m	2017 $m	2016 $m	2015 $m	2014 $m
Net interest income		**30,489**	28,176	29,813	32,531	34,705
Net fee income		**12,620**	12,811	12,777	14,705	15,957
Net income from financial instruments held for trading or managed on a fair value basis	44, 45	**9,531**	8,426	7,521	8,717	6,730
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss	45	**(1,488)**	2,836	1,262	565	1,865
Change in fair value of long-term debt and related derivatives	44	**(97)**	155	(1,997)	973	638
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	45	**695**	N/A	N/A	N/A	N/A
Gains less losses from financial investments		**218**	1,150	1,385	2,068	1,335
Dividend income		**75**	106	95	123	311
Net insurance premium income		**10,659**	9,779	9,951	10,355	11,921
Other operating income/(expense)		**885**	337	(971)	1,055	1,131
Total operating income		**63,587**	63,776	59,836	71,092	74,593
Net insurance claims and benefits paid and movement in liabilities to policyholders		**(9,807)**	(12,331)	(11,870)	(11,292)	(13,345)
Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions	26	**53,780**	51,445	47,966	59,800	61,248
Change in expected credit losses and other credit impairment charges		**(1,767)**	N/A	N/A	N/A	N/A
Loan impairment charges and other credit risk provisions		**N/A**	(1,769)	(3,400)	(3,721)	(3,851)
Net operating income		**52,013**	49,676	44,566	56,079	57,397
Total operating expenses		**(34,659)**	(34,884)	(39,808)	(39,768)	(41,249)
Operating profit		**17,354**	14,792	4,758	16,311	16,148
Share of profit in associates and joint ventures		**2,536**	2,375	2,354	2,556	2,532
Profit before tax		**19,890**	17,167	7,112	18,867	18,680
Tax expense		**(4,865)**	(5,288)	(3,666)	(3,771)	(3,975)
Profit for the year		**15,025**	11,879	3,446	15,096	14,705
Attributable to:						
– ordinary shareholders of the parent company		**12,608**	9,683	1,299	12,572	13,115
– preference shareholders of the parent company		**90**	90	90	90	90
– other equity holders		**1,029**	1,025	1,090	860	483
– non-controlling interests		**1,298**	1,081	967	1,574	1,017
Profit for the year		**15,025**	11,879	3,446	15,096	14,705

Five-year financial information

	Footnotes	2018 $	2017 $	2016 $	2015 $	2014 $
Basic earnings per share		**0.63**	0.48	0.07	0.65	0.69
Diluted earnings per share		**0.63**	0.48	0.07	0.64	0.69
Dividends per ordinary share	46	**0.51**	0.51	0.51	0.50	0.49
		%	%	%	%	%
Dividend payout ratio	47	**81.0**	106.3	728.6	76.5	71.0
Post-tax return on average total assets		**0.6**	0.5	0.1	0.6	0.5
Return on average risk-weighted assets	48	**2.3**	2.0	0.7	1.6	1.5
Return on average ordinary shareholders' equity		**7.7**	5.9	0.8	7.2	7.3
Return on average tangible equity		**8.6**	6.8	2.6	8.1	8.5

For footnotes, see page 89.
Unless stated otherwise, all tables in the Annual Report and Accounts 2018 *are presented on a reported basis.*

For a summary of our financial performance in 2018, see page 14.
For further financial performance data for each global business and geographical region, see pages 65 to 70 and 76 to 84, respectively.

Group performance by income and expense item

Net interest income

	Footnotes	2018 $m	2017 $m	2016 $m
Interest income		**49,609**	40,995	42,414
Interest expense		**(19,120)**	(12,819)	(12,601)
Net interest income		**30,489**	28,176	29,813
Average interest-earning assets		**1,839,346**	1,726,120	1,723,702
		%	%	%
Gross interest yield	49	**2.70**	2.37	2.46
Less: cost of funds		**(1.21)**	(0.88)	(0.87)
Net interest spread	50	**1.49**	1.49	1.59
Net interest margin	51	**1.66**	1.63	1.73

For footnotes, see page 89.

Summary of interest income by type of asset

		2018			2017			2016		
		Average balance	**Interest income**	**Yield**	Average balance	Interest income	Yield	Average balance	Interest income	Yield
	Footnotes	**$m**	**$m**	**%**	$m	$m	%	$m	$m	%
Short-term funds and loans and advances to banks		**233,637**	**2,475**	**1.06**	236,126	2,030	0.86	203,799	1,510	0.74
Loans and advances to customers		**972,963**	**33,285**	**3.42**	902,214	28,751	3.19	865,356	29,272	3.38
Reverse repurchase agreements – non-trading		**205,427**	**3,739**	**1.82**	173,760	2,191	1.26	168,207	1,227	0.73
Financial investments		**386,230**	**9,166**	**2.37**	389,807	7,440	1.91	430,775	7,248	1.68
Other interest-earning assets		**41,089**	**944**	**2.30**	24,213	583	2.41	55,565	3,157	5.68
Total interest-earning assets		**1,839,346**	**49,609**	**2.70**	1,726,120	40,995	2.37	1,723,702	42,414	2.46
Trading assets and financial assets designated and otherwise mandatorily measured at fair value through profit or loss	52,53	**195,922**	**5,215**	**2.66**	N/A	N/A	N/A	N/A	N/A	N/A
Trading assets and financial assets designated at fair value		**N/A**	**N/A**	**N/A**	186,673	4,245	2.27	179,780	3,897	2.17
Expected credit losses provision		**(7,816)**			N/A	N/A	N/A	N/A	N/A	N/A
Impairment allowance		**N/A**	**N/A**	**N/A**	(7,841)			(9,127)		
Non-interest-earning assets		**584,524**			616,688			653,115		
Year ended 31 Dec		**2,611,976**	**54,824**	**2.10**	2,521,640	45,240	1.79	2,547,470	46,311	1.82

For footnotes, see page 89.

Summary of interest expense by type of liability and equity

		2018			2017			2016		
		Average balance	**Interest expense**	**Cost**	Average balance	Interest expense	Cost	Average balance	Interest expense	Cost
	Footnotes	**$m**	**$m**	**%**	$m	$m	%	$m	$m	%
Deposits by banks	54	**44,530**	**506**	**1.14**	47,337	451	0.95	49,782	342	0.69
Financial liabilities designated at fair value – own debt issued	55	**50,840**	**1,421**	**2.80**	60,566	1,261	2.08	62,042	942	1.52
Customer accounts	56	**1,138,620**	**8,287**	**0.73**	1,094,920	5,405	0.49	1,074,661	5,492	0.51
Repurchase agreements – non-trading		**161,204**	**3,409**	**2.11**	136,561	1,665	1.22	118,789	626	0.53
Debt securities in issue		**132,594**	**4,254**	**3.21**	108,677	3,130	2.88	114,343	2,807	2.45
Other interest-bearing liabilities		**53,731**	**1,243**	**2.31**	7,009	907	12.94	22,387	2,392	10.68
Total interest-bearing liabilities		**1,581,519**	**19,120**	**1.21**	1,455,070	12,819	0.88	1,442,004	12,601	0.87
Trading liabilities and financial liabilities designated at fair value (excluding own debt issued)		**142,184**	**3,524**	**2.48**	153,776	2,325	1.51	138,486	1,986	1.43
Non-interest bearing current accounts		**211,815**			197,104			184,016		
Total equity and other non-interest bearing liabilities		**676,458**			715,690			782,964		
Year ended 31 Dec		**2,611,976**	**22,644**	**0.87**	2,521,640	15,144	0.60	2,547,470	14,587	0.57

For footnotes, see page 89.

Significant items and currency translation

	2018	2017
	$m	$m
Significant items	53	(105)
– customer redress programmes	53	(108)
– currency translation on significant items		3
Currency translation		99
Year ended 31 Dec	53	(6)

Net interest income of $30.5bn increased by $2.3bn or 8% compared with 2017. This included the minimal effects of significant items and foreign currency translation differences.

Net interest margin of 1.66% was 3 basis points ('bps') higher than in 2017. This included the minimal effects of significant items and foreign currency translation differences. The rise in net interest margin mainly reflected the effect of rate rises on asset yields, notably on term lending in Asia and on surplus liquidity in most regions. This was partly offset by the higher cost of customer accounts, notably in Asia and Europe, and the higher cost of debt issued to meet regulatory requirements.

The increase in net interest margin in 2018 includes the fourth-quarter impact of increased liquidity requirements in Europe and the increased cost of customer accounts in Asia.

Interest income

Interest income increased by $8.6bn compared with 2017. This included the minimal adverse effects of significant items and foreign currency translation. The increase in interest income was mainly driven by higher income from lending, surplus liquidity and reverse repurchase agreements.

Interest income on loans and advances to customers increased by $4.5bn compared with 2017. This included the minimal favourable effects of customer redress programmes and foreign currency translation differences, and reflected increases in all regions, notably:

- in Asia, where growth was mainly due to central bank rate rises resulting in higher yields on term lending and mortgages, and volume growth; and
- in Europe, where growth was mainly in the UK, reflecting higher yields on term lending following a central bank rate rise and growth in mortgage balances, although yields decreased.

Interest income on short-term funds and financial investments increased by $2.2bn compared with 2017, which included the adverse effects of customer redress programmes and foreign currency translation differences of $0.1bn. This increase was across all regions, but mainly in Asia and North America, primarily on debt securities, following central bank rate rises.

Interest income on reverse repurchase agreements increased by $1.5bn compared with 2017, notably in North America and Europe, following central bank rate rises.

Interest expense

Reported interest expense increased by $6.3bn, which included the favourable effects of significant items and foreign currency translation differences of $0.1bn. Excluding these impacts, interest expense was $6.4bn higher, primarily due to increases in interest expense on customer accounts, repurchase agreements and debt.

Interest expense on customer accounts was $2.9bn higher. This included the favourable effects of customer redress programmes and foreign currency translation differences of $0.1bn, and reflected average balance growth in most regions. The net increase also reflected changes in interest rates in key markets, including:

- central bank rate rises in Asia, notably in Hong Kong, as well as a change in portfolio mix;
- the 2018 increase in the UK base rate; and
- rate rises in Latin America and North America.

Interest expense on repurchase agreements increased by $1.7bn, broadly in line with the increase in interest income on reverse repurchase agreements, notably in North America and Europe, reflecting increased balances and higher market rates.

Interest expense on debt securities in issue and own debt at fair value was $1.3bn higher. The increase reflected a rise in the external cost of debt, together with an increase in debt issued by HSBC Holdings to meet regulatory requirements.

Net fee income

	2018	2017	2016
	$m	$m	$m
Funds under management	2,221	2,188	2,076
Account services	2,177	2,244	2,417
Cards	1,956	1,994	1,970
Credit facilities	1,723	1,718	1,795
Broking income	1,210	1,191	1,060
Unit trusts	1,038	1,010	863
Remittances	778	759	766
Global custody	736	692	662
Underwriting	723	829	705
Imports/exports	709	736	820
Insurance agency commission	404	410	419
Other	2,369	2,082	2,116
Fee income	16,044	15,853	15,669
Less: fee expense	(3,424)	(3,042)	(2,892)
Year ended 31 Dec	12,620	12,811	12,777

Significant items and currency translation

	2018	2017
	$m	$m
Significant items	—	—
Currency translation		(76)
Year ended 31 Dec	—	(76)

Net fee income of $12.6bn was $0.2bn lower compared with 2017 and included the favourable effects of foreign currency translation differences of $0.1bn. This decrease was mainly due to lower fee income from underwriting and corporate finance (disclosed within 'other') in GB&M and an increase in fee expense.

Fee income from underwriting and corporate finance decreased by $0.2bn as a result of lower volumes in investment banking products and reduced client activity, mainly in Europe and North America.

Fee income from cards also decreased, partly due to a reclassification from cards to interbank and clearing fees. This was partly offset by an increase in cards volumes, notably in Hong Kong and the US, from new product launches and campaigns, together with increased activity.

In addition, fee expense increased by $0.4bn, in part from cards due to increased customer activity in Hong Kong.

These factors were partly offset by an increase in Other fee income due in part to an increase in interbank and clearing fees in the UK and Mexico, following the reclassification of interchange fee income from cards with effect from 1 January 2018.

Net income from financial instruments measured at fair value through profit or loss

	Footnotes	2018 $m	2017 $m	2016 $m
Trading activities	44	**7,234**	8,131	8,110
Other trading income – hedge ineffectiveness		**(45)**	(1)	18
– on cash flow hedges		**(8)**	(5)	(5)
– on fair value hedges		**(37)**	4	23
Fair value movement on non-qualifying hedges	57	**(207)**	106	(655)
Other instruments designated and managed on a fair value basis and related derivatives		**2,549**	190	48
Net income from financial instruments held for trading or managed on a fair value basis		**9,531**	8,426	7,521
Financial assets held to meet liabilities under insurance and investment contracts		**(1,585)**	3,211	1,480
Liabilities to customers under investment contracts		**97**	(375)	(218)
Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss		**(1,488)**	2,836	1,262
Changes in fair value of long-term debt and related derivatives	44	**(97)**	155	(1,997)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		**695**	N/A	N/A
Year ended 31 Dec		**8,641**	11,417	6,786

For footnotes, see page 89.

Significant items and currency translation

	Footnotes	2018 $m	2017 $m
Significant items		**(108)**	(258)
– disposals, acquisitions and investment in new businesses		**(8)**	–
– fair value movement on financial instruments	57	**(100)**	(245)
– currency translation on significant items			(13)
Currency translation			(123)
Year ended 31 Dec		**(108)**	(381)

For footnotes, see page 89.

Net income from financial instruments measured at fair value of $8.6bn was $2.8bn lower than in 2017. This included favourable effects of foreign currency translation differences and significant items relating to favourable fair value movements on financial instruments, including non-qualifying hedges and debit valuation adjustments.

'Net expense from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss' was $1.5bn, compared with net income of $2.8bn in 2017. This decrease primarily reflected unfavourable equity market performance in 2018 compared with 2017 in Hong Kong and France, resulting in revaluation losses on the equity and unit trust assets supporting insurance and investment contracts.

Corresponding movements were recorded in the liabilities to customers, reflecting the extent to which they participate in the investment performance of the associated assets. For investment contracts, the offsetting movements are recorded in 'Liabilities to customers under investment contracts', and for insurance contracts in 'Net insurance claims and benefits paid and movement in liabilities to policyholders'.

'Changes in fair value on long-term debt and related derivatives' were $0.1bn adverse in 2018, compared with favourable movements of $0.2bn in 2017. These movements were driven by changes in interest rates between the periods, notably in US dollars and pounds sterling.

'Net income from financial instruments held for trading or managed on a fair value basis' increased by $1.1bn. This included favourable foreign currency translation differences ($0.1bn), and a favourable movement in significant items ($0.1bn). The increase also included a number of accounting reclassifications under IFRS 9, which comprised:

- a reclassification from 1 January 2018 of net income related to structured notes from 'trading activities' to 'other instruments designated and managed on a fair value basis and related derivatives';
- a change in accounting treatment on 1 January 2018 of issued debt securities, which resulted in the fair value movements relating to changes in credit spreads on structured liabilities being reported in other comprehensive income. This compared with an expense of $0.5bn recognised in 'trading activities' in 2017;
- a reclassification on 1 January 2018 of stock lending and borrowing instruments in Hong Kong from 'amortised cost' to 'held for trading'. This resulted in the income relating to these instruments no longer being recognised in net interest income, and instead being recognised in 'trading activities'. See Note 37 on the Financial Statements for further details.

The favourable effect of these reclassifications, as well as revaluation gains on US dollar-denominated capital in mainland China, were partly offset by a decrease in revenue from trading activities in GB&M. This decrease was primarily in Europe, as our

Global Markets business experienced lower client activity, notably in Rates and Credit, which was partly offset by an increase in the US from higher metals and emerging markets trading activity.

We also recorded net adverse movements on derivatives, as well as on the revaluation of foreign exchange positions in France.

'Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss' – a new financial statement line item under IFRS 9 – recorded revenue of $0.7bn in 2018. This revenue was mainly in the UK, reflecting fair value gains on underlying equities in GB&M and on disposal of investments, notably in Principal Investments, as well as fair value gains on debt securities.

The majority of our financial liabilities designated at fair value are fixed-rate, long-term debt issuances, and are managed in conjunction with interest rate swaps as part of our interest rate management strategy. These liabilities are discussed further on page 48.

Gains less losses from financial investments

	2018	2017	2016
	$m	$m	$m
Net gains from disposal of	218	1,248	1,421
– debt securities	220	403	357
– equity securities	N/A	838	1,058
– other financial investments	(2)	7	6
Impairment of available-for-sale equity securities	N/A	(98)	(36)
Year ended 31 Dec	218	1,150	1,385

Significant items and currency translation

	2018	2017
	$m	$m
Significant items	–	434
– disposals, acquisitions and investment in new businesses	–	434
– currency translation on significant items		–
Currency translation		(17)
Year ended 31 Dec	–	417

Gains less losses from financial investments of $0.2bn decreased by $0.9bn compared with 2017. Following the implementation of IFRS 9, 'net gains on the disposal of equity securities' and 'impairment of available-for-sale equity securities' are no longer reported within 'gains less losses from financial investments'. These are now reported within 'net income/(expense) from financial instruments measured at fair value through profit or loss'.

Net gains from the disposal of equity securities were $0.8bn in 2017 and included disposals, acquisitions and investment in new businesses of $0.4bn. This comprised a gain on the disposal of our membership interest in Visa Inc. in the US of $0.3bn and gains on the disposal of our investment in Vietnam Technological and Commercial Joint Stock Bank ('Techcombank') of $0.1bn. The remaining balance in 2017 included net gains from the disposal of equity securities in GB&M, mainly in the UK, France and the US.

Net gains from the disposal of debt securities were $0.2bn lower. This reduction was mainly in Corporate Centre and related to net losses on disposals in legacy credit, as well as lower gains on disposals in Balance Sheet Management.

Net insurance premium income

	2018	2017	2016
	$m	$m	$m
Gross insurance premium income	11,338	10,802	10,588
Reinsurance premiums	(679)	(1,023)	(637)
Year ended 31 Dec	10,659	9,779	9,951

Significant items and currency translation

	2018	2017
	$m	$m
Significant items	–	–
Currency translation		(68)
Year ended 31 Dec	–	(68)

Net insurance premium income was $0.9bn higher than in 2017, and included the effects of foreign currency translation differences.

The increase in insurance premiums was driven by higher new business volumes, particularly in Hong Kong and France, and lower reinsurance ceded in Hong Kong.

Other operating income

	2018 $m	2017 $m	2016 $m
Rent received	**152**	171	157
Gains/(losses) recognised on assets held for sale	**12**	214	(1,949)
Gains on investment properties	**82**	48	4
Gain on disposal of property, plant and equipment, intangible assets and non-financial investments	**33**	46	35
Change in present value of in-force long-term insurance business	**681**	24	902
Other	**(75)**	(166)	(120)
Year ended 31 Dec	**885**	337	(971)

Change in present value of in-force long-term insurance business

	2018 $m	2017 $m	2016 $m
Value of new business	**1,117**	919	900
Expected return	**(719)**	(599)	(532)
Assumption changes and experience variances	**292**	(280)	513
Other adjustments	**(9)**	(16)	21
Year ended 31 Dec	**681**	24	902

Significant items and currency translation

	2018 $m	2017 $m
Significant items	**(107)**	(154)
– disposals, acquisitions and investment in new businesses	**(107)**	(160)
– currency translation on significant items		6
Currency translation		(19)
Year ended 31 Dec	**(107)**	(173)

Other operating income of $0.9bn in 2018 increased by $0.5bn compared with 2017. This was primarily due to a higher favourable change in the present value of in-force long-term insurance business ('PVIF') in 2018 (up $0.7bn).

This increase in PVIF reflected a favourable movement in 'assumption changes and experience variances' of $0.6bn, from the future sharing of investment returns with policyholders, primarily in Hong Kong. In addition, the value of new business written increased by $0.2bn during 2018 to $1.1bn. For further details, please see Note 21 on the Financial Statements.

Gains on assets held for sale were $0.2bn lower, mainly as gains in 2017 included the sale of our holding in VocaLink in the UK and the sale of our operations in Lebanon.

In Other, we recorded lower losses related to the early redemption of subordinated debt linked to the US run-off portfolio ($0.1bn). In addition, 2018 included the adverse effects of hyperinflation accounting in Argentina ($0.1bn), while 2017 included a $0.1bn charge arising from the opportunity to increase our investment in new businesses.

Net insurance claims and benefits paid and movement in liabilities to policyholders

	2018 $m	2017 $m	2016 $m
Gross	**10,221**	13,208	12,508
Less reinsurers' share	**(414)**	(877)	(638)
Year ended 31 Dec	**9,807**	12,331	11,870

Significant items and currency translation

	2018 $m	2017 $m
Significant items	**—**	—
Currency translation		68
Year ended 31 Dec	**—**	68

Net insurance claims and benefits paid and movement in liabilities to policyholders were $2.5bn lower than 2017.

This decrease was primarily due to lower returns on financial assets supporting contracts where the policyholder is subject to part or all of the investment risk. This reflected unfavourable equity market performance in Hong Kong and France compared with favourable performance in 2017 as well as higher claims and benefits paid.

These decreases were partly offset by the impact of higher new business volumes in Hong Kong and France and lower reinsurance ceded in Hong Kong.

The gains or losses recognised on the financial assets measured at fair value through profit and loss that are held to support these insurance contract liabilities are reported in 'Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss' on page 39.

Change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions[58]

	2018	2017	2016
	$m	$m	$m
Loans and advances to banks and customers	**1,896**	1,992	3,350
– new allowances net of allowance releases	**2,304**	2,636	3,977
– recoveries of amounts previously written off	**(408)**	(644)	(627)
Loan commitments and guarantees	**(3)**	(50)	63
Other financial assets	**(21)**	17	50
Debt instruments measured at fair value through other comprehensive income	**(105)**	N/A	N/A
Available-for-sale-debt securities	**N/A**	(190)	(63)
Change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions	**1,767**	1,769	3,400

For footnotes, see page 89.

Significant items and currency translation

	2018	2017
	$m	$m
Significant items	**—**	—
Currency translation		56
Year ended 31 Dec	**—**	56

Changes in expected credit losses and other credit impairment charges ('ECL') of $1.8bn in 2018 mainly reflected charges in RBWM and CMB. These were partly offset by net releases in Corporate Centre and GB&M.

In 2017, loan impairment charges and other credit risk provisions ('LICs') of $1.8bn were primarily in RBWM, CMB and GB&M, partly offset by releases in Corporate Centre. The effects of currency translation between the periods were minimal.

ECL in 2018

In 2018, ECL in RBWM of $1.2bn primarily comprised new allowances in Mexico ($0.4bn), the UK ($0.4bn) and Asia ($0.3bn), and related to unsecured lending balances. The charge in the UK also included charges relating to the current economic uncertainty. The overall allowance for ECL remained broadly unchanged compared with 1 January 2018, as these new allowances broadly offset releases, mainly from write-offs and derecognition of assets.

In CMB, ECL of $0.7bn were predominantly against a small number of specific exposures across various sectors. In Asia, charges of $0.3bn were mainly in Hong Kong, mainland China and Indonesia. In Europe, the charge was primarily in the UK ($0.2bn) against a small number of customers, and reflected the current economic uncertainty. In Middle East and North Africa ('MENA'), ECL of $0.2bn were against a small number of customers in Turkey and the UAE, as well as charges reflecting the challenging economic conditions in Turkey. In Latin America, charges of $0.1bn were driven by Mexico and Argentina. These charges were partly offset by net releases of $0.1bn in North America across various sectors.

In GB&M, a net ECL release of $26m was driven by the US ($0.2bn) relating to a small number of clients, notably within the oil and gas, construction and mining sectors. These releases were partly offset by charges against two large corporate exposures in the UK in the retail and construction sectors.
In Corporate Centre, a net ECL release of $0.1bn related to legacy credit in the UK.

LICs in 2017

In 2017, LICs in RBWM were $1.0bn, of which the largest portion of the charge was in Mexico ($0.4bn), reflecting our strategic growth in unsecured lending, together with an associated rise in delinquency. LICs in the UK were $0.1bn, and in Hong Kong were $0.1bn, primarily relating to our unsecured lending exposure. LICs in RBWM also included charges in MENA of $0.1bn.

In CMB, LICs of $0.5bn were driven by an increase in allowances in Hong Kong ($0.2bn) and in the UK ($0.1bn), related to a small number of clients across various sectors. These charges were partly offset by releases in North America.

In GB&M, LICs of $0.5bn were primarily in the UK ($0.4bn) against specific customers in the construction and retail sectors, and in Hong Kong ($0.1bn) against a small number of exposures. These charges were partly offset by releases in the US, particularly in the oil and gas sector.

In Corporate Centre, a net release of LICs of $0.2bn was mainly related to our legacy credit portfolio in the UK.

Operating expenses

Operating expenses

	2018	2017	2016
	$m	$m	$m
By expense category			
Employee compensation and benefits	**17,373**	17,315	18,089
Premises and equipment (excluding depreciation and impairment)	**3,422**	3,530	3,758
General and administrative expenses	**11,931**	12,177	12,715
Administrative expenses	**32,726**	33,022	34,562
Depreciation and impairment of property, plant and equipment	**1,119**	1,166	1,229
Amortisation and impairment of intangible assets	**814**	696	777
Goodwill impairment	**—**	—	3,240
Year ended 31 Dec	**34,659**	34,884	39,808

Staff numbers (full-time equivalents)

	2018	2017	2016
Global businesses			
Retail Banking and Wealth Management	**133,644**	129,402	124,810
Commercial Banking	**44,805**	44,871	44,712
Global Banking and Markets	**48,500**	45,725	46,659
Global Private Banking	**6,819**	7,250	8,054
Corporate Centre	**1,449**	1,439	10,940
At 31 Dec	**235,217**	228,687	235,175

Significant items and currency translation

	2018	2017
	$m	$m
Significant items	**1,669**	3,796
– costs to achieve	**—**	3,002
– costs of structural reform	**361**	420
– customer redress programmes	**146**	655
– disposals, acquisitions and investment in new businesses	**52**	53
– gain on partial settlement of pension obligation	**—**	(188)
– past service costs of guaranteed minimum pension benefits equalisation	**228**	—
– restructuring and other related costs	**66**	—
– settlements and provisions in connection with legal and regulatory matters	**816**	(198)
– currency translation on significant items		52
Currency translation		(143)
Year ended 31 Dec	**1,669**	3,653

Reported operating expenses of $34.7bn were $0.2bn lower than in 2017. This reflected a net favourable movement in significant items of $2.1bn, which included:

- the non-recurrence of costs to achieve, which were $3.0bn in 2017; and
- customer redress programme costs of $0.1bn in 2018, compared with $0.7bn in 2017.

These items were partly offset by:

- settlements and provisions in connection with legal and regulatory matters of $0.8bn in 2018, compared with a net release of $0.2bn in 2017;
- a provision in relation to past service costs in connection with guaranteed minimum pension benefits equalisation of $0.2bn; and
- the non-recurrence of gains on the partial settlement of pension obligations of $0.2bn in 2017.

The reduction in reported operating expenses also included an adverse effect of foreign currency translation differences of $0.1bn.

Excluding significant items and foreign currency translation differences, operating expenses of $33.0bn were $1.8bn higher than in 2017. This increase mainly reflected near- and medium-term investments to grow the business ($0.9bn), primarily in RBWM and GB&M. We also increased our investment in productivity programmes ($0.3bn), mainly in Technology and Operations.

Performance-related pay was higher by $0.2bn, and Operations and transaction volume-related operating expenses increased by $0.2bn.

The cost savings from our productivity programmes absorbed the impact of inflation. Our UK bank levy charge remained broadly unchanged, at $964m.

We maintained our momentum in growing the business during 2018.

- In RBWM, we made investments to develop digital capabilities and recruit front-line staff to deliver improved customer service, as well as to grow the business, particularly in the UK, Hong Kong, mainland China (including the Pearl River Delta) and the US.
- In GB&M, we made strategic hires in Global Markets and Global Banking, and continued to invest in mainland China as well as in new digital capabilities and functionalities for Securities Services and Global Liquidity and Cash Management businesses.
- In CMB, we invested in digital offerings to improve customer journeys, such as on-boarding and credit, as well as market-leading innovations including landmark trade transactions on the Voltron and we.trade platforms.

The number of employees expressed in FTEs at 31 December 2018 was 235,217, an increase of 6,530 since 31 December 2017. This was primarily driven by investments in business growth programmes across RBWM, GB&M and CMB. The number of contractors as at 31 December 2018 was 10,854, a decrease of 2,040 from 31 December 2017.

Share of profit in associates and joint ventures

	2018	2017	2016
	$m	$m	$m
Share of profit in associates	**2,519**	2,349	2,326
– Bank of Communications Co., Limited	**2,032**	1,863	1,892
– The Saudi British Bank	**421**	422	415
– other	**66**	64	19
Share of profit in joint ventures	**17**	26	28
Year ended 31 Dec	**2,536**	2,375	2,354

Our share of profit in associates and joint ventures was $2.5bn, an increase of $161m or 7% compared with 2017, and included the favourable effects of foreign currency translation differences of $41m.

Excluding the effects of foreign currency translation differences, our share of profit in associates and joint ventures increased by $120m compared with 2017. This primarily reflected an increase in income from Bank of Communications Co., Limited ('BoCom').

At 31 December 2018, we performed an impairment review of our investment in BoCom and concluded that it was not impaired, based on our value-in-use ('VIU') calculation (for more information on the key assumptions in our VIU calculation, including the sensitivity of the VIU to each key assumption (see Note 18 on the Financial Statements).

As discussed in Note 18 on the Financial Statements, in future periods the VIU may increase or decrease depending on the effect of changes to model inputs. It is expected that the carrying amount will increase due to retained profits earned by BoCom. At the point where the carrying amount exceeds the VIU, impairment would be recognised. We would continue to recognise our share of BoCom's profit or loss, but the carrying amount would be reduced to equal the VIU, with a corresponding reduction in income. An impairment review would continue to be performed at each subsequent reporting period, with the carrying amount and income adjusted accordingly.

Tax expense

	2018	2017	2016
	$m	$m	$m
Profit before tax	**19,890**	17,167	7,112
Tax expense	**(4,865)**	(5,288)	(3,666)
Profit after tax for the year ended 31 Dec	**15,025**	11,879	3,446
Effective tax rate	**24.5%**	30.8%	51.5%

The effective tax rate for 2018 of 24.5% is lower than the 30.8% for 2017 as 2017 included a charge of $1.3bn due to the remeasurement of US deferred tax balances to reflect the reduction in the US federal tax rate from 35% to 21%.

This charge increased the 2017 effective tax rate by 7.5%.

Further detail is provided in Note 8 on the Financial Statements.

2017 compared with 2016

Net interest income

In July 2016, we completed the disposal of our operations in Brazil. During 2016, we earned net interest income of $0.9bn in Brazil from average interest earning assets of $25.8bn. In 2016, our net interest margin excluding Brazil was 1.70%.

Net interest income of $28.2bn decreased by $1.6bn or 5% compared with 2016, including the effects of significant items and foreign currency translation differences between 2017 and 2016 of $1.7bn. Excluding these, our net interest income remained broadly unchanged from 2016.

Net interest margin of 1.63% was 10 basis points ('bps') lower than in 2016, including the effects of the significant items and foreign currency translation differences noted above, which decreased net interest margin by 7bps in total. Excluding these factors, net interest margin decreased by 3bps, mainly reflecting the run-off of our US CML portfolio, pressures on asset yields, notably in Europe and Asia, and higher cost of Group debt. These were partly offset by higher yields on surplus liquidity due to US dollar and Hong Kong dollar rate rises.

Interest income

Interest income decreased by $1.4bn compared with 2016, including the adverse effects of the significant items and foreign currency translation differences between 2017 and 2016 of $3.7bn. Excluding these, interest income increased by $2.3bn mainly driven by higher income on surplus liquidity and reverse repurchase agreements.

Interest income on short-term funds and financial investments increased by $0.7bn compared with 2016, which included adverse effects of the disposal of our operations in Brazil and currency translation differences between 2017 and 2016 of $0.2bn. Excluding these impacts, interest income on short-term funds and financial investments increased by $0.9bn, primarily in Asia and North America, reflecting the central bank rate rises. This was partly offset by a reduction in Europe, notably due to the base rate cut in the UK in 2016.

Interest income on reverse repurchase agreements – non-trading was $1.0bn higher, driven by increased income in all regions, notably in Asia and North America, reflecting higher balances and increased market rates. This movement is in line with an increase in interest expense on repurchase agreements.

Interest income on loans and advances to customers was marginally higher, excluding the adverse effects of the UK customer redress programme, the disposal of our operations in Brazil and foreign currency translation differences between 2017 and 2016 of $0.7bn, reflecting increases in:

- Asia, mainly due to growth in term lending and mortgage balances, although term lending yields decreased as a result of competitive pressures; and
- Latin America, notably in Mexico reflecting higher yields on mortgages and term lending driven by central bank rate rises, and growth in mortgage balances.

These increases were partly offset by lower income in:

- North America, primarily as a result of the continuing run-off of the higher-yielding CML portfolio in the US; and
- Europe, as the effects of decreased lending yields more than offset balance growth in mortgages, term lending and overdrafts, resulting from lower central bank rates, negative interest rates in continental Europe, and market competition.

Interest expense

Reported interest expense increased by $0.2bn, including the effects of the disposal of our operations in Brazil in 2016 and foreign currency translation differences between 2017 and 2016 of $2.0bn. Excluding these impacts, interest expense was $2.2bn higher, primarily due to increases in interest expense on repurchase agreements and Group debt.

Interest expense on repurchase agreements increased by $1.0bn, in line with the increase in interest income on reverse repurchase agreements, notably in North America reflecting increased balances and higher market rates, and in Europe reflecting increased balances.

Interest expense on debt securities in issue and own debt at fair value was $0.6bn higher. The increase reflected a rise in the cost of funds, although average balances fell as an increase in debt issued by HSBC Holdings to meet regulatory requirements was more than offset by redemptions of senior debt across the Group.

The increase in the cost of debt reflected both longer maturities and the structural subordination of our new issuances. Interest expense on customer accounts was $0.1bn higher, excluding the effects of the disposal of our operations in Brazil and foreign currency translation differences between 2017 and 2016, reflecting average balance growth in most of our geographical regions. The net increase also reflects changes in interest rates in key markets, including:

- rate rises in North America and Mexico; partly offset by,
- the 2016 reduction in the UK base rate and negative interest rates in continental Europe on current and savings and deposit accounts; and
- central bank rate reductions in Asia, notably in India and Australia, and a change in portfolio mix.

Net fee income

Net fee income of $12.8bn was broadly unchanged compared with 2016 and included the disposal of our operations in Brazil, which reduced net fee income by $0.2bn, notably fee income from account services and cards. It also included the adverse effects of currency translation differences between 2017 and 2016 of $0.1bn.

Excluding the effects of the disposal of our operations in Brazil and currency translation differences noted above, net fee income increased by $0.4bn, mainly due to higher fee income from broking and unit trusts in RBWM and higher fee income from corporate finance (disclosed within 'Other') and underwriting in GB&M.

Fee income from broking and unit trusts increased by $0.3bn, largely due to a strong performance in Hong Kong as renewed investor confidence resulted in higher sales of mutual funds and retail securities compared to a weaker performance in 2016.

Fee income from corporate finance and underwriting increased by $0.2bn, reflecting continued momentum across our investment banking products, primarily in the UK, the US and Hong Kong.

Fee income from funds under management rose by $0.1bn, notably in Hong Kong, reflecting higher turnover due to a more favourable equity market environment.

These increases were partly offset by lower fee income from credit facilities, primarily due to lower commercial lending activity in the US in CMB.

In addition, fee expense increased by $0.2bn, in part from cards due to increased customer activity in Hong Kong.

Net income/(expense) from financial instruments held at fair value through profit and loss

Net income from financial instruments measured at fair value of $11.4bn was $4.6bn higher than in 2016. This included a net favourable movement in significant items of $1.7bn, primarily due to $1.8bn of adverse fair value movements on our own debt designated at fair value due to movements in our own credit spread in 2016. These movements are now reported in other comprehensive income. This reclassification is discussed further on page 37 of the *Annual Report and Accounts 2017*.

Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss increased by $1.6bn primarily due to improved equity market performance in Asia and Europe in 2017.

Net income arising from financial assets held to meet liabilities under insurance and investment contracts results in a corresponding movement in liabilities to customers, reflecting the extent to which they participate in the investment performance of the associated asset portfolio. These offsetting movements are recorded in 'Net income/(expense) arising from liabilities to customers under investment contracts' and 'Net insurance claims and benefits paid and movement in liabilities to policyholders'.

Changes in fair value of long-term debt and related derivatives increased by $2.2bn and included the effects of adverse fair value movements attributable to changes in our own credit spread on our own debt designated at fair value of $1.8bn in 2016. These changes are now reported in other comprehensive income.

In addition, we recorded favourable movements in 2017 compared with adverse movements in 2016 on foreign currency debt designated at fair value and issued as part of our overall funding strategy.

The increase also reflected favourable movements in 2017, compared with adverse movements in 2016, relating to the economic hedging of interest and exchange rate risk on our long-term debt, reported in Corporate Centre.

Net income from financial instruments held for trading or managed on a fair value basis increased by $0.9bn, which included fair value movements on non-qualifying hedges, debit valuation adjustments on derivative contracts and the effect of the disposal of our operations in Brazil. In addition, the increase included small rises in RBWM and CMB.

These increases were partly offset by a decrease in revenue from trading activities in GB&M ($0.2bn) notably in Foreign Exchange and Rates, reflecting subdued trading activity in the fourth quarter, partly offset by Credit and Equities, where we gained market share in Prime Financing. We also recorded adverse movements of $0.3bn in credit and funding valuation adjustments compared with adverse movements of $0.1bn in the prior year, primarily relating to movements in our own credit spread on structured liabilities.

The majority of our financial liabilities designated at fair value are fixed-rate, long-term debt issuances, and are managed in conjunction with interest rate swaps as part of our interest rate management strategy. These liabilities are discussed further on page 48 of the *Annual Report and Accounts 2018*.

Gains less losses from financial investments

Gains less losses from financial investments of $1.2bn decreased by $0.2bn compared with 2016. This was largely due to a decrease in gains on the disposal of equity securities $0.2bn, notably the non-recurrence of the gain on disposal of our membership interest in Visa Europe of $0.6bn in 2016. This was partly offset by higher gains on disposal resulting from the sale of our shares in Visa Inc. of $0.3bn, compared with $0.1bn in 2016. We also recorded gains on disposal of our investment in Vietnam Technological and Commercial Joint Stock Bank ('Techcombank') of $0.1bn in 2017.

In addition, the decrease in gains less losses from financial investments included higher impairments of AFS equity securities in GB&M.

These decreases were partly offset by gains on disposal of debt securities, which included higher gains on disposal of AFS assets in Balance Sheet Management ('BSM') in Corporate Centre, notably in the UK and Hong Kong.

Net insurance premium income

Net insurance premium income was $0.2bn lower than in 2016, and included reductions due to the disposal of our operations in Brazil ($0.4bn) and minimal currency translation differences between 2017 and 2016.

Excluding these, net insurance premium income increased by $0.2bn due to the following:

- growth in Hong Kong driven by increased gross premium income, partly offset by the effect of a new reinsurance agreement;
- an increase in France, driven by higher volumes of unit-linked products.

This was partly offset by:

- lower sales through third-party channels in Singapore.

Other operating income

Other operating income was $0.3bn in 2017, compared with a net expense of $1.0bn in 2016. This was primarily due to net losses recognised on assets held for sale in 2016, most notably a loss of $1.8bn from the disposal of our operations in Brazil. This compared with gains of $0.2bn on assets held for sale in 2017, which included a gain on the sale of our holding in VocaLink in the UK, and a gain on the sale of our operations in Lebanon.

This increase was partly offset by lower favourable movements of $0.9bn in the present value of in-force ('PVIF') long-term insurance business, of which $0.8bn related to 'Assumption changes and experience variances' (for further details, please see Note 20 on the Financial Statements of the *Annual Report and Accounts 2017*). This reflected:

- adverse movements in Hong Kong of $0.4bn, reflecting the future sharing of investment returns with policyholders; and
- adverse movements in Hong Kong and Singapore of $0.4bn, reflecting adjustments offsetting the impact of regulatory-driven changes in the valuation of liabilities (the corresponding movement is recorded in 'Net insurance claims and benefits paid and movement in liabilities to policyholders').

These adverse movements were partly offset by favourable movements in France, due to market-driven changes in interest rate assumptions.

Net insurance claims and benefits paid and movement in liabilities to policyholders

Net insurance claims and benefits paid and movement in liabilities to policyholders were $0.5bn higher compared with 2016, and included reductions due to the disposal of our operations in Brazil ($0.5bn).

This increase was primarily due to improved returns on financial assets supporting contracts where the policyholder shares the investment risk, reflecting improved equity market performance in Hong Kong and France compared with 2016.

In addition, movements in liabilities to policyholders were higher due to increased premium income.

These increases were partly offset by the impact of regulatory-driven changes in the valuation of liabilities in Hong Kong and Singapore (the corresponding movement is recorded in 'Assumption changes and experience variances' in PVIF).

The gains or losses recognised on the financial assets designated at fair value that are held to support these insurance contract liabilities are reported in 'Net income/(expense) from financial instruments designated at fair value' on page 37 of the *Annual Report and Accounts 2017.*

Loan impairment charges and other credit risk provisions

Loan impairment charges and other credit risk provisions ('LICs') of $1.8bn were $1.6bn or 48% lower compared with 2016. This reduction included the favourable effects of the disposal of our operations in Brazil ($0.9bn) in July 2016, which was partly offset by the impact of adverse foreign currency translation differences between 2017 and 2016. Excluding these factors, LICs decreased by $0.8bn or 32%, driven by lower LICs in our CMB and RBWM businesses.

Individually assessed LICs of $1.1bn were $0.7bn or 39% lower compared with 2016. This included a reduction of $0.2bn following the disposal of our operations in Brazil.

The remaining variance arose:

- In CMB (down $0.5bn), notably in North America primarily against exposures in the oil and gas sector, as well as reductions in France, Spain and Singapore, as 2016 included a small number of specific charges in relation to corporate exposures. This was partly offset by higher individually assessed LICs in Hong Kong relating to a small number of customers across various sectors.
- In GB&M, individually assessed LICs were broadly unchanged, with LICs in 2017 primarily related to two large corporate exposures in Europe, partly offset by a net release of allowances in the US. In 2016, individually assessed LICs included charges in the US against exposures in the oil and gas sector, as well as a single mining-related corporate client.

Collectively assessed LICs of $0.9bn were $0.6bn or 42% lower compared with 2016. This included a reduction of $0.6bn following the disposal of our operations in Brazil and the adverse foreign currency translation differences between 2017 and 2016 of $48m.

The remaining variance arose:

- In Corporate Centre (down $0.1bn), driven by the run-off of the CML portfolio in the US.
- In RBWM (down $0.1bn), notably in Turkey reflecting improved credit quality and lower lending balances, and in the US and Hong Kong from improvements in credit quality. These decreases were partly offset by increased collective allowances in Mexico, reflecting growth in unsecured lending balances and an increase in delinquencies. In addition, we increased collective allowances in the UK against our mortgages and cards exposures, in part offset by a release following the sale of a portfolio of loans. LICs in the UK were at low levels, representing approximately 10bps of the overall portfolio.

This was partly offset:

- In GB&M (up $0.1bn), notably in the UK, as 2016 included net releases of collective allowances.
- In CMB (up $38m), notably in Hong Kong in part due to asset growth and an increase in historical loss rates, partly offset by lower charges in the UK relating to reduced exposures in the oil and gas sector.

In 2017, we recorded higher net releases of impairment allowances against available-for-sale debt securities ($0.2bn). These were primarily related to asset-backed securities in our legacy credit portfolio in Corporate Centre and reflected an improvement in collateral values.

A net release of other credit risk provisions of $33m in 2017 largely related to oil and gas sector exposures in the US and the construction sector in Canada. This compared with a net charge in the prior year in these markets, also related to the oil and gas sector.

Operating expenses

Excluding the significant items and currency translation differences between 2017 and 2016, operating expenses of $31.1bn were $1.1bn higher than in 2016. This increase reflected investments in business growth programmes (up $0.6bn), primarily in RBWM, where investments were partly funded by the proceeds from our disposal of Visa Inc. shares, as well as higher performance-related pay (up $0.4bn). The impact of our cost-saving initiatives more than offset inflation and continued investment in regulatory programmes and compliance.

Our total investment in regulatory programmes and compliance was $3.0bn, up $0.2bn or 7% compared with 2016. This reflected the continued implementation of our Global Standards programme to enhance our financial crime risk controls and capabilities.

In 2017, we realised $2.1bn of cost savings, and achieved annualised run-rate savings of $6.1bn since our Investor Update in June 2015. We completed our 'costs to achieve' transformation programme, incurring a total cost of $7.0bn since 2015, and continue to realise the benefits of our cost-saving initiatives:

- In global businesses, savings of $0.6bn reflected the impact of our branch optimisation programme enabled by our digital initiatives as well as transformation of online and mobile banking for corporates.
- In Operations and Technology, savings of $1.1bn reflected migrations to lower cost locations, automation, the simplification of our IT structure and the implementation of target operating models.
- In our back office functions, savings of $0.4bn were realised as a result of the re-engineering and simplification of processes and the implementation of global operating models.

The number of employees expressed in full-time equivalent staff ('FTEs') at 31 December 2017 was 228,687, a decrease of 6,488 since 31 December 2016. This included a 18,601 reduction realised across global businesses and global functions from our transformation programme, partly offset by investment in Global

Standards of 3,016 FTEs and an increase of 9,097 FTEs, in part attributable to investment for growth.

Share of profit in associates and joint ventures

Our share of profit in associates and joint ventures was $2.4bn, an increase of $21m or 1% compared with 2016 and including the adverse currency translation differences between 2017 and 2016 of $33m.

Excluding the effects of currency translation, our share of profit in associates and joint ventures increased by $53m, compared with 2016. This mainly comprised gains from the sale of investments held by Business Growth Fund, a joint venture with other UK banks to support small- and medium-sized enterprises ('SMEs') in the UK.

Our share of profit in our largest associate, BoCom, was $1.9bn. This was broadly unchanged from 2016 after excluding currency translation differences between 2017 and 2016. At 31 December 2017, we performed an impairment review of our investment in BoCom and concluded that it was not impaired, based on our value in use calculation (see Note 17 on the Financial Statements of the *Annual Report and Accounts 2017* for further details).

In future periods, the value in use may increase or decrease depending on the effect of changes to model inputs. At the point where the carrying amount exceeds the value in use, HSBC will determine whether an impairment exists. If so, we would continue to recognise our share of BoCom's profit or loss, but the carrying amount would be reduced to equal the value in use, with a corresponding reduction in income, unless the market value has increased to a level above the carrying amount.

Tax expense

The effective tax rate for 2017 of 30.8% includes a charge of $1.3bn due to the remeasurement of US deferred tax balances to reflect the reduction in the US federal tax rate from 35% to 21% from 2018. This charge increased the 2017 effective tax rate by 7.5%. The effective tax rate in 2017 was lower than the 51.6% in 2016 as 2016 included the unfavourable impact of a non-deductible goodwill write-down and loss on disposal of operations in Brazil. Further detail is provided in Note 7 on the Financial Statements of the the Financial Statements of the *Annual Report and Accounts 2017.*

Consolidated balance sheet

Five-year summary consolidated balance sheet

	Footnotes	2018 $m	2017 $m	2016 $m	2015 $m	2014 $m
Assets						
Cash and balances at central banks		**162,843**	180,624	128,009	98,934	129,957
Trading assets		**238,130**	287,995	235,125	224,837	304,193
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss		**41,111**	N/A	N/A	N/A	N/A
Financial assets designated at fair value		**N/A**	29,464	24,756	23,852	29,037
Derivatives		**207,825**	219,818	290,872	288,476	345,008
Loans and advances to banks		**72,167**	90,393	88,126	90,401	112,149
Loans and advances to customers	59	**981,696**	962,964	861,504	924,454	974,660
Reverse repurchase agreements – non-trading		**242,804**	201,553	160,974	146,255	161,713
Financial investments		**407,433**	389,076	436,797	428,955	415,467
Other assets		**204,115**	159,884	148,823	183,492	161,955
Total assets at 31 Dec		**2,558,124**	2,521,771	2,374,986	2,409,656	2,634,139
Liabilities and equity						
Liabilities						
Deposits by banks		**56,331**	69,922	59,939	54,371	77,426
Customer accounts		**1,362,643**	1,364,462	1,272,386	1,289,586	1,350,642
Repurchase agreements – non-trading		**165,884**	130,002	88,958	80,400	107,432
Trading liabilities		**84,431**	184,361	153,691	141,614	190,572
Financial liabilities designated at fair value		**148,505**	94,429	86,832	66,408	76,153
Derivatives		**205,835**	216,821	279,819	281,071	340,669
Debt securities in issue		**85,342**	64,546	65,915	88,949	95,947
Liabilities under insurance contracts		**87,330**	85,667	75,273	69,938	73,861
Other liabilities		**167,574**	113,690	109,595	139,801	121,459
Total liabilities at 31 Dec		**2,363,875**	2,323,900	2,192,408	2,212,138	2,434,161
Equity						
Total shareholders' equity		**186,253**	190,250	175,386	188,460	190,447
Non-controlling interests		**7,996**	7,621	7,192	9,058	9,531
Total equity at 31 Dec		**194,249**	197,871	182,578	197,518	199,978
Total liabilities and equity at 31 Dec		**2,558,124**	2,521,771	2,374,986	2,409,656	2,634,139

For footnotes, see page 89.

A more detailed consolidated balance sheet is contained in the Financial Statements on page 255.

Five-year selected financial information

	Footnotes	2018 $m	2017 $m	2016 $m	2015 $m	2014 $m
Called up share capital		**10,180**	10,160	10,096	9,842	9,609
Capital resources	60	**173,238**	182,383	172,358	189,833	190,730
Undated subordinated loan capital		**1,969**	1,969	1,967	2,368	2,773
Preferred securities and dated subordinated loan capital	61	**35,014**	42,147	42,600	42,844	47,208
Risk-weighted assets		**865,318**	871,337	857,181	1,102,995	1,219,765
Total shareholders' equity		**186,253**	190,250	175,386	188,460	190,447
Less: preference shares and other equity instruments		**(23,772)**	(23,655)	(18,515)	(16,517)	(12,937)
Total ordinary shareholders' equity		**162,481**	166,595	156,871	171,943	177,510
Less: goodwill and intangible assets (net of tax)		**(22,425)**	(21,680)	(19,649)	(24,626)	(26,196)
Tangible ordinary shareholders' equity		**140,056**	144,915	137,222	147,317	151,314
Financial statistics						
Loans and advances to customers as a percentage of customer accounts		**72.0%**	70.6%	67.7%	71.7%	72.2%
Average total shareholders' equity to average total assets		**7.16%**	7.33%	7.37%	7.31%	7.01%
Net asset value per ordinary share at year-end ($)	62	**8.13**	8.35	7.91	8.77	9.28
Tangible net asset value per ordinary share at year-end ($)		**7.01**	7.26	6.92	7.51	7.91
Number of $0.50 ordinary shares in issue (millions)		**20,361**	20,321	20,192	19,685	19,218
Basic number of $0.50 ordinary shares outstanding (millions)		**19,981**	19,960	19,838	19,604	19,119
Basic number of $0.50 ordinary shares outstanding and dilutive potential ordinary shares (millions)		**20,059**	20,065	19,933	19,744	19,209
Closing foreign exchange translation rates to $:						
$1: £		**0.783**	0.740	0.811	0.675	0.642
$1: €		**0.873**	0.834	0.949	0.919	0.823

For footnotes, see page 89.

Balance sheet commentary compared with 1 January 2018

The effect of the adoption of IFRS 9 'Financial Instruments' on 1 January 2018 was a reduction in our total assets of $3.3bn from 31 December 2017, and the reclassification of certain items within the balance sheet. The commentary that follows compares our balance sheet at 31 December 2018 with that at 1 January 2018.

At 31 December 2018, our total assets were $2.6tn, an increase of $40bn or 2% on a reported basis and $118bn or 5% on a constant currency basis. The increase reflected targeted lending growth, notably in Asia.

Our ratio of customer advances to customer accounts was 72%, up from 70% at 1 January 2018.

Assets

Cash and balances at central banks decreased by $18bn or 10% and included an adverse effect of foreign currency translation differences of $7bn. Excluding this, cash and balances at central banks decreased by $11bn, mainly in Europe, reflecting the redeployment of our commercial surplus.

Trading assets decreased by $16bn or 6%, mainly driven by an adverse effect of foreign currency translation differences of $10bn. Excluding this, trading assets decreased by $6bn, reflecting a reduction in equity security holdings, notably in the UK. This was partly offset by increased debt securities and government bonds held in the US and Hong Kong.

Derivative assets decreased by $12bn or 5%, mainly reflecting an adverse effect of foreign currency translation differences of $10bn. Excluding this, derivative assets decreased by $2bn, which is consistent with the decrease in derivative liabilities, since the underlying risk is broadly matched.

'Reverse repurchase agreements – non-trading' increased by $41bn or 20%, notably in the UK and France, mainly driven by customer demand in our Global Markets business. This was partly offset by a reduction in the US, reflecting a decrease in the commercial surplus due to lower customer deposits and the repayment of long-term debt.

Financial investments increased by $24bn or 6%, mainly in Hong Kong due to an increase in investments in government bonds and debt securities. Financial investments were also higher in the US, reflecting increased investment in mortgage-backed securities and corporate bonds.

Loans and advances to customers

Loans and advances to customers increased by $32bn or 3% on a reported basis. This included an adverse effect of foreign currency translation differences of $34bn, resulting in growth of $66bn or 7% on a constant currency basis.

Loans and advances to customers increased by $69bn or 8%, after excluding the effects of foreign currency translation differences, and a reduction in corporate current account balances of $4bn relating to CMB and GB&M customers in the UK that settled their overdraft and deposit balances on a net basis.

This growth was primarily in Asia (up $38bn). The increase in Asia was notably in RBWM (up $15bn) as we continued to increase personal lending, primarily in Hong Kong (up $12bn), reflecting our strategy to maintain our leading position in mortgages and personal lending. Customer lending was also higher in CMB (up $13bn) and GB&M (up $11bn), reflecting higher term lending in Hong Kong resulting from our continued strategic focus on loan growth in the region, as well as from an increase in customer demand.

In Europe, customer lending increased by $20bn, notably in the UK from growth in mortgage balances (up $11bn), due to our focus on broker-originated mortgages. We also grew balances in CMB in the UK (up $6bn), driven by business growth aligned to the Group strategy, which resulted in higher term lending and overdraft balances, primarily to mid-market and commercial real estate clients.

In North America, loans and advances to customers increased by $6bn, primarily in Canada ($5bn) in CMB ($4bn), mainly from new to bank client acquisition and higher facility utilisation on term lending, and in RBWM ($1bn) from increased residential mortgage lending.

Liabilities

'Repurchase agreements – non-trading' increased by $36bn or 28%, primarily in the US and France, mainly driven by the increased use of repurchase agreements for funding in our Global Markets business.

Debt securities in issue increased by $19bn or 28%, notably relating to an increase in commercial paper issuances, primarily US dollar-denominated. In addition, there was an increase in senior MREL issuances in the period as well as sterling- and euro-denominated medium term notes, primarily in the UK.

Derivative liabilities fell by $11bn or 5%, mainly reflecting the adverse effect of foreign currency translation differences of $9bn. Excluding this, derivative liabilities decreased by $2bn, which is consistent with the decrease in derivative assets, since the underlying risk is broadly matched.

Customer accounts

Customer accounts increased by $2bn on a reported basis, including the adverse effect of foreign currency translation differences of $43bn, resulting in growth of $45bn or 3% on a constant currency basis.

Customer accounts rose by $49bn, after excluding the impacts of foreign currency translation differences and a reduction in corporate current account balances of $4bn, relating to CMB and GB&M customers in the UK that settled their overdraft and deposit balances on a net basis.

This growth in customer accounts was notably in Europe (up $29bn). GB&M balances rose by $11bn as we targeted balance growth to support funding in the non-ring-fenced bank, mainly in GLCM in the UK. CMB balances increased by $9bn, notably reflecting growth in GLCM within the UK ring-fenced bank. Customer accounts were also higher in RBWM (up $8bn) mainly in the UK, from higher current accounts and savings balances.

In Asia, we grew customer accounts by $18bn, notably in RBWM (up $10bn) and in GB&M (up $9bn) primarily in savings, reflecting higher customer inflows due to competitive rates.

Customer accounts increased in Latin America (up $4bn), notably in Argentina and Mexico, reflecting higher savings and term deposits, and the impact of currency devaluation on foreign currency deposits booked on our Argentina balance sheet.

These increases were partly offset in North America (down $5bn), notably in CMB (down $2bn) due to balance outflows in Bermuda and a reduction in savings deposits in the US. GB&M balances fell by $2bn driven by a decrease in demand deposits in the US.

Equity

Total shareholders' equity of $186bn decreased by $2bn or 1%. The effects of profits generated in the period ($14bn) and favourable changes in fair value attributable to changes in own credit risk ($3bn) were more than offset by an increase in accumulated foreign exchange losses ($7bn) and dividends paid to shareholders ($12bn).

Risk-weighted assets

Risk-weighted assets ('RWAs') were $865.3bn at 31 December 2018. Excluding the $0.8bn impact of IFRS 9 implementation on 1 January 2018 and foreign currency translation differences, RWAs increased by $16.6bn in 2018. This comprised growth of $27.6bn from asset size and $2.9bn from changes in asset quality. This was partly offset by a $10.0bn fall from changes to methodology and policy and a $3.9bn decrease due to model updates.

Asset size movements principally included:

- a $41.5bn growth predominantly in corporate and mortgage lending across CMB, RBWM and GB&M, most significantly in Asia; and
- a $11.3bn decrease in Corporate Centre RWAs, predominantly due to reductions in legacy portfolios.

Customer accounts by country/territory

	2018 $m	2017 $m
Europe	**503,154**	505,182
– UK	**399,487**	401,733
– France	**45,169**	45,833
– Germany	**16,713**	17,355
– Switzerland	**6,315**	7,936
– other	**35,470**	32,325
Asia	**664,824**	657,395
– Hong Kong	**484,897**	477,104
– mainland China	**45,712**	45,991
– Singapore	**42,323**	41,144
– Australia	**20,649**	20,212
– Malaysia	**13,904**	14,027
– Taiwan	**13,602**	13,459
– India	**14,210**	13,228
– Indonesia	**3,810**	4,211
– other	**25,717**	28,019
Middle East and North Africa (excluding Saudi Arabia)	**35,408**	34,658
– United Arab Emirates	**16,583**	16,602
– Turkey	**4,169**	3,772
– Egypt	**4,493**	3,912
– other	**10,163**	10,372
North America	**133,291**	143,432
– US	**82,523**	89,887
– Canada	**43,898**	45,510
– other	**6,870**	8,035
Latin America	**25,966**	23,795
– Mexico	**19,936**	17,809
– other	**6,030**	5,986
At 31 Dec	**1,362,643**	1,364,462

Loans and advances, Deposits by currency

	At 31 Dec 2018						
$m	USD	GBP	HKD	EUR	CNY	Others[63]	Total
Loans and advances to banks	23,469	4,351	3,241	3,462	7,418	30,226	72,167
Loans and advances to customers	176,907	243,541	220,458	86,583	29,973	224,234	981,696
Total loans and advances	200,376	247,892	223,699	90,045	37,391	254,460	1,053,863
Deposits by banks	17,802	5,777	3,748	15,923	4,065	9,016	56,331
Customer accounts	348,741	340,244	290,748	116,095	49,596	217,219	1,362,643
Total deposits	366,543	346,021	294,496	132,018	53,661	226,235	1,418,974

For footnotes, see page 89.

Average balance sheet

Average balance sheet and net interest income

Average balances and related interest are shown for the domestic operations of our principal commercial banks by geographical region. 'Other operations' comprise the operations of our principal commercial banking and consumer finance entities outside their domestic markets and all other banking operations, including investment banking balances and transactions.

Average balances are based on daily averages for the principal areas of our banking activities with monthly or less frequent averages used elsewhere. Balances and transactions with fellow subsidiaries are reported gross in the principal commercial banking and consumer finance entities, and the elimination entries are included within 'Other operations'.

Net interest margin numbers are calculated by dividing net interest income as reported in the income statement by the average interest-earning assets from which interest income is reported within the 'Net interest income' line of the income statement. Total interest-earning assets include credit-impaired loans where the carrying amount has been adjusted as a result of impairment allowances. In accordance with IFRSs, we recognise interest income on credit-impaired assets after the carrying amount has been adjusted as a result of impairment. Fee income that forms an integral part of the effective interest rate of a financial instrument is recognised as an adjustment to the effective interest rate and recorded in 'Interest income'.

Assets[56a]

			2018			2017			2016		
		Footnote	Average balance	Interest income	Yield	Average balance	Interest income	Yield	Average balance	Interest income	Yield
			$m	$m	%	$m	$m	%	$m	$m	%
Summary											
Interest-earning assets measured at amortised cost (itemised below)			1,839,346	49,609	2.70	1,726,120	40,995	2.37	1,723,702	42,414	2.46
Trading assets and financial assets designated and otherwise mandatorily measured at fair value through profit or loss			195,922	5,215	2.66	186,673	4,245	2.27	179,780	3,897	2.17
Expected credit losses provision			(7,816)			N/A	N/A	N/A	N/A	N/A	N/A
Impairment allowances			N/A	N/A	N/A	(7,841)			(9,127)		
Non-interest-earning assets			584,524			616,688			653,115		
Total assets and interest income			2,611,976	54,824	2.10	2,521,640	45,240	1.79	2,547,470	46,311	1.82
Average yield on all interest-earning assets					2.69			2.37			2.43
Short-term funds and loans and advances to banks											
Europe	HSBC Bank plc	55a	113,605	471	0.41	97,645	299	0.31	74,067	303	0.41
	HSBC UK Bank plc	55a	22,457	147	0.65	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		71,631	1,169	1.63	67,264	898	1.34	66,238	775	1.17
MENA	HSBC Bank Middle East Limited		3,419	52	1.52	2,556	39	1.53	3,658	30	0.82
North America	HSBC North America Holdings Inc.		23,949	643	2.68	41,516	461	1.11	35,600	214	0.60
	HSBC Bank Canada		620	12	1.94	366	3	0.82	745	2	0.27
Latin America	Grupo Financiero HSBC, S. A. de C. V.		2,435	178	7.31	2,165	150	6.93	2,215	92	4.17
	HSBC Argentina Holdings S.A.		37	1	2.70	1,083	1	0.09	820	8	0.93
	Brazil Operations		—	—	—	—	—	—	—	—	—
Other operations and intra-region eliminations			(4,516)	(198)	4.38	23,531	179	0.76	20,456	86	0.42
At 31 Dec			233,637	2,475	1.06	236,126	2,030	0.86	203,799	1,510	0.74

Assets (continued)

		Footnote	2018 Average balance $m	2018 Interest income $m	2018 Yield %	2017 Average balance $m	2017 Interest income $m	2017 Yield %	2016 Average balance $m	2016 Interest income $m	2016 Yield %
Loans and advances to customers											
Europe	HSBC Bank plc	55a	**251,992**	**6,599**	**2.62**	342,354	9,180	2.68	330,322	10,437	3.16
	HSBC UK Bank plc	55a	**116,144**	**3,370**	**2.90**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**440,143**	**14,466**	**3.29**	395,062	11,716	2.97	351,962	10,775	3.06
MENA	HSBC Bank Middle East Limited		**20,832**	**983**	**4.72**	20,498	861	4.20	23,595	883	3.74
North America	HSBC North America Holdings Inc.		**63,036**	**2,479**	**3.93**	69,281	2,390	3.45	86,218	3,277	3.80
	HSBC Bank Canada		**40,587**	**1,425**	**3.51**	36,557	1,205	3.30	35,894	1,070	2.98
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**17,486**	**2,038**	**11.66**	14,932	1,767	11.83	14,060	1,428	10.16
	HSBC Argentina Holdings S.A.		**2,903**	**741**	**25.53**	3,306	712	21.54	2,680	730	27.24
	Brazil Operations		**—**	**—**	**—**	—	—	—	—	—	—
Other operations and intra-region eliminations			**19,840**	**1,184**	**5.97**	20,224	920	4.55	20,625	672	3.26
At 31 Dec			**972,963**	**33,285**	**3.42**	902,214	28,751	3.19	865,356	29,272	3.38
Reverse repurchase agreements – non-trading											
Europe	HSBC Bank plc	55a	**85,967**	**905**	**1.05**	58,419	503	0.86	59,984	306	0.51
	HSBC UK Bank plc	55a	**854**	**8**	**0.94**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**50,730**	**902**	**1.78**	45,772	612	1.34	41,848	333	0.80
MENA	HSBC Bank Middle East Limited		**1,131**	**16**	**1.41**	1,101	14	1.27	650	9	1.38
North America	HSBC North America Holdings Inc.		**77,111**	**1,871**	**2.43**	77,921	928	1.19	79,996	487	0.61
	HSBC Bank Canada		**5,233**	**79**	**1.51**	5,775	44	0.76	6,035	30	0.50
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**1,134**	**90**	**7.94**	882	61	6.92	754	33	4.38
	HSBC Argentina Holdings S.A.		**40**	**15**	**37.50**	70	15	21.43	59	13	22.03
	Brazil Operations		**—**	**—**	**—**	—	—	—	—	—	—
Other operations and intra-region eliminations			**(16,773)**	**(147)**	**0.88**	(16,180)	14	(0.09)	(21,119)	16	(0.08)
At 31 Dec			**205,427**	**3,739**	**1.82**	173,760	2,191	1.26	168,207	1,227	0.73
Financial investments											
Europe	HSBC Bank plc	55a	**69,552**	**1,205**	**1.73**	83,213	1,219	1.46	103,000	1,322	1.28
	HSBC UK Bank plc	55a	**7,830**	**104**	**1.33**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**218,439**	**5,074**	**2.32**	216,233	4,094	1.89	228,927	3,724	1.63
MENA	HSBC Bank Middle East Limited		**6,317**	**134**	**2.12**	6,406	83	1.30	6,654	68	1.02
North America	HSBC North America Holdings Inc.		**45,668**	**1,134**	**2.48**	47,021	945	2.01	52,483	953	1.82
	HSBC Bank Canada		**18,424**	**341**	**1.85**	17,304	214	1.24	17,769	209	1.18
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**7,154**	**494**	**6.91**	6,296	366	5.81	5,440	286	5.26
	HSBC Argentina Holdings S.A.		**750**	**217**	**28.93**	600	98	16.33	809	189	23.36
	Brazil Operations		**—**	**—**	**—**	—	—	—	—	—	—
Other operations and intra-region eliminations			**12,096**	**463**	**3.83**	12,734	421	3.31	15,693	497	3.17
At 31 Dec			**386,230**	**9,166**	**2.37**	389,807	7,440	1.91	430,775	7,248	1.68

Assets (continued)

		Footnote	2018 Average balance $m	2018 Interest income $m	2018 Yield %	2017 Average balance $m	2017 Interest income $m	2017 Yield %	2016 Average balance $m	2016 Interest income $m	2016 Yield %
Other interest-earning assets											
Europe	HSBC Bank plc	55a	**35,757**	**808**	**2.26**	6,540	444	6.79	15,087	273	1.81
	HSBC UK Bank plc	55a	**226**	**2**	**0.88**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**3,987**	**87**	**2.18**	26,363	396	1.50	23,098	182	0.79
MENA	HSBC Bank Middle East Limited		**(67)**	**25**	**(37.31)**	4,044	66	1.63	1,942	80	4.12
North America	HSBC North America Holdings Inc.		**5,522**	**122**	**2.21**	3,375	225	6.67	4,871	93	1.91
	HSBC Bank Canada		**262**	**10**	**3.82**	510	10	1.96	303	6	1.98
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**763**	**8**	**1.05**	843	8	0.95	587	1	0.17
	HSBC Argentina Holdings S.A.		**330**	**154**	**46.67**	59	1	1.69	76	—	—
	Brazil Operations		**—**	**—**	**—**	—	—	—	25,783	2,705	10.49
Other operations and intra-region eliminations			**(5,691)**	**(272)**		(17,521)	(567)		(16,182)	(183)	
At 31 Dec			**41,089**	**944**	**2.30**	24,213	583	2.41	55,565	3,157	5.68
Total interest-earning assets											
Europe	HSBC Bank plc	55a	**556,873**	**9,988**	**1.79**	588,171	11,645	1.98	582,460	12,641	2.17
	HSBC UK Bank plc	55a	**147,511**	**3,631**	**2.46**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**784,930**	**21,698**	**2.76**	750,694	17,716	2.36	712,073	15,789	2.22
MENA	HSBC Bank Middle East Limited		**31,632**	**1,210**	**3.83**	34,605	1,063	3.07	36,499	1,070	2.93
North America	HSBC North America Holdings Inc.		**215,286**	**6,249**	**2.90**	239,114	4,949	2.07	259,168	5,024	1.94
	HSBC Bank Canada		**65,126**	**1,867**	**2.87**	60,512	1,476	2.44	60,746	1,317	2.17
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**28,972**	**2,808**	**9.69**	25,118	2,352	9.36	23,056	1,840	7.98
	HSBC Argentina Holdings S.A.		**4,060**	**1,128**	**27.78**	5,118	827	16.16	4,444	940	21.15
	Brazil Operations		**—**	**—**	**—**	—	—	—	25,783	2,705	10.49
Other operations and intra-region eliminations			**4,956**	**1,030**		22,788	967		19,473	1,088	
At 31 Dec			**1,839,346**	**49,609**	**2.70**	1,726,120	40,995	2.37	1,723,702	42,414	2.46

Equity and liabilities[56a]

	Footnote	2018 Average balance $m	2018 Interest expense $m	2018 Cost %	2017 Average balance $m	2017 Interest expense $m	2017 Cost %	2016 Average balance $m	2016 Interest expense $m	2016 Cost %
Summary										
Interest-bearing liabilities measured at amortised cost (itemised below)		**1,581,519**	**19,120**	**1.21**	1,455,070	12,819	0.88	1,442,004	12,601	0.87
Trading liabilities and financial liabilities designated at fair value (excluding own debt issued)		**142,184**	**3,524**	**2.48**	153,776	2,325	1.51	138,486	1,986	1.43
Non-interest bearing current accounts		**211,815**			197,104			184,016		
Total equity and other non-interest bearing liabilities		**676,458**			715,690			782,964		
Total equity and liabilities		**2,611,976**	**22,644**	**0.87**	2,521,640	15,144	0.60	2,547,470	14,587	0.57
Average cost on all interest-bearing liabilities				**1.31**			0.94			0.92

Equity and liabilities (continued)

		Footnotes	2018 Average balance $m	2018 Interest expense $m	2018 Cost %	2017 Average balance $m	2017 Interest expense $m	2017 Cost %	2016 Average balance $m	2016 Interest expense $m	2016 Cost %
Deposits by banks		51a									
Europe	HSBC Bank plc	55a	**28,960**	**207**	**0.71**	20,624	83	0.40	20,624	87	0.42
	HSBC UK Bank plc	55a	**281**	**9**	**3.20**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**22,687**	**202**	**0.89**	20,052	177	0.88	21,109	146	0.69
MENA	HSBC Bank Middle East Limited		**1,596**	**41**	**2.57**	695	10	1.44	492	4	0.81
North America	HSBC North America Holdings Inc.		**5,079**	**132**	**2.60**	3,632	41	1.13	5,316	30	0.56
	HSBC Bank Canada		**716**	**17**	**2.37**	231	1	0.43	358	1	0.28
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**1,245**	**99**	**7.95**	1,820	120	6.59	1,631	70	4.29
	HSBC Argentina Holdings S.A.		**82**	**9**	**10.98**	3	1	33.33	2	—	—
	Brazil Operations		**—**	**—**	**—**	—	—	—	—	—	—
Other operations and intra-region eliminations			**(16,116)**	**(210)**	**1.30**	280	18	6.43	250	4	1.60
At 31 Dec			**44,530**	**506**	**1.14**	47,337	451	0.95	49,782	342	0.69
Financial liabilities designated at fair value through profit or loss – own debt issued		52a									
Europe	HSBC Holdings plc		**25,138**	**1,095**	**4.36**	30,506	944	3.09	26,972	609	2.26
	HSBC Bank plc	55a	**21,576**	**251**	**1.16**	22,692	279	1.23	24,369	240	0.98
	HSBC UK Bank plc	55a	**—**	**—**	**—**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**9,895**	**299**	**3.02**	4,869	106	2.18	2,019	28	1.39
MENA	HSBC Bank Middle East Limited		**705**	**14**	**1.99**	—	—	—	—	—	—
North America	HSBC North America Holdings Inc.		**2,083**	**58**	**2.78**	2,805	52	1.85	3,536	58	1.64
	HSBC Bank Canada		**—**	**—**	**—**	84	1	1.19	308	3	0.97
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**—**	**—**	**—**	—	—	—	—	—	—
	HSBC Argentina Holdings S.A.		**—**	**—**	**—**	—	—	—	—	—	—
	Brazil Operations		**—**	**—**	**—**	—	—	—	—	—	—
Other operations and intra-region eliminations			**(8,557)**	**(296)**	**3.46**	(390)	(121)	31.03	4,838	4	0.08
At 31 Dec			**50,840**	**1,421**	**2.80**	60,566	1,261	2.08	62,042	942	1.52
Customer accounts		53a									
Europe	HSBC Bank plc	55a	**297,353**	**1,862**	**0.63**	377,353	1,303	0.35	382,596	1,723	0.45
	HSBC UK Bank plc	55a	**122,406**	**372**	**0.30**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**585,575**	**3,742**	**0.64**	566,309	2,430	0.43	544,615	2,571	0.47
MENA	HSBC Bank Middle East Limited		**9,213**	**86**	**0.93**	9,807	40	0.41	10,780	27	0.25
North America	HSBC North America Holdings Inc.		**63,309**	**564**	**0.89**	66,745	376	0.56	64,546	205	0.32
	HSBC Bank Canada		**39,717**	**480**	**1.21**	38,150	305	0.80	37,125	194	0.52
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**13,929**	**640**	**4.59**	11,662	406	3.48	10,970	227	2.07
	HSBC Argentina Holdings S.A.		**3,316**	**384**	**11.58**	3,292	245	7.44	2,574	351	13.64
	Brazil Operations		**—**	**—**	**—**	—	—	—	—	—	—
Other operations and intra-region eliminations			**3,802**	**157**	**4.13**	21,602	300	1.39	21,455	194	0.90
At 31 Dec			**1,138,620**	**8,287**	**0.73**	1,094,920	5,405	0.49	1,074,661	5,492	0.51
Repurchase agreements – non-trading											
Europe	HSBC Bank plc	55a	**66,045**	**826**	**1.25**	50,844	340	0.67	46,194	88	0.19
	HSBC UK Bank plc	55a	**238**	**2**	**0.84**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**18,723**	**356**	**1.90**	16,620	141	0.85	13,573	117	0.86
MENA	HSBC Bank Middle East Limited		**47**	**1**	**2.13**	32	1	3.13	—	—	—
North America	HSBC North America Holdings Inc.		**82,178**	**1,970**	**2.40**	77,704	890	1.15	73,843	310	0.42
	HSBC Bank Canada		**5,932**	**87**	**1.47**	4,158	30	0.72	4,777	14	0.29
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**5,297**	**458**	**8.65**	3,845	259	6.74	2,085	94	4.51
	HSBC Argentina Holdings S.A.		**20**	**3**	**15.00**	15	3	20.00	7	2	28.57
	Brazil Operations		**—**	**—**	**—**	—	—	—	—	—	—
Other operations and intra-region eliminations			**(17,276)**	**(294)**	**1.70**	(16,657)	1	(0.01)	(21,690)	1	—
At 31 Dec			**161,204**	**3,409**	**2.11**	136,561	1,665	1.22	118,789	626	0.53

Equity and liabilities (continued)

			2018			2017			2016		
			Average balance	**Interest expense**	**Cost**	Average balance	Interest expense	Cost	Average balance	Interest expense	Cost
		Footnotes	**$m**	**$m**	**%**	$m	$m	%	$m	$m	%
Debt securities in issue											
Europe	HSBC Holdings plc		**59,904**	**2,195**	**3.66**	43,121	1,533	3.56	25,145	1,087	4.32
	HSBC Bank plc	*55a*	**46,635**	**812**	**1.74**	21,266	353	1.66	32,527	348	1.07
	HSBC UK Bank plc	*55a*	**2,471**	**69**	**2.79**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**22,318**	**789**	**3.54**	4,326	96	2.22	5,278	114	2.16
MENA	HSBC Bank Middle East Limited		**2,338**	**81**	**3.46**	1,329	20	1.50	1,793	20	1.12
North America	HSBC North America Holdings Inc.		**24,560**	**900**	**3.66**	29,520	857	2.90	40,148	954	2.38
	HSBC Bank Canada		**10,134**	**254**	**2.51**	7,466	163	2.18	8,026	192	2.39
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**1,339**	**84**	**6.27**	1,198	77	6.43	928	60	6.47
	HSBC Argentina Holdings S.A.		**421**	**113**	**26.84**	55	15	27.27	—	—	—
	Brazil Operations		**—**	**—**	**—**	—	—	—	—	—	—
Other operations and intra-region eliminations			**(37,526)**	**(1,043)**	**2.78**	396	16	4.04	498	32	6.43
At 31 Dec			**132,594**	**4,254**	**3.21**	108,677	3,130	2.88	114,343	2,807	2.45
Other interest-bearing liabilities											
Europe	HSBC Bank plc	*55a*	**43,648**	**987**	**2.26**	31,948	1,331	4.17	28,051	975	3.48
	HSBC UK Bank plc	*55a*	**104**	**1**	**0.96**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**7,574**	**176**	**2.32**	20,529	623	3.03	12,999	331	2.55
MENA	HSBC Bank Middle East Limited		**—**	**—**	**—**	2,414	73	3.02	2,994	82	2.74
North America	HSBC North America Holdings Inc.		**10,468**	**300**	**2.87**	16,685	394	2.36	16,490	287	1.74
	HSBC Bank Canada		**1,430**	**31**	**2.17**	3,022	67	2.22	1,915	63	3.29
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**—**	**—**	**—**	61	22	36.07	782	20	2.56
	HSBC Argentina Holdings S.A.		**462**	**72**	**15.58**	97	4	4.12	53	5	9.43
	Brazil Operations		**—**	**—**	**—**	—	—	—	18,936	1,748	9.23
Other operations and intra-region eliminations			**(9,955)**	**(324)**		(67,747)	(1,607)		(59,833)	(1,119)	
At 31 Dec			**53,731**	**1,243**	**2.31**	7,009	907	12.94	22,387	2,392	10.68
Total interest-bearing liabilities											
Europe	HSBC Holdings plc		**85,042**	**3,304**	**3.89**	74,664	2,568	3.44	54,658	1,804	3.30
	HSBC Bank plc	*55a*	**504,217**	**4,945**	**0.98**	524,727	3,689	0.70	534,361	3,461	0.65
	HSBC UK Bank plc	*55a*	**125,500**	**453**	**0.36**	—	—	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**666,772**	**5,564**	**0.83**	632,705	3,573	0.56	599,593	3,307	0.55
MENA	HSBC Bank Middle East Limited		**13,899**	**223**	**1.60**	14,277	144	1.01	16,059	133	0.83
North America	HSBC North America Holdings Inc.		**187,677**	**3,924**	**2.09**	197,091	2,610	1.32	203,879	1,844	0.90
	HSBC Bank Canada		**57,929**	**869**	**1.50**	53,111	567	1.07	52,509	467	0.89
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**21,810**	**1,281**	**5.87**	18,586	884	4.76	16,396	471	2.87
	HSBC Argentina Holdings S.A.		**4,301**	**581**	**13.51**	3,462	268	7.74	2,636	358	13.58
	Brazil Operations		**—**	**—**	**—**	—	—	—	18,936	1,748	9.23
Other operations and intra-region eliminations			**(85,628)**	**(2,024)**		(63,553)	(1,484)		(57,023)	(992)	
At 31 Dec			**1,581,519**	**19,120**	**1.21**	1,455,070	12,819	0.88	1,442,004	12,601	0.87

For footnotes, see page 89.

Net interest margin[54a, 56a]

		2018	2017	2016
		%	%	%
Europe	HSBC Bank plc[55a]	**0.89**	1.35	1.58
	HSBC UK Bank plc[55a]	**2.16**	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**2.06**	1.88	1.75
MENA	HSBC Bank Middle East Limited	**3.12**	2.62	2.51
North America	HSBC North America Holdings Inc.	**1.08**	0.98	1.23
	HSBC Bank Canada	**1.53**	1.50	1.40
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**5.27**	5.85	5.93
	HSBC Argentina Holdings S.A.	**13.44**	10.94	13.09
	Brazil Operations	**—**	—	3.71
At 31 Dec		**1.66**	1.63	1.73

Distribution of average total assets[56a]

		2018	2017	2016
		%	%	%
Europe	HSBC Bank plc[55a]	**38.0**	43.0	44.0
	HSBC UK Bank plc[55a]	**6.0**	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**40.0**	40.0	37.0
MENA	HSBC Bank Middle East Limited	**1.0**	2.0	2.0
North America	HSBC North America Holdings Inc.	**13.0**	14.0	14.0
	HSBC Bank Canada	**3.0**	3.0	3.0
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**2.0**	1.0	1.0
	HSBC Argentina Holdings S.A.	**—**	—	—
	Brazil Operations	**—**	—	1.0
Other operations and intra-region eliminations		**(3.0)**	(3.0)	(2.0)
At 31 Dec		**100.0**	100.0	100.0

For footnote, see page 89.

Analysis of changes in net interest income and net interest expense

The following tables allocate changes in net interest income and net interest expense between volume and rate for 2018 compared with 2017, and for 2017 compared with 2016. We isolate volume variances and allocate any change arising from both volume and rate to rate.

Interest income[56a]

			Increase/(decrease) in 2018 compared with 2017			Increase/(decrease) in 2017 compared with 2016		
		2018	**Volume**	**Rate**	2017	Volume	Rate	2016
		$m	**$m**	**$m**	$m	$m	$m	$m
Short-term funds and loans and advances to banks								
Europe	HSBC Bank plc[55a]	**471**	**74**	**98**	299	70	(74)	303
	HSBC UK Bank plc[55a]	**147**	**147**	**—**	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**1,169**	**76**	**195**	898	10	113	775
MENA	HSBC Bank Middle East Limited	**52**	**13**	**—**	39	(17)	26	30
North America	HSBC North America Holdings Inc.	**643**	**(470)**	**652**	461	65	182	214
	HSBC Bank Canada	**12**	**5**	**4**	3	(3)	4	2
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**178**	**20**	**8**	150	(3)	61	92
	HSBC Argentina Holdings S.A.	**1**	**(28)**	**28**	1	—	(7)	8
	Brazil Operations	**—**	**—**	**—**	—	—	—	—
Other operations and intra-region eliminations		**(198)**	**(1,229)**	**852**	179	23	70	86
At 31 Dec		**2,475**	**(27)**	**472**	2,030	275	245	1,510
Loans and advances to customers								
Europe	HSBC Bank plc[55a]	**6,599**	**(2,376)**	**(205)**	9,180	329	(1,586)	10,437
	HSBC UK Bank plc[55a]	**3,370**	**3,370**	**—**	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**14,466**	**1,486**	**1,264**	11,716	1,258	(317)	10,775
MENA	HSBC Bank Middle East Limited	**983**	**15**	**107**	861	(131)	109	883
North America	HSBC North America Holdings Inc.	**2,479**	**(244)**	**333**	2,390	(585)	(302)	3,277
	HSBC Bank Canada	**1,425**	**143**	**77**	1,205	20	115	1,070
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**2,038**	**296**	**(25)**	1,767	104	235	1,428
	HSBC Argentina Holdings S.A.	**741**	**(103)**	**132**	712	135	(153)	730
	Brazil Operations	**—**	**—**	**—**	—	—	—	—
Other operations and intra-region eliminations		**1,184**	**(23)**	**287**	920	(18)	266	672
At 31 Dec		**33,285**	**2,459**	**2,075**	28,751	1,123	(1,644)	29,272
Reverse repurchase agreements – non-trading								
Europe	HSBC Bank plc[55a]	**905**	**291**	**111**	503	(13)	210	306
	HSBC UK Bank plc[55a]	**8**	**8**	**—**	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**902**	**89**	**201**	612	53	226	333
MENA	HSBC Bank Middle East Limited	**16**	**—**	**2**	14	6	(1)	9
North America	HSBC North America Holdings Inc.	**1,871**	**(23)**	**966**	928	(23)	464	487
	HSBC Bank Canada	**79**	**(8)**	**43**	44	(2)	16	30
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**90**	**20**	**9**	61	9	19	33
	HSBC Argentina Holdings S.A.	**15**	**(11)**	**11**	15	2	—	13
	Brazil Operations	**—**	**—**	**—**	—	—	—	—
Other operations and intra-region eliminations		**(147)**	**(4)**	**(157)**	14	(4)	2	16
At 31 Dec		**3,739**	**575**	**973**	2,191	73	891	1,227

Interest income (continued)

		2018 $m	Increase/(decrease) in 2018 compared with 2017 Volume $m	Rate $m	2017 $m	Increase/(decrease) in 2017 compared with 2016 Volume $m	Rate $m	2016 $m
Financial investments								
Europe	HSBC Bank plc[55a]	**1,205**	**(239)**	**225**	1,219	(288)	185	1,322
	HSBC UK Bank plc[55a]	**104**	**104**	**—**	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**5,074**	**50**	**930**	4,094	(225)	595	3,724
MENA	HSBC Bank Middle East Limited	**134**	**(2)**	**53**	83	(4)	19	68
North America	HSBC North America Holdings Inc.	**1,134**	**(32)**	**221**	945	(108)	100	953
	HSBC Bank Canada	**341**	**21**	**106**	214	(6)	11	209
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**494**	**59**	**69**	366	50	30	286
	HSBC Argentina Holdings S.A.	**217**	**43**	**76**	98	(34)	(57)	189
	Brazil Operations	**—**	**—**	**—**	—	—	—	—
Other operations and intra-region eliminations		**463**	**(24)**	**66**	421	(98)	22	497
At 31 Dec		**9,166**	**(67)**	**1,793**	7,440	(799)	991	7,248

Interest expense

		2018 $m	Increase/(decrease) in 2018 compared with 2017 Volume $m	Rate $m	2017 $m	Increase/(decrease) in 2017 compared with 2016 Volume $m	Rate $m	2016 $m
Deposits by banks								
Europe	HSBC Bank plc[55a]	**207**	**60**	**64**	83	—	(4)	87
	HSBC UK Bank plc[55a]	**9**	**9**	**—**	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**202**	**23**	**2**	177	(9)	40	146
MENA	HSBC Bank Middle East Limited	**41**	**23**	**8**	10	3	3	4
North America	HSBC North America Holdings Inc.	**132**	**38**	**53**	41	(19)	30	30
	HSBC Bank Canada	**17**	**12**	**4**	1	(1)	1	1
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**99**	**(46)**	**25**	120	12	38	70
	HSBC Argentina Holdings S.A.	**9**	**9**	**(1)**	1	—	1	—
	Brazil Operations	**—**	**—**	**—**	—	—	—	—
Other operations and intra-region eliminations		**(210)**	**(214)**	**(14)**	18	2	12	4
At 31 Dec		**506**	**(35)**	**90**	451	(20)	129	342
Customer accounts								
Europe	HSBC Bank plc[55a]	**1,862**	**(498)**	**1,057**	1,303	(37)	(383)	1,723
	HSBC UK Bank plc[55a]	**372**	**372**	**—**	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**3,742**	**123**	**1,189**	2,430	77	(218)	2,571
MENA	HSBC Bank Middle East Limited	**86**	**(5)**	**51**	40	(4)	17	27
North America	HSBC North America Holdings Inc.	**564**	**(32)**	**220**	376	16	155	205
	HSBC Bank Canada	**480**	**19**	**156**	305	7	104	194
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**640**	**105**	**129**	406	24	155	227
	HSBC Argentina Holdings S.A.	**384**	**3**	**136**	245	54	(160)	351
	Brazil Operations	**—**	**—**	**—**	—	—	—	—
Other operations and intra-region eliminations		**157**	**(735)**	**592**	300	1	105	194
At 31 Dec		**8,287**	**254**	**2,628**	5,405	128	(215)	5,492

Interest expense (continued)

		2018	Increase/(decrease) in 2018 compared with 2017		2017	Increase/(decrease) in 2017 compared with 2016		2016
			Volume	Rate		Volume	Rate	
		$m	$m	$m	$m	$m	$m	$m
Repurchase agreements – non-trading								
Europe	HSBC Bank plc[55a]	**826**	**191**	**295**	340	30	222	88
	HSBC UK Bank plc[55a]	**2**	**2**	**—**	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**356**	**40**	**175**	141	25	(1)	117
MENA	HSBC Bank Middle East Limited	**1**	**—**	**—**	1	1	—	—
North America	HSBC North America Holdings Inc.	**1,970**	**109**	**971**	890	41	539	310
	HSBC Bank Canada	**87**	**26**	**31**	30	(5)	21	14
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**458**	**126**	**73**	259	119	46	94
	HSBC Argentina Holdings S.A.	**3**	**1**	**(1)**	3	2	(1)	2
	Brazil Operations	**—**	**—**	**—**	—	—	—	—
Other operations and intra-region eliminations		**(294)**	**(10)**	**(285)**	1	(2)	2	1
At 31 Dec		**3,409**	**529**	**1,215**	1,665	219	820	626
Debt securities in issue								
Europe	HSBC Holdings	**2,195**	**619**	**43**	1,533	637	(191)	1,087
	HSBC Bank plc[55a]	**812**	**442**	**17**	353	(187)	192	348
	HSBC UK Bank plc[55a]	**69**	**69**	**—**	—	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**789**	**636**	**57**	96	(21)	3	114
MENA	HSBC Bank Middle East Limited	**81**	**35**	**26**	20	(7)	7	20
North America	HSBC North America Holdings Inc.	**900**	**(181)**	**224**	857	(306)	209	954
	HSBC Bank Canada	**254**	**66**	**25**	163	(12)	(17)	192
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**84**	**9**	**(2)**	77	17	—	60
	HSBC Argentina Holdings S.A.	**113**	**98**	**—**	15	15	—	—
	Brazil Operations	**—**	**—**	**—**	—	—	—	—
Other operations and intra-region eliminations		**(1,043)**	**(1,054)**	**(5)**	16	(4)	(12)	32
At 31 Dec		**4,254**	**765**	**359**	3,130	(169)	492	2,807

Short-term borrowings

Short-term borrowings in the form of repurchase agreements – non-trading are shown separately on the face of the balance sheet. Other forms of short-term borrowings are included within customer accounts, deposits by banks, debt securities in issue and trading liabilities. Short-term borrowings are defined by the US Securities and Exchange Commission as Federal funds purchased and securities sold under agreements to repurchase, commercial paper and other short-term borrowings.

Our only significant short-term borrowings are securities sold under agreements to repurchase and certain debt securities in issue. For securities sold under agreements to repurchase, we run matched repo and reverse repo trading books. We generally observe lower year-end demand in our reverse repo lending business, which results in lower repo balances at the balance sheet date. Additional information on these is provided in the table below.

Repos and short-term bonds

	2018 $m	2017 $m	2016 $m
Securities sold under agreements to repurchase			
Outstanding at 31 December	**167,379**	132,257	90,386
Average amount outstanding during the year	**163,314**	138,957	119,850
Maximum quarter-end balance outstanding during the year	**172,150**	148,259	110,362
Weighted average interest rate during the year	**2.1%**	1.2%	0.5%
Weighted average interest rate at the year-end	**2.7%**	1.4%	0.8%

Contractual obligations

The table below provides details of our material contractual obligations at 31 December 2018.

	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
	$m	$m	$m	$m	$m
Long-term debt obligations	214,591	44,100	55,324	37,165	78,002
Term deposits and certificates of deposit	102,497	90,649	9,455	479	1,914
Capital (finance) lease obligations	23	6	1	4	12
Operating lease obligations	3,435	775	1,085	660	915
Purchase obligations	1,011	926	53	32	–
Short positions in debt securities and equity shares	69,157	69,038	90	21	8
Current tax liability	718	718	–	–	–
Pension/healthcare obligation	14,634	1,266	2,815	2,979	7,574
	406,066	207,478	68,823	41,340	88,425

Loan maturity and interest sensitivity analysis

At 31 December 2018, the geographical analysis of loan maturity and interest sensitivity by loan type on a contractual repayment basis was as follows.

	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
Maturity of 1 year or less						
Loans and advances to banks	10,023	36,101	5,623	3,047	4,523	59,317
Corporate and commercial	94,318	141,863	13,863	23,371	6,049	279,464
Non-bank financial institutions	16,017	15,079	213	4,404	243	35,956
	120,358	193,043	19,699	30,822	10,815	374,737
Maturity after 1 year but within 5 years						
Loans and advances to banks	4,551	6,353	594	171	–	11,669
Corporate and commercial	63,988	106,371	7,180	28,597	5,942	212,078
Non-bank financial institutions	5,364	10,200	109	5,119	1,321	22,113
	73,903	122,924	7,883	33,887	7,263	245,860
Interest rate sensitivity of loans and advances to banks and commercial loans to customers						
Fixed interest rate	54,016	3,025	3,175	5,311	6,821	72,348
Variable interest rate	19,887	119,899	4,708	28,576	442	173,512
	73,903	122,924	7,883	33,887	7,263	245,860
Maturity after 5 years						
Loans and advances to banks	161	807	201	25	–	1,194
Corporate and commercial	18,278	15,374	2,695	5,016	1,681	43,044
Non-bank financial institutions	1,146	2,006	–	124	61	3,337
	19,585	18,187	2,896	5,165	1,742	47,575
Interest rate sensitivity of loans and advances to banks and commercial loans to customers						
Fixed interest rate	7,843	646	1,007	1,120	1,730	12,346
Variable interest rate	11,742	17,541	1,889	4,045	12	35,229
	19,585	18,187	2,896	5,165	1,742	47,575

Deposits

The following tables summarise the average amount of bank deposits, customer deposits and certificates of deposit ('CDs') and other money market instruments (that are included within 'Debt securities in issue' in the balance sheet), together with the average interest rates paid thereon for each of the past three years. The geographical analysis of average deposits is based on the location of the office in which the deposits are recorded and excludes balances with HSBC companies.

Deposits by banks

	2018		2017		2016	
	Average balance	Average rate	Average balance	Average rate	Average balance	Average rate
	$m	%	$m	%	$m	%
Europe	**28,609**		33,483		32,232	
– demand and other – non-interest bearing	**6,381**	**–**	12,825	–	11,696	–
– demand – interest bearing	**7,704**	**0.7**	6,780	0.4	6,730	0.2
– time	**14,503**	**0.9**	11,747	0.3	8,426	0.4
– other	**21**	**–**	2,131	1.1	5,380	0.5
Asia	**21,599**		25,253		26,945	
– demand and other – non-interest bearing	**3,305**	**–**	5,201	–	5,835	–
– demand – interest bearing	**13,775**	**0.8**	12,521	0.5	13,230	0.4
– time	**4,072**	**1.9**	3,355	1.5	3,593	1.9
– other	**447**	**–**	4,176	1.6	4,287	0.6
Middle East and North Africa	**981**		1,311		1,158	
– demand and other – non-interest bearing	**362**	**–**	430	–	391	–
– demand – interest bearing	**28**	**3.6**	2	–	8	–
– time	**475**	**5.5**	871	3.0	742	2.2
– other	**116**	**–**	8	–	17	–
North America	**3,818**		5,721		7,594	
– demand and other – non-interest bearing	**1,702**	**–**	1,853	–	1,916	–
– demand – interest bearing	**1,820**	**1.0**	1,744	0.5	2,402	0.3
– time	**296**	**1.0**	2,116	1.6	3,185	0.8
– other	**–**	**–**	8	–	91	–
Latin America	**1,289**		2,042		1,820	
– demand and other – non-interest bearing	**16**	**–**	164	–	129	–
– demand – interest bearing	**80**	**10.0**	376	6.9	313	5.4
– time	**1,193**	**6.6**	1,502	6.5	1,378	5.7
– other	**–**	**–**	–	–	–	–
Total	**56,296**		67,810		69,749	
– demand and other – non-interest bearing	**11,766**	**–**	20,473	–	19,967	–
– demand – interest bearing	**23,407**	**0.8**	21,423	0.6	22,683	0.4
– time	**20,539**	**1.6**	19,591	1.2	17,324	1.3
– other	**584**	**–**	6,323	0.4	9,775	0.5

Customer accounts

	2018		2017		2016	
	Average balance	**Average rate**	Average balance	Average rate	Average balance	Average rate
	$m	**%**	$m	%	$m	%
Europe	**500,811**		458,710		449,033	
– demand and other – non-interest bearing	**91,866**	**—**	76,205	—	64,779	—
– demand – interest bearing	**332,031**	**0.4**	310,887	0.3	312,808	0.3
– savings	**42,220**	**0.6**	39,488	0.4	39,032	0.5
– time	**33,264**	**1.3**	30,939	0.8	31,309	0.7
– other	**1,430**	**8.5**	1,191	1.8	1,105	2.4
Asia	**657,549**		639,925		613,303	
– demand and other – non-interest bearing	**73,024**	**—**	73,704	—	68,772	—
– demand – interest bearing	**455,443**	**0.2**	459,067	0.1	433,656	0.1
– savings	**107,078**	**2.1**	87,551	1.8	90,175	2.0
– time	**20,872**	**1.7**	17,183	1.0	19,530	0.8
– other	**1,132**	**0.9**	2,420	0.3	1,170	0.4
Middle East and North Africa	**35,074**		35,105		40,036	
– demand and other – non-interest bearing	**17,716**	**—**	17,977	—	19,548	—
– demand – interest bearing	**5,944**	**0.8**	6,586	0.5	9,558	0.3
– savings	**11,201**	**3.8**	9,734	2.9	10,034	3.5
– time	**213**	**2.3**	808	1.6	896	4.1
– other	**—**	**—**	—	—	—	—
North America	**134,486**		141,192		140,491	
– demand and other – non-interest bearing	**25,249**	**—**	28,542	—	30,350	—
– demand – interest bearing	**37,614**	**0.7**	39,050	0.3	37,382	0.2
– savings	**64,538**	**1.0**	63,786	0.7	64,464	0.4
– time	**7,079**	**1.7**	9,769	1.1	8,251	0.5
– other	**6**	**133.3**	45	—	44	—
Latin America	**24,193**		21,865		20,699	
– demand and other – non-interest bearing	**5,638**	**—**	5,451	—	5,454	—
– demand – interest bearing	**9,092**	**3.8**	7,217	2.1	6,629	1.3
– savings	**3,464**	**8.9**	3,830	6.2	3,451	32.9
– time	**5,906**	**6.4**	5,346	5.3	5,145	3.2
– other	**93**	**15.1**	21	—	20	10.0
Total	**1,352,113**		1,296,797		1,263,562	
– demand and other – non-interest bearing	**213,493**	**—**	201,879	—	188,903	—
– demand – interest bearing	**840,124**	**0.3**	822,807	0.2	800,033	0.2
– savings	**228,501**	**1.7**	204,389	1.3	207,156	1.8
– time	**67,334**	**1.9**	64,045	1.3	65,131	1.0
– other	**2,661**	**5.9**	3,677	1.0	2,339	1.9

Certificates of deposit and other money market instruments

	2018		2017		2016	
	Average balance	**Average rate**	Average balance	Average rate	Average balance	Average rate
	$m	**%**	$m	%	$m	%
Europe	**19,034**	**1.7**	12,506	0.6	22,188	0.5
Asia	**2,107**	**2.3**	523	2.7	609	2.3
North America	**7,497**	**2.4**	6,950	1.6	12,387	0.9
Latin America	**1,986**	**4.7**	1,333	5.4	1,135	6.2
Total	**30,624**	**2.1**	21,312	1.3	36,319	0.9

Certificates of deposit and other time deposits

The maturity analysis of certificates of deposit ('CDs') and other wholesale time deposits is expressed by remaining maturity. The majority of CDs and time deposits are in amounts of $100,000 and over or the equivalent in other currencies.

	At 31 Dec 2018				
	3 months or less	After 3 months but within 6 months	After 6 months but within 12 months	After 12 months	Total
	$m	$m	$m	$m	$m
Europe	37,017	3,150	1,411	8,761	50,339
– certificates of deposit	921	1,978	715	1,378	4,992
– time deposits:					
banks	4,242	201	423	7,211	12,077
customers	31,854	971	273	172	33,270
Asia	24,758	2,593	1,329	863	29,543
– certificates of deposit	690	1,291	286	844	3,111
– time deposits:					
banks	1,194	419	280	—	1,893
customers	22,874	883	763	19	24,539
Middle East and North Africa	309	49	187	258	803
– certificates of deposit	—	—	—	—	—
– time deposits:					
banks	59	49	177	258	543
customers	250	—	10	—	260
North America	7,096	2,951	1,416	438	11,901
– certificates of deposit	1,775	1,814	517	—	4,106
– time deposits:					
banks	16	—	—	—	16
customers	5,305	1,137	899	438	7,779
Latin America	4,549	2,113	1,721	1,528	9,911
– certificates of deposit	831	102	346	978	2,257
– time deposits:					
banks	741	—	170	498	1,409
customers	2,977	2,011	1,205	52	6,245
Total	73,729	10,856	6,064	11,848	102,497
– certificates of deposit	4,217	5,185	1,864	3,200	14,466
– time deposits:					
banks	6,252	669	1,050	7,967	15,938
customers	63,260	5,002	3,150	681	72,093

Global businesses and geographical regions

Summary

(Audited)

The Group Chief Executive and the rest of the Group Management Board ('GMB') review operating activity on a number of bases, including by global business and geographical region. Global businesses are our reportable segments under IFRS 8 'Operating Segments'.

Basis of preparation

The Group Chief Executive, supported by the rest of the GMB, is considered the Chief Operating Decision Maker ('CODM') for the purposes of identifying the Group's reportable segments. Global business results are assessed by the CODM on the basis of adjusted performance that removes the effects of significant items and currency translation from reported results. We therefore present these results on an adjusted basis as required by IFRSs. The 2017 and 2016 adjusted performance information is presented on a constant currency basis as described on page 34.

As required by IFRS 8, reconciliations of the total adjusted global business results to the Group reported results are presented on page 65. Supplementary reconciliations from reported to adjusted results by global business are presented on pages 67 to 69 for information purposes.

Global business performance is also assessed using return on tangible equity ('RoTE'), excluding significant items and the UK bank levy. A reconciliation of global business RoTE, excluding significant items and the UK bank levy to the Group's RoTE is provided in the reconciliations of non-GAAP financial measures at 31 December 2018.

Our operations are closely integrated and, accordingly, the presentation of data includes internal allocations of certain items of income and expense. These allocations include the costs of certain support services and global functions to the extent that they can be meaningfully attributed to global businesses and geographical regions. While such allocations have been made on a systematic and consistent basis, they necessarily involve a degree of subjectivity. Costs that are not allocated to global businesses are included in Corporate Centre.

Where relevant, income and expense amounts presented include the results of inter-segment funding along with inter-company and inter-business line transactions. All such transactions are undertaken on arm's length terms. The intra-Group elimination items for the global businesses are presented in Corporate Centre.

The expense of the UK bank levy is included in the Europe geographical region as HSBC regards the levy as a cost of being headquartered in the UK. For the purposes of the presentation by global business, the cost of the levy is included in the Corporate Centre.

The results of geographical regions are presented on a reported basis.

Geographical information is classified by the location of the principal operations of the subsidiary or, for The Hongkong and Shanghai Banking Corporation Limited, HSBC Bank plc, HSBC UK Bank plc, HSBC Bank Middle East Limited and HSBC Bank USA, by the location of the branch responsible for reporting the results or providing funding.

A description of the global businesses is provided in the Strategic Report, *pages 3 and 18 to 21.*

Analysis of adjusted results by global business

(Audited)

HSBC adjusted profit before tax and balance sheet data

	Footnotes	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
2018							
		$m	$m	$m	$m	$m	$m
Net operating income before change in expected credit losses and other credit impairment charges	26	**21,935**	**14,885**	**15,512**	**1,785**	**(177)**	**53,940**
– external		**17,270**	**14,652**	**17,986**	**1,497**	**2,535**	**53,940**
– inter-segment		**4,665**	**233**	**(2,474)**	**288**	**(2,712)**	**—**
of which: net interest income/(expense)		***15,822***	***10,666***	***5,259***	***888***	***(2,199)***	***30,436***
Change in expected credit losses and other credit impairment charges		**(1,177)**	**(739)**	**26**	**8**	**115**	**(1,767)**
Net operating income/(expense)		**20,758**	**14,146**	**15,538**	**1,793**	**(62)**	**52,173**
Total operating expenses		**(13,711)**	**(6,477)**	**(9,460)**	**(1,449)**	**(1,893)**	**(32,990)**
Operating profit/(loss)		**7,047**	**7,669**	**6,078**	**344**	**(1,955)**	**19,183**
Share of profit in associates and joint ventures		**33**	**—**	**—**	**—**	**2,503**	**2,536**
Adjusted profit before tax		**7,080**	**7,669**	**6,078**	**344**	**548**	**21,719**
		%	**%**	**%**	**%**	**%**	**%**
Share of HSBC's adjusted profit before tax		**32.6**	**35.3**	**28.0**	**1.6**	**2.5**	**100.0**
Adjusted cost efficiency ratio		**62.5**	**43.5**	**61.0**	**81.2**	**(1,069.5)**	**61.2**
Adjusted balance sheet data		**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
Loans and advances to customers (net)		**361,872**	**333,162**	**244,978**	**39,217**	**2,467**	**981,696**
Interests in associates and joint ventures		**397**	**—**	**—**	**—**	**22,010**	**22,407**
Total external assets		**476,784**	**360,216**	**1,012,272**	**43,790**	**665,062**	**2,558,124**
Customer accounts		**640,924**	**357,596**	**290,914**	**64,658**	**8,551**	**1,362,643**
Adjusted risk-weighted assets (unaudited)	64	**126,865**	**321,244**	**281,021**	**16,824**	**118,550**	**864,504**
2017							
Net operating income before loan impairment charges and other credit risk provisions	26	20,220	13,247	15,285	1,723	1,186	51,661
– external		17,024	13,378	16,557	1,453	3,249	51,661
– inter-segment		3,196	(131)	(1,272)	270	(2,063)	—
of which: net interest income/(expense)		*13,927*	*9,060*	*4,851*	*825*	*(481)*	*28,182*
Loan impairment charges and other credit risk provisions/(recoveries)		(969)	(465)	(446)	(16)	183	(1,713)
Net operating income		19,251	12,782	14,839	1,707	1,369	49,948
Total operating expenses		(12,786)	(5,953)	(8,991)	(1,411)	(2,090)	(31,231)
Operating profit/(loss)		6,465	6,829	5,848	296	(721)	18,717
Share of profit in associates and joint ventures		14	—	—	—	2,402	2,416
Adjusted profit before tax		6,479	6,829	5,848	296	1,681	21,133
		%	%	%	%	%	%
Share of HSBC's adjusted profit before tax		30.6	32.3	27.7	1.4	8.0	100.0
Adjusted cost efficiency ratio		63.2	44.9	58.8	81.9	176.2	60.5
Adjusted balance sheet data		$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		332,261	305,213	244,476	39,597	7,294	928,841
Interests in associates and joint ventures		363	—	—	—	21,656	22,019
Total external assets		451,516	336,163	946,747	46,247	662,364	2,443,037
Customer accounts		621,092	351,617	273,080	64,957	10,883	1,321,629
Adjusted risk-weighted assets (unaudited)	64	118,131	289,824	293,135	15,795	128,795	845,680

For footnotes, see page 89.

HSBC adjusted profit before tax and balance sheet data (continued)

		2016					
		Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Net operating income before loan impairment charges and other credit risk provisions	26	18,483	12,656	14,807	1,770	1,544	49,260
– external		16,050	12,656	17,488	1,512	1,554	49,260
– inter-segment		2,433	—	(2,681)	258	(10)	—
of which: net interest income		*12,906*	*8,506*	*4,800*	*813*	*1,176*	*28,201*
Loan impairment charges and other credit risk provisions		(1,101)	(986)	(461)	—	(24)	(2,572)
Net operating income		17,382	11,670	14,346	1,770	1,520	46,688
Total operating expenses		(12,144)	(5,747)	(8,846)	(1,484)	(1,926)	(30,147)
Operating profit/(loss)		5,238	5,923	5,500	286	(406)	16,541
Share of profit in associates and joint ventures		20	—	—	—	2,345	2,365
Adjusted profit before tax		5,258	5,923	5,500	286	1,939	18,906
		%	%	%	%	%	%
Share of HSBC's adjusted profit before tax		27.8	31.3	29.1	1.5	10.3	100.0
Adjusted cost efficiency ratio		65.7	45.4	59.7	83.8	124.7	61.2
Adjusted balance sheet data		$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		312,393	285,253	230,171	36,222	12,331	876,370
Interests in associates and joint ventures		391	—	—	—	19,635	20,026
Total external assets		421,559	309,905	949,732	43,663	692,740	2,417,599
Customer accounts		595,765	346,746	261,949	71,389	14,344	1,290,193
Adjusted risk-weighted assets (unaudited)	64	111,617	276,705	301,728	15,418	149,680	855,148

For footnotes, see page 89.

Reconciliation of reported and adjusted items

(Audited)

Adjusted results reconciliation

		2018			2017				2016			
		Adjusted	**Significant items**	**Reported**	Adjusted	Currency translation	Significant items	Reported	Adjusted	Currency translation	Significant items	Reported
	Footnotes	**$m**	**$m**	**$m**	$m	$m	$m	$m	$m	$m	$m	$m
Revenue	26	**53,940**	**(160)**	**53,780**	51,661	(133)	(83)	51,445	49,260	803	(2,097)	47,966
ECL		**(1,767)**	**—**	**(1,767)**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LICs		**N/A**	**N/A**	**N/A**	(1,713)	(56)	—	(1,769)	(2,572)	(24)	(804)	(3,400)
Operating expenses		**(32,990)**	**(1,669)**	**(34,659)**	(31,231)	143	(3,796)	(34,884)	(30,147)	(361)	(9,300)	(39,808)
Share of profit in associates and joint ventures		**2,536**	**—**	**2,536**	2,416	(41)	—	2,375	2,365	(10)	(1)	2,354
Profit/(loss) before tax		**21,719**	**(1,829)**	**19,890**	21,133	(87)	(3,879)	17,167	18,906	408	(12,202)	7,112

For footnotes, see page 89.

Adjusted balance sheet reconciliation

	2018	2017			2016		
	Reported and adjusted	Adjusted	Currency translation	Reported	Adjusted	Currency translation	Reported
	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)	**981,696**	928,841	34,123	962,964	876,370	(14,866)	861,504
Interests in associates and joint ventures	**22,407**	22,019	725	22,744	20,026	3	20,029
Total external assets	**2,558,124**	2,443,037	78,734	2,521,771	2,417,599	(42,613)	2,374,986
Customer accounts	**1,362,643**	1,321,629	42,833	1,364,462	1,290,193	(17,807)	1,272,386

Adjusted profit reconciliation

	Footnotes	2018 $m	2017 $m	2016 $m
Year ended 31 Dec				
Adjusted profit before tax		**21,719**	21,133	18,906
Significant items		**(1,829)**	(3,879)	(12,202)
– customer redress programmes (revenue)		**53**	(108)	2
– disposals, acquisitions and investment in new businesses (revenue)		**(113)**	274	264
– fair value movements on financial instruments	65, 66	**(100)**	(245)	(2,453)
– costs of structural reform		**(361)**	(420)	(223)
– costs to achieve		**—**	(3,002)	(3,118)
– customer redress programmes (operating expenses)		**(146)**	(655)	(559)
– disposals, acquisitions and investment in new businesses (operating expenses)		**(52)**	(53)	(1,087)
– disposals, acquisitions and investment in new businesses (LICs)		**—**	—	(748)
– gain on partial settlement of pension obligation		**—**	188	—
– impairment of GPB – Europe goodwill		**—**	—	(3,240)
– past service costs of guaranteed minimum pension benefits equalisation		**(228)**	—	—
– restructuring and other related costs		**(66)**	—	—
– settlements and provisions in connection with legal and other regulatory matters		**(816)**	198	(1,025)
– disposals, acquisitions and investment in new businesses (share of profit in associates and joint ventures)		**—**	—	(1)
– currency translation on significant items			(56)	(14)
Currency translation			(87)	408
Reported profit before tax		**19,890**	17,167	7,112

For footnotes, see page 89.

Reconciliation of reported and adjusted items – global businesses

Supplementary unaudited analysis of significant items by global business is presented below.

	Footnotes	2018 Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Corporate Centre $m	Total $m
Revenue	26						
Reported		**21,928**	**14,938**	**15,634**	**1,790**	**(510)**	**53,780**
Significant items		**7**	**(53)**	**(122)**	**(5)**	**333**	**160**
– customer redress programmes		**—**	**(53)**	**—**	**—**	**—**	**(53)**
– disposals, acquisitions and investment in new businesses		**7**	**—**	**—**	**(5)**	**111**	**113**
– fair value movements on financial instruments	65	**—**	**—**	**(122)**	**—**	**222**	**100**
Adjusted		**21,935**	**14,885**	**15,512**	**1,785**	**(177)**	**53,940**
Change in expected credit losses and other credit impairment charges							
Reported		**(1,177)**	**(739)**	**26**	**8**	**115**	**(1,767)**
Adjusted		**(1,177)**	**(739)**	**26**	**8**	**115**	**(1,767)**
Operating expenses							
Reported		**(13,902)**	**(6,480)**	**(9,348)**	**(1,550)**	**(3,379)**	**(34,659)**
Significant items		**191**	**3**	**(112)**	**101**	**1,486**	**1,669**
– costs of structural reform		**2**	**8**	**41**	**—**	**310**	**361**
– customer redress programmes		**173**	**(5)**	**(22)**	**—**	**—**	**146**
– disposals, acquisitions and investment in new businesses		**—**	**—**	**—**	**52**	**—**	**52**
– past service costs of guaranteed minimum pension benefits equalisation		**—**	**—**	**—**	**—**	**228**	**228**
– restructuring and other related costs		**—**	**—**	**—**	**7**	**59**	**66**
– settlements and provisions in connection with legal and regulatory matters		**16**	**—**	**(131)**	**42**	**889**	**816**
Adjusted		**(13,711)**	**(6,477)**	**(9,460)**	**(1,449)**	**(1,893)**	**(32,990)**
Share of profit in associates and joint ventures							
Reported		**33**	**—**	**—**	**—**	**2,503**	**2,536**
Adjusted		**33**	**—**	**—**	**—**	**2,503**	**2,536**
Profit/(loss) before tax							
Reported		**6,882**	**7,719**	**6,312**	**248**	**(1,271)**	**19,890**
Significant items		**198**	**(50)**	**(234)**	**96**	**1,819**	**1,829**
– revenue		**7**	**(53)**	**(122)**	**(5)**	**333**	**160**
– operating expenses		**191**	**3**	**(112)**	**101**	**1,486**	**1,669**
Adjusted		**7,080**	**7,669**	**6,078**	**344**	**548**	**21,719**
Loans and advances to customers (net)							
Reported		**361,872**	**333,162**	**244,978**	**39,217**	**2,467**	**981,696**
Adjusted		**361,872**	**333,162**	**244,978**	**39,217**	**2,467**	**981,696**
Customer accounts							
Reported		**640,924**	**357,596**	**290,914**	**64,658**	**8,551**	**1,362,643**
Adjusted		**640,924**	**357,596**	**290,914**	**64,658**	**8,551**	**1,362,643**

For footnotes, see page 89.

Reconciliation of reported and adjusted items (continued)

		2017					
		Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Revenue	*26*						
Reported		20,519	13,120	14,617	1,723	1,466	51,445
Currency translation		(67)	27	181	21	(29)	133
Significant items		(232)	100	487	(21)	(251)	83
– customer redress programmes		3	103	2	—	—	108
– disposals, acquisitions and investment in new businesses		(235)	—	99	(20)	(118)	(274)
– fair value movements on financial instruments	*65*	—	—	373	—	(128)	245
– currency translation on significant items		—	(3)	13	(1)	(5)	4
Adjusted		20,220	13,247	15,285	1,723	1,186	51,661
LICs							
Reported		(980)	(496)	(459)	(16)	182	(1,769)
Currency translation		11	31	13	—	1	56
Adjusted		(969)	(465)	(446)	(16)	183	(1,713)
Operating expenses							
Reported		(13,734)	(6,001)	(8,723)	(1,586)	(4,840)	(34,884)
Currency translation		38	(6)	(112)	(18)	(45)	(143)
Significant items		910	54	(156)	193	2,795	3,796
– costs of structural reform		6	3	8	—	403	420
– costs to achieve		270	44	240	3	2,445	3,002
– customer redress programmes		637	16	2	—	—	655
– disposals, acquisitions and investment in new businesses		—	—	—	31	22	53
– gain on partial settlement of pension obligation		(26)	(9)	(9)	(3)	(141)	(188)
– settlements and provisions in connection with legal and regulatory matters		—	—	(376)	164	14	(198)
– currency translation on significant items		23	—	(21)	(2)	52	52
Adjusted		(12,786)	(5,953)	(8,991)	(1,411)	(2,090)	(31,231)
Share of profit in associates and joint ventures							
Reported		18	—	—	—	2,357	2,375
Currency translation		(4)	—	—	—	45	41
Adjusted		14	—	—	—	2,402	2,416
Profit/(loss) before tax							
Reported		5,823	6,623	5,435	121	(835)	17,167
Currency translation		(22)	52	82	3	(28)	87
Significant items		678	154	331	172	2,544	3,879
– revenue		(232)	100	487	(21)	(251)	83
– operating expenses		910	54	(156)	193	2,795	3,796
Adjusted		6,479	6,829	5,848	296	1,681	21,133
Loans and advances to customers (net)							
Reported		346,148	316,533	252,474	40,326	7,483	962,964
Currency translation		(13,887)	(11,320)	(7,998)	(729)	(189)	(34,123)
Adjusted		332,261	305,213	244,476	39,597	7,294	928,841
Customer accounts							
Reported		639,592	362,908	283,943	66,512	11,507	1,364,462
Currency translation		(18,500)	(11,291)	(10,863)	(1,555)	(624)	(42,833)
Adjusted		621,092	351,617	273,080	64,957	10,883	1,321,629

For footnotes, see page 89.

Reconciliation of reported and adjusted items (continued)

	Footnotes	2016					
		Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
		$m	$m	$m	$m	$m	$m
Revenue	26						
Currency translation							
Reported		20,338	13,405	15,213	1,745	(2,735)	47,966
Currency translation		(374)	(214)	(89)	14	(140)	(803)
Significant items		(1,481)	(535)	(317)	11	4,419	2,097
– customer redress programmes		—	—	—	(2)	—	(2)
– disposals, acquisitions and investment in new businesses		(1,413)	(518)	(268)	14	1,921	(264)
– fair value movements on financial instruments	65, 66	—	—	(26)	—	2,479	2,453
– currency translation on significant items		(68)	(17)	(23)	(1)	19	(90)
Adjusted		18,483	12,656	14,807	1,770	1,544	49,260
LICs							
Reported		(1,633)	(1,272)	(471)	1	(25)	(3,400)
Currency translation		33	(4)	(5)	(1)	1	24
Significant items		499	290	15	—	—	804
– disposals, acquisitions and investment in new businesses		462	272	14	—	—	748
– currency translation on significant items		37	18	1	—	—	56
Adjusted		(1,101)	(986)	(461)	—	(24)	(2,572)
Operating expenses							
Reported		(14,138)	(6,087)	(9,302)	(5,074)	(5,207)	(39,808)
Currency translation		249	83	16	(19)	32	361
Significant items		1,745	257	440	3,609	3,249	9,300
– costs of structural reform		2	1	—	—	220	223
– costs to achieve		393	62	233	6	2,424	3,118
– customer redress programmes		497	34	28	—	—	559
– disposals, acquisitions and investment in new businesses		805	155	82	18	27	1,087
– impairment of GPB – Europe goodwill		—	—	—	3,240	—	3,240
– settlements and provisions in connection with legal and regulatory matters		—	—	94	341	590	1,025
– currency translation on significant items		48	5	3	4	(12)	48
Adjusted		(12,144)	(5,747)	(8,846)	(1,484)	(1,926)	(30,147)
Share of profit in associates and joint ventures							
Reported		20	—	—	—	2,334	2,354
Currency translation		—	—	—	—	10	10
Significant items		—	—	—	—	1	1
– disposals, acquisitions and investment in new businesses		—	—	—	—	1	1
– currency translation on significant items		—	—	—	—	—	—
Adjusted		20	—	—	—	2,345	2,365
Profit/(loss) before tax							
Reported		4,587	6,046	5,440	(3,328)	(5,633)	7,112
Currency translation		(92)	(135)	(78)	(6)	(97)	(408)
Significant items		763	12	138	3,620	7,669	12,202
– revenue		(1,481)	(535)	(317)	11	4,419	2,097
– LICs		499	290	15	—	—	804
– operating expenses		1,745	257	440	3,609	3,249	9,300
– share of profit in associates and joint ventures		—	—	—	—	1	1
Adjusted		5,258	5,923	5,500	286	1,939	18,906
Loans and advances to customers (net)							
Reported		306,056	281,930	225,855	35,456	12,207	861,504
Currency translation		6,337	3,323	4,316	766	124	14,866
Adjusted		312,393	285,253	230,171	36,222	12,331	876,370
Customer accounts							
Reported		590,502	341,729	256,095	69,850	14,210	1,272,386
Currency translation		5,263	5,017	5,854	1,539	134	17,807
Adjusted		595,765	346,746	261,949	71,389	14,344	1,290,193

For footnotes, see page 89.

Reconciliation of reported and adjusted risk-weighted assets

	Footnotes	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
		At 31 Dec 2018					
		$bn	**$bn**	**$bn**	**$bn**	**$bn**	**$bn**
Risk-weighted assets							
Reported		**126.9**	**321.2**	**281.0**	**16.8**	**119.4**	**865.3**
Disposals		**—**	**—**	**—**	**—**	**(0.8)**	**(0.8)**
– operations in Brazil		**—**	**—**	**—**	**—**	**(0.8)**	**(0.8)**
Adjusted	64	**126.9**	**321.2**	**281.0**	**16.8**	**118.6**	**864.5**
		At 31 Dec 2017					
Risk-weighted assets							
Reported		121.5	301.0	299.3	16.0	133.5	871.3
Currency translation		(3.4)	(11.2)	(6.1)	(0.2)	(2.0)	(22.9)
Disposals		—	—	—	—	(2.7)	(2.7)
– operations in Brazil		—	—	—	—	(2.6)	(2.6)
– operations in Lebanon		—	—	—	—	(0.1)	(0.1)
Adjusted	64	118.1	289.8	293.2	15.8	128.8	845.7
		At 31 Dec 2016					
Risk-weighted assets							
Reported		115.1	275.9	300.4	15.3	150.5	857.2
Currency translation		(0.1)	2.2	2.0	0.1	(0.1)	4.1
Disposals		(3.4)	(1.4)	(0.7)	—	(0.7)	(6.2)
– operations in Brazil		(3.2)	(1.0)	(0.7)	—	(0.2)	(5.1)
– operations in Lebanon		(0.2)	(0.4)	—	—	(0.5)	(1.1)
Adjusted	64	111.6	276.7	301.7	15.4	149.7	855.1

For footnotes, see page 89.

Retail Banking and Wealth Management

2018 compared with 2017

Adjusted profit before tax of $7.1bn was $0.6bn or 9% higher, reflecting revenue growth, partly offset by higher operating expenses.

Adjusted revenue of $21.9bn was $1.7bn or 8% higher, with an increase in Retail Banking partly offset by Wealth Management. Revenue growth was strong in Hong Kong and the UK in particular, with notable increases in India and mainland China, and in our Latin American markets.

In Retail Banking, revenue was up $1.8bn or 13%. This reflected improved deposit margins from rising interest rates, together with deposit balance growth of $21bn or 3% and lending balance growth of $31bn or 9%. These factors were partly offset by mortgage margin compression from higher funding costs, primarily in Hong Kong and the UK.

In Wealth Management, revenue was down $0.1bn or 2% due to net adverse movements in market impacts of $0.6bn in life insurance manufacturing. In Wealth Management:

– life insurance manufacturing revenue decreased by $0.2bn or 11%, reflecting adverse movements in market impacts of $0.3bn in 2018, compared with a favourable movement of $0.3bn in 2017. This was partly offset by growth in the value of new business written ($0.2bn) and favourable actuarial assumption changes and experience variances ($0.2bn); and

– investment distribution revenue increased by $0.1bn due to higher sales of insurance products and bonds. Revenue from the sale of equity and mutual funds was stable as strong trading conditions in the first half of the year were offset by a slowdown in the second half of the year.

In 2018, the credit quality of our loan portfolio remained stable at 34 basis points of average gross loans. Adjusted expected credit losses and other credit impairment charges ('ECL') of $1.2bn mainly related to charges in Mexico, the UK and Asia, notably against unsecured lending. In the UK, ECL also included charges related to the current economic uncertainty. This compared with adjusted LICs of $1.0bn in 2017, notably related to charges in Mexico, the UK and Hong Kong against unsecured lending balances.

Adjusted operating expenses of $13.7bn were $0.9bn or 7% higher. This primarily reflected a $0.6bn increase relating to investments, including $0.4bn in marketing and digital capabilities to help deliver improved customer service, and $0.1bn in staff to support business growth, particularly in the UK, Hong Kong, mainland China (including the Pearl River Delta) and the US.

2017 compared with 2016

Adjusted profit before tax of $6.5bn was $1.2bn or 23% higher. This reflected strong revenue growth, notably in net interest income from deposits, and an increase in Wealth Management, as well as lower LICs. This was partly offset by higher operating expenses.

Adjusted revenue of $20.2bn was $1.7bn or 9% higher, reflecting:

Higher revenue in Retail Banking (up $0.8bn or 6% to $13.5bn):

- Growth in revenue from current accounts, savings and deposits (up $1.1bn to $6.3bn) from higher net interest income due to wider spreads and higher balances, primarily in Hong Kong and also in the US and Mexico.

This was partly offset by:

- Lower personal lending revenue (down $0.3bn to $7.2bn), reflecting mortgage spread compression, primarily in Hong Kong, mainland China and the US. This was partly offset by lending growth of $19.9bn, notably driven by mortgages in the UK and Hong Kong, where we grew our market share.

Higher revenue in Wealth Management (up $1.0bn or 19% to $6.2bn):

- Growth in insurance manufacturing revenue (up $0.5bn to $1.9bn) was a significant factor in the rise in other income. This included favourable movements in market impacts of $0.3bn in 2017 compared with adverse movements of $0.4bn in 2016, due to interest rate and equity market movements, notably in Asia and France, and to a lesser extent higher insurance sales in Asia.
- Higher investment distribution revenue (up $0.4bn to $3.3bn), driven by an increase in fee income, primarily from higher sales of mutual funds and retail securities in Hong Kong, reflecting increased investor confidence.

Adjusted LICs of $1.0bn were $0.1bn or 12% lower, reflecting reductions in Turkey and the US as credit quality improved. This was partly offset in Mexico where higher LICs reflected targeted growth in unsecured lending and associated higher delinquency rates. In the UK, LICs were marginally higher, but remained at very low levels (10bps of the portfolio) as higher LICs relating to mortgages and unsecured lending were partly offset by a release from the sale of a loan portfolio.

Adjusted operating expenses of $12.8bn were $0.6bn or 5% higher, mainly due to investment in growth initiatives, notably in retail business banking, in our international proposition as we introduced new products and services, and in mainland China. Transformational and other cost savings partly offset inflation and higher performance-related pay.

Supplementary tables for RBWM

A breakdown of RBWM by business unit is presented below to reflect the basis of how the revenue performance of the business units is assessed and managed.

RBWM – adjusted profit before tax data

	Footnotes		Consists of		
		Total RBWM	Banking operations	Insurance manufacturing	Asset management
		$m	$m	$m	$m
Year ended 31 Dec 2018					
Net operating income before change in expected credit losses and other credit impairment charges	26	**21,935**	**19,053**	**1,816**	**1,066**
– net interest income		**15,822**	**13,759**	**2,063**	**–**
– net fee income/(expense)		**5,198**	**4,723**	**(579)**	**1,054**
– other income		**915**	**571**	**332**	**12**
ECL		**(1,177)**	**(1,175)**	**(2)**	**–**
Net operating income		**20,758**	**17,878**	**1,814**	**1,066**
Total operating expenses		**(13,711)**	**(12,517)**	**(472)**	**(722)**
Operating profit		**7,047**	**5,361**	**1,342**	**344**
Share of profit in associates and joint ventures		**33**	**2**	**31**	**–**
Profit before tax		**7,080**	**5,363**	**1,373**	**344**
Year ended 31 Dec 2017					
Net operating income before loan impairment charges and other credit risk provisions	26	20,220	17,182	1,971	1,067
– net interest income		13,927	11,914	2,013	–
– net fee income/(expense)		5,150	4,628	(498)	1,020
– other income		1,143	640	456	47
LICs		(969)	(969)	–	–
Net operating income		19,251	16,213	1,971	1,067
Total operating expenses		(12,786)	(11,681)	(403)	(702)
Operating profit		6,465	4,532	1,568	365
Share of profit in associates and joint ventures		14	4	10	–
Profit before tax		6,479	4,536	1,578	365

For footnotes, see page 89.

RBWM insurance manufacturing adjusted revenue of $1,816m (2017: $1,971m) was disclosed within the management view of adjusted revenue on page 18, as follows: Wealth Management $1,656m (2017: $1,870m) and Other $160m (2017: $101m).

RBWM Insurance manufacturing adjusted results

The following table shows the results of our insurance manufacturing operations by income statement line item. It shows the results of insurance manufacturing operations for RBWM and for all global business segments in aggregate, and separately the insurance distribution income earned by HSBC bank channels.

Adjusted results of insurance manufacturing operations and insurance distribution income earned by HSBC bank channels[67]

		2018		2017	
		RBWM	**All global businesses**	RBWM	All global businesses
	Footnotes	**$m**	**$m**	$m	$m
Net interest income		**2,063**	**2,227**	2,013	2,193
Net fee income		**(579)**	**(567)**	(498)	(485)
– fee income		**182**	**275**	233	330
– fee expense		**(761)**	**(842)**	(731)	(815)
Net income from financial instruments held for trading or managed on a fair value basis		**216**	**204**	(37)	13
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss		**(1,562)**	**(1,578)**	2,878	2,837
Gains less losses from financial investments		**59**	**58**	23	31
Net insurance premium income		**10,235**	**10,716**	9,470	9,895
Other operating income		**712**	**766**	61	97
Of which: PVIF		***640***	***681***	*11*	*21*
Total operating income		**11,144**	**11,826**	13,910	14,581
Net insurance claims and benefits paid and movement in liabilities to policyholders		**(9,328)**	**(9,786)**	(11,939)	(12,391)
Net operating income before change in expected credit losses and other credit impairment charges		**1,816**	**2,040**	1,971	2,190
Change in expected credit losses and other credit impairment charges		**(2)**	**(2)**	—	—
Net operating income		**1,814**	**2,038**	1,971	2,190
Total operating expenses		**(472)**	**(491)**	(403)	(434)
Operating profit		**1,342**	**1,547**	1,568	1,756
Share of profit in associates and joint ventures		**31**	**31**	10	10
Profit before tax of insurance manufacturing operations	68	**1,373**	**1,578**	1,578	1,766
Annualised new business premiums of insurance manufacturing operations		**3,173**	**3,252**	2,666	2,725
Insurance distribution income earned by HSBC bank channels		**945**	**1,067**	908	1,033

For footnotes, see page 89.

Insurance manufacturing

The following commentary, unless otherwise specified, relates to the 'All global businesses' results.

HSBC recognises the present value of long-term in-force insurance contracts and investment contracts with discretionary participation features ('PVIF') as an asset on the balance sheet. The overall balance sheet equity, including PVIF, is therefore a measure of the embedded value in the insurance manufacturing entities, and the movement in this embedded value in the period drives the overall income statement result.

Adjusted profit before tax of $1.6bn decreased by $0.2bn or 11%. This was mainly due to adverse market impacts of $0.3bn in 2018, which primarily reflected unfavourable equity market performance. This compared with favourable market impacts of $0.3bn in 2017. This reduction was partly offset by a $0.2bn increase in the value of new business written, as well as favourable actuarial assumptions and methodology updates of $0.1bn (2017: $0.1bn adverse).

Adjusted revenue was $0.2bn or 6.8% lower than 2017. This reflected the following:

- 'Net expense from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss' of $1.6bn in 2018 compared with net income of $2.8bn in 2017, due to unfavourable equity market performance in Hong Kong and France in 2018 compared with 2017, resulting in revaluation losses on equity and unit trust assets supporting insurance and investment contracts. This negative movement resulted in a corresponding movement in liabilities to policyholders and PVIF (see 'Other operating income' below), reflecting the extent to which policyholders participate in the investment performance of the associated asset portfolio.
- Net insurance premium income of $10.7bn was $0.8bn higher. This was driven by higher new business volumes, particularly in Hong Kong and France, and lower reinsurance ceded in Hong Kong.
- Other operating income of $0.8bn increased by $0.7bn, mainly from favourable movements in PVIF. This reflected an increase in 'assumption changes and experience variances' of $0.6bn, primarily in Hong Kong, from the future sharing of investment returns with policyholders. In addition, the value of new business written increased by $0.2bn to $1.1bn. For further details, please see Note 21 on the Financial Statements.
- Net insurance claims and benefits paid and movement in liabilities to policyholders of $9.8bn were $2.6bn lower than 2017. This was primarily due to lower returns on financial assets supporting contracts where the policyholder is subject to part or all of the investment risk, partly offset by the impact of higher new business volumes in Hong Kong and France, and lower reinsurance ceded in Hong Kong.

Adjusted operating expenses of $0.5bn increased by $0.1bn or 13% compared with 2017, reflecting investment in core insurance functions and capabilities.

Annualised new business premiums ('ANP') is used to assess new insurance premium generation by the business. It is calculated as 100% of annualised first year regular premiums and 10% of single premiums, before reinsurance ceded. Growth in ANP during the period reflected new business growth, mainly in Hong Kong.

Insurance distribution income from HSBC channels included $663m (2017: $642m) on HSBC manufactured products, for which a corresponding fee expense is recognised within insurance manufacturing, and $404m (2017: $391m) products manufactured by third-party providers. The RBWM component of this distribution income was $588m (2017: $571m) from HSBC manufactured products and $357m (2017: $337m) from third-party products.

Commercial Banking

2018 compared with 2017

Adjusted profit before tax of $7.7bn was $0.8bn or 12% higher, driven by increased revenue, partly offset by higher operating expenses. ECL of $0.7bn in 2018 compared with LICs of $0.5bn in 2017.

Adjusted revenue of $14.9bn was $1.6bn or 12% higher with increases in all products, most notably Global Liquidity and Cash Management ('GLCM').

– In GLCM, revenue was $1.0bn or 22% higher, with growth across all regions. The increase was mainly in Hong Kong from wider margins, and in the UK from wider margins and average balance sheet growth. In Credit and Lending ('C&L'), revenue growth of $0.2bn or 5% reflected average balance sheet growth in the UK and Hong Kong, partly offset by margin compression. In addition, revenue increased by $44m or 2% in Global Trade and Receivables Finance ('GTRF') despite challenging market conditions, with growth reflecting higher average balances in Asia and the UK.

– Revenue growth was primarily in Asia (up 18%), mainly from increases in Hong Kong (up 21%) and mainland China (up 22%), as well as in the UK (up 10%). There was also notable revenue growth in the US (up 7%), Canada (up 8%), Latin America (up 20%) and Middle East and North Africa ('MENA') (up 5%).

– Corporate customer value from our international subsidiary banking proposition grew by 19%*.

Adjusted ECL were $0.7bn in 2018, reflecting charges across most regions, including a charge in the UK related to uncertainty in the economic outlook, partly offset by releases in North America. This compared with adjusted LICs of $0.5bn in 2017, which reflected charges in Asia, the UK, Mexico and the UAE, partly offset by net releases in North America.

Adjusted operating expenses of $6.5bn were $0.5bn or 9% higher, reflecting increased staff costs (up $0.2bn), including higher performance-related pay. In addition, we continued to increase our investment in digital capabilities (up $0.1bn), improvements in operational efficiency and customer experience, as well as regulatory and compliance.

* *Analysis relates to corporate client income, which includes total income from GB&M synergy products, including foreign exchange and debt capital markets. This measure differs from reported revenue in that it excludes Business Banking and Other and internal cost of funds.*

2017 compared with 2016

Adjusted profit before tax of $6.8bn was $0.9bn or 15% higher, reflecting higher revenue and lower LICs. This was partly offset by an increase in operating expenses.

Adjusted revenue of $13.2bn was $0.6bn or 5% higher, notably in net interest income, as strong growth in GLCM and increased revenue in C&L were partly offset by a reduction in GTRF revenue.

- In GLCM, revenue increased by $526m or 12% to $4.8bn, notably in Hong Kong and mainland China, as higher net interest income reflected wider spreads. Average balances grew 5%, reflecting customer deposit retention and new customer acquisitions. In the UK, average balance sheet growth of 10% was more than offset by narrower spreads due to the impact of the base rate reduction in 2016.
- In C&L, revenue increased by $48m or 1% to $5.1bn. In the UK, net interest income increased as lending growth more than offset narrower spreads. By contrast, revenue in Asia was lower, mainly driven by lower net interest income, as balance growth in Hong Kong was more than offset by the effects of spread compression in Hong Kong and mainland China, in part reflecting competitive pressures. Revenue in the US was lower, as we repositioned the portfolio towards higher returns.
- In GTRF, revenue was $12m or 1% lower at $1.8bn, representing a stabilisation in performance following a challenging 2016. Notably, revenue increased in both Asia and the UK, reflecting balance sheet growth. However, this was more than offset by a reduction in revenue in MENA, reflecting the effect of managed customer exits in the UAE.

Adjusted LICs of $0.5bn were $0.5bn or 53% lower, notably in North America and the UK, primarily related to exposures in the oil and gas sectors, and were also lower in France and Spain. In Asia, lower LICs in Singapore and mainland China were largely offset by higher LICs in Hong Kong, across various sectors.

Adjusted operating expenses of $6.0bn were $0.2bn or 4% higher. This reflected our continued investment in Global Standards and digital capabilities, as well as inflation. This was partly offset by a reduction from our cost-saving initiatives.

Global Banking and Markets

2018 compared with 2017

Adjusted profit before tax of $6.1bn was $0.2bn or 4% higher, reflecting increased revenue and a $26m release of ECL in 2018, compared with LICs of $0.4bn in 2017. This was partly offset by higher operating expenses as we continued to invest in the business. We have continued to deliver risk-weighted asset ('RWA') savings, with net reductions of 4% ($12bn), including savings from management initiatives of $30bn during 2018. This reduction was partly offset by targeted lending growth.

With effect from the fourth quarter of 2018, interest earned on capital deployed, which was previously disclosed within 'Other' revenue, has been allocated to product lines. The 2017 comparatives have been re-presented on the new basis, with no effect on total adjusted revenue.

Adjusted revenue of $15.5bn was $0.2bn or 1% higher, and included a net favourable movement of $0.1bn on credit and funding valuation adjustments. The increase in revenue primarily reflected the strength of our transaction banking franchises, which more than offset the effects of economic uncertainty and reduced client activity.

– GLCM recorded double-digit growth (up $0.4bn or 20%) as we increased average balances by 4% through continued momentum in winning client mandates, and from favourable interest rate movements, notably in Asia.

– Securities Services revenue rose $0.2bn or 11% as we grew average assets under management and average assets under custody from increased client mandates, growth in equity markets early in 2018, and higher interest rates.

– Global Banking revenue increased $67m or 2% as growth in secured lending balances, gains on corporate lending restructuring and lower adverse movements on portfolio hedges were partly offset in our capital markets businesses, due to challenging market conditions and narrower spreads.

– GTRF revenue grew by 7% as we grew average lending balances while also reducing RWAs.

This was partly offset by the following:

– Global Markets revenue decreased by $0.5bn or 7% as economic uncertainty and reduced primary issuance led to subdued client activity and spread compression, which resulted in lower revenue in Rates (down $0.7bn or 31%) and Credit (down $0.2bn or 19%). This was partly offset by higher revenue in Foreign Exchange (up $0.4bn or 15%), from increased volatility in emerging markets.

– Principal Investments revenue fell by $0.1bn or 31% from lower gains on mark-to-market revaluation of investments, and on asset sales, compared with 2017.

Net adjusted ECL releases of $26m in 2018 related to releases against a small number of clients in the US and Europe, notably in the oil and gas sector, partly offset by charges in the UK against exposures in the retail and construction sectors.

In 2017, adjusted LICs of $0.4bn were primarily against two large corporate exposures in Europe.

Adjusted operating expenses increased $0.5bn or 5%, as cost-saving initiatives were more than offset by investment in business growth and efficiency initiatives, and in regulatory programmes. We also incurred higher revenue-related taxes and costs.

2017 compared with 2016

Adjusted profit before tax of $5.8bn was $0.3bn or 6% higher, reflecting a strong revenue performance, partly offset by higher operating expenses.

With effect from 4Q18, interest earned on capital deployed previously disclosed within 'Other' revenue has been allocated to product lines. The 2017 figures have been presented on the new basis, with no effect on the total adjusted revenue. The 2016 figures have not been re-presented.

Adjusted revenue of $15.3bn was $0.5bn or 3% higher, with growth in all of our businesses. The increase included a net adverse movement of $0.2bn on credit and funding valuation adjustments. Excluding these movements, adjusted revenue increased by $0.7bn or 5%. The increase in revenue primarily reflected the following:

- Revenue growth in all of our transaction banking products, notably GLCM (up $0.3bn to $2.2bn) and Securities Services (up $0.2bn to $1.8bn). These increases reflected continued momentum as we won and retained client mandates, and benefited from higher interest rates, particularly in Asia and the US.
- Global Markets revenue of $7.0bn was $0.3bn higher. This was achieved despite lower volatility in 2017, compared with more robust trading conditions in 2016, and reflected an increase of $0.2bn in 2017 from the reallocation of the interest earned on capital deployed. In Equities revenue increased by $0.3bn to $1.3bn, as we continued to capture market share from Prime Financing products. This was partly offset by Foreign Exchange, where revenue decreased by $0.2bn, reflecting lower volatility and subdued trading conditions.
- Global Banking revenue was higher than 2016 (up $0.2bn to $4.0bn), reflecting higher lending balances and continued momentum in investment banking products, which broadly offset the effects of tightening spreads on lending in Asia. The remaining increase of $0.2bn was due to the reallocation of the interest earned on capital deployed.

Adjusted LICs of $0.4bn were broadly unchanged from the prior year. LICs in 2017 related to two large corporate exposures in Europe, compared with 2016, which included a small number of individually assessed LICs, notably on exposures in the oil and gas, and mining sectors in the US.

Adjusted operating expenses increased by $0.1bn or 2% to $9.0bn, reflecting higher performance-related pay, pension and severance costs. Our continued cost management and efficiency improvements, and savings from technology investments, broadly offset the effects of inflation.

Global Private Banking

2018 compared with 2017

Adjusted profit before tax of $344m was $48m or 16% higher, reflecting revenue growth and a net release of ECL, partly offset by higher operating expenses.

Adjusted revenue of $1.8bn increased by $62m or 4%, mainly in Hong Kong from higher deposit revenue as margins widened following interest rate rises, and from higher investment revenue from strong mandate flows. Other income decreased including lower revenue following client repositioning.

In 2018, there was a net release of adjusted ECL of $8m. This compared with adjusted LICs of $16m in 2017.

Adjusted operating expenses of $1.4bn were $38m or 3% higher, due to higher staff costs reflecting investment to support growth, mainly in Asia.

We had net new money inflows of $15bn in key markets targeted for growth, of which almost 60% was from collaboration with our other global businesses.

2017 compared with 2016

Adjusted profit before tax of $296m was $10m or 3% higher as a reduction in operating expenses was partly offset by lower revenue.

Adjusted revenue of $1.7bn was $47m or 3% lower, mainly due to a reduction in net trading income and net fee income, reflecting the continued impact of client repositioning. Revenue from the markets targeted for growth increased by 10%. This was mainly in Hong Kong, due to growth in investment fee income reflecting increased client activity, and higher net interest income from deposits reflecting wider spreads.

Adjusted LICs of $16m in 2017 primarily related to a single client in the UK.

Adjusted operating expenses of $1.4bn were $73m or 5% lower, mainly as a result of a managed reduction in FTEs and the impact of our cost-saving initiatives.

In 2017, net new money inflows of $15bn in key markets targeted for growth, especially in Hong Kong, were offset by outflows resulting from the repositioning of the business.

For GPB, a key measure of business performance is client assets, which is presented below.

GPB – reported client assets[69]

	2018 $bn	2017 $bn	2016 $bn
At 1 Jan	**330**	298	349
Net new money	**10**	–	(17)
– *of which: areas targeted for growth*	***15***	*15*	*2*
Value change	**(17)**	21	(1)
Disposals	**–**	(10)	(24)
Exchange and other	**(14)**	21	(9)
At 31 Dec	**309**	330	298

GPB – reported client assets by geography

	Footnotes	2018 $bn	2017 $bn	2016 $bn
Europe		**149**	161	147
Asia		**124**	130	108
North America		**36**	39	40
Latin America		**–**	–	3
Middle East	*70*	**–**	–	–
At 31 Dec		**309**	330	298

For footnotes, see page 89.

Corporate Centre

2018 compared with 2017

Adjusted profit before tax of $0.5bn was $1.1bn or 67% lower, reflecting lower revenue and higher ECL, partly offset by lower operating expenses.

We recorded negative adjusted revenue of $0.2bn in 2018 compared with adjusted revenue of $1.2bn in 2017. This reduction reflected lower revenue in Central Treasury and legacy portfolios, and a reduction in Other income.

Central Treasury revenue was $1.1bn lower, reflecting:

– higher interest expense on debt issued by HSBC Holdings (up $0.4bn), from an increase in issuances and higher average cost of debt issued;

– lower revenue in BSM (down $0.3bn), mainly from de-risking activities undertaken during 2017 in anticipation of interest rate rises, lower reinvestment yields and lower gains on disposals;

– adverse fair value movements of $0.3bn in 2018 compared with favourable movements of $0.1bn in 2017, relating to the economic hedging of interest rate and exchange rate risk on our long-term debt with long-term derivatives; and

– a $0.2bn loss arising from adverse swap mark-to-market movements following a bond reclassification under IFRS 9 'Financial Instruments'.

Revenue from legacy portfolios was down $0.1bn, reflecting losses on disposals.

Other income decreased by $0.2bn, mainly from the adverse effects of hyperinflation accounting in Argentina.

Adjusted ECL releases of $0.1bn in 2018 and net adjusted LICs releases of $0.2bn in 2017 were both primarily related to our legacy credit portfolio.

Adjusted operating expenses of $1.9bn were $0.2bn or 9% lower due to the favourable impact of hyperinflation accounting in Argentina and lower costs in relation to the run-off of the CML portfolio, which was completed during 2017.

Adjusted income from associates increased by $0.1bn or 4%. Our associate, The Saudi British Bank, announced a merger agreement with Alawwal Bank in Saudi Arabia. The merger, subject to shareholder and regulatory approval, is expected to be completed in 2019 and would dilute HSBC's shareholding in the merged bank from 40% to 29.2%.

2017 compared with 2016

Adjusted profit before tax of $1.7bn was $0.3bn or 13% lower, reflecting lower revenue and higher operating expenses, partly offset by a fall in LICs.

Adjusted revenue fell by $0.4bn or 23% to $1.2bn. In Central Treasury revenue was broadly unchanged (up $22m), due to:

- favourable fair value movements relating to the economic hedging of interest and exchange rate risk on our long-term debt with long-term derivatives of $0.1bn, compared with adverse movements of $0.3bn in 2016; partly offset by:
- higher interest on our debt (up $0.2bn), mainly from higher costs of debt issued to meet regulatory requirements; and
- a reduction in revenue in BSM ($0.3bn) reflecting lower yield rates and increased utilisation of the Group's surplus liquidity by the global businesses.

Other income decreased by $0.3bn, mainly due to a decrease related to the US run-off portfolio with respect to the disposal of the remaining loan portfolio during 2017.

Net adjusted loan impairment releases of $183m compared with adjusted LICs of $24m in 2016. This reflected lower LICs in the US run-off portfolio, and higher net releases related to our legacy credit portfolio.

Adjusted operating expenses of $2.1bn were $0.2bn or 9% higher due to investment in regulatory programmes and compliance, partly offset by lower US run-off portfolio costs.

Adjusted income from associates rose by $57m or 2%.

Analysis of reported results by geographical regions

HSBC reported profit/(loss) before tax and balance sheet data

		2018						
		Europe	Asia	MENA	North America	Latin America	Intra-HSBC items	Total
	Footnotes	$m	$m	$m	$m	$m	$m	$m
Net interest income		6,841	16,108	1,763	3,521	2,020	236	30,489
Net fee income		3,996	5,676	607	1,854	498	(11)	12,620
Net income from financial instruments held for trading or managed on a fair value basis		3,942	4,134	285	728	736	(294)	9,531
Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit and loss		(789)	(717)	—	—	18	—	(1,488)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		601	(26)	(1)	36	27	58	695
Other income	71	3,113	3,609	33	586	(237)	(5,171)	1,933
Net operating income before change in expected credit losses and other credit impairment charges/recoveries	26	17,704	28,784	2,687	6,725	3,062	(5,182)	53,780
Change in expected credit losses and other credit impairment charges/recoveries		(609)	(602)	(209)	223	(570)	—	(1,767)
Net operating income		17,095	28,182	2,478	6,948	2,492	(5,182)	52,013
Total operating expenses		(17,934)	(12,466)	(1,357)	(6,149)	(1,935)	5,182	(34,659)
Operating profit/(loss)		(839)	15,716	1,121	799	557	—	17,354
Share of profit in associates and joint ventures		24	2,074	436	—	2	—	2,536
Profit/(loss) before tax		(815)	17,790	1,557	799	559	—	19,890
		%	%	%	%	%		%
Share of HSBC's profit before tax		(4.1)	89.5	7.8	4.0	2.8		100.0
Cost efficiency ratio		101.3	43.3	50.5	91.4	63.2		64.4
Balance sheet data		$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		373,073	450,545	28,824	108,146	21,108	—	981,696
Total assets		1,150,235	1,047,636	57,455	390,410	51,923	(139,535)	2,558,124
Customer accounts		503,154	664,824	35,408	133,291	25,966	—	1,362,643
Risk-weighted assets	72	298,056	363,894	56,689	131,582	38,341	—	865,318

For footnotes, see page 67.

HSBC reported profit/(loss) before tax and balance sheet data (continued)

		2017						
		Europe	Asia	MENA	North America	Latin America	Intra-HSBC items	Total
	Footnotes	$m	$m	$m	$m	$m	$m	$m
Net interest income		6,970	14,153	1,752	3,441	2,098	(238)	28,176
Net fee income		4,161	5,631	619	1,880	520	—	12,811
Net income from financial instruments held for trading or managed on a fair value basis	44, 45	4,066	2,929	180	527	486	238	8,426
Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit and loss		769	2,003	—	—	64	—	2,836
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other income/(expense)	45, 71	1,454	1,090	109	865	57	(4,379)	(804)
Net operating income before loan impairment charges and other credit risk provisions	26	17,420	25,806	2,660	6,713	3,225	(4,379)	51,445
Loan impairment charges and other credit risk provisions		(658)	(570)	(207)	189	(523)	—	(1,769)
Net operating income		16,762	25,236	2,453	6,902	2,702	(4,379)	49,676
Total operating expenses		(18,665)	(11,790)	(1,394)	(5,305)	(2,109)	4,379	(34,884)
Operating profit/(loss)		(1,903)	13,446	1,059	1,597	593	—	14,792
Share of profit/(loss) in associates and joint ventures		39	1,883	442	4	7	—	2,375
Profit/(loss) before tax		(1,864)	15,329	1,501	1,601	600	—	17,167
		%	%	%	%	%		%
Share of HSBC's profit before tax		(10.8)	89.3	8.7	9.3	3.5		100.0
Cost efficiency ratio		107.1	45.7	52.4	79.0	65.4		67.8
Balance sheet data		$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		381,547	425,971	28,050	107,607	19,789	—	962,964
Total assets		1,169,515	1,008,498	57,469	391,292	48,413	(153,416)	2,521,771
Customer accounts		505,182	657,395	34,658	143,432	23,795	—	1,364,462
Risk-weighted assets	72	311,612	357,808	59,196	131,276	36,372	—	871,337

		2016						
Net interest income		8,346	12,490	1,831	4,220	3,006	(80)	29,813
Net fee income		4,247	5,200	709	1,898	723	—	12,777
Net income from financial instruments held for trading or managed on a fair value basis	44, 45	3,018	3,127	385	462	449	80	7,521
Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit and loss		454	445	—	—	363	—	1,262
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other income	45, 71	(549)	2,058	44	485	(1,855)	(3,590)	(3,407)
Net operating income before loan impairment charges and other credit risk provisions	26	15,516	23,320	2,969	7,065	2,686	(3,590)	47,966
Loan impairment charges and other credit risk provisions		(446)	(677)	(316)	(732)	(1,229)	—	(3,400)
Net operating income		15,070	22,643	2,653	6,333	1,457	(3,590)	44,566
Total operating expenses		(21,845)	(10,785)	(1,584)	(6,147)	(3,037)	3,590	(39,808)
Operating profit		(6,775)	11,858	1,069	186	(1,580)	—	4,758
Share of profit/(loss) in associates and joint ventures		1	1,921	434	(1)	(1)	—	2,354
Profit before tax		(6,774)	13,779	1,503	185	(1,581)	—	7,112
		%	%	%	%	%		%
Share of HSBC's profit before tax		(95.2)	193.7	21.1	2.6	(22.2)		100.0
Cost efficiency ratio		140.8	46.2	53.4	87.0	113.1		83.0
Balance sheet data		$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		336,670	365,430	30,740	111,710	16,954	—	861,504
Total assets		1,068,446	965,730	60,472	409,021	43,137	(171,820)	2,374,986
Customer accounts		446,615	631,723	34,766	138,790	20,492	—	1,272,386
Risk-weighted assets	72	298,384	333,987	59,065	150,714	34,341	—	857,181

For footnotes, see page 89.

Reconciliation of reported and adjusted items – geographical regions

Reconciliation of reported and adjusted items

		2018					
		Europe	Asia	MENA	North America*	Latin America[†]	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Revenue	26						
Reported	73	17,704	28,784	2,687	6,725	3,062	53,780
Significant items		98	(38)	(1)	95	6	160
– customer redress programmes		(53)	–	–	–	–	(53)
– disposals, acquisitions and investment in new businesses		(5)	–	–	103	15	113
– fair value movements on financial instruments	65	156	(38)	(1)	(8)	(9)	100
Adjusted	73	17,802	28,746	2,686	6,820	3,068	53,940
Change in expected credit losses and other credit impairment charges							
Reported		(609)	(602)	(209)	223	(570)	(1,767)
Adjusted		(609)	(602)	(209)	223	(570)	(1,767)
Operating expenses							
Reported	73	(17,934)	(12,466)	(1,357)	(6,149)	(1,935)	(34,659)
Significant items		677	16	–	976	–	1,669
– costs of structural reform		352	9	–	–	–	361
– customer redress programmes		146	–	–	–	–	146
– disposals, acquisitions and investment in new businesses		52	–	–	–	–	52
– past service costs of guaranteed minimum pension benefits equalisation		228	–	–	–	–	228
– restructuring and other related costs		46	7	–	13	–	66
– settlements and provisions in connection with legal and regulatory matters		(147)	–	–	963	–	816
Adjusted	73	(17,257)	(12,450)	(1,357)	(5,173)	(1,935)	(32,990)
Share of profit in associates and joint ventures							
Reported		24	2,074	436	–	2	2,536
Adjusted		24	2,074	436	–	2	2,536
Profit/(loss) before tax							
Reported		(815)	17,790	1,557	799	559	19,890
Significant items		775	(22)	(1)	1,071	6	1,829
– revenue		98	(38)	(1)	95	6	160
– operating expenses		677	16	–	976	–	1,669
Adjusted	74	(40)	17,768	1,556	1,870	565	21,719
Loans and advances to customers (net)							
Reported		373,073	450,545	28,824	108,146	21,108	981,696
Adjusted		373,073	450,545	28,824	108,146	21,108	981,696
Customer accounts							
Reported		503,154	664,824	35,408	133,291	25,966	1,362,643
Adjusted		503,154	664,824	35,408	133,291	25,966	1,362,643

For footnotes, see page 89.

Reconciliation of reported and adjusted items (continued)

	Footnotes	2018 UK $m	Hong Kong $m	Mainland China $m	US* $m	Mexico† $m
Revenue	26					
Reported		13,597	18,231	2,888	4,741	2,294
Significant items		109	5	(1)	97	(7)
– customer redress programmes		(53)	–	–	–	–
– disposals, acquisitions and investment in new businesses		–	–	–	103	–
– fair value movements on financial instruments	65	162	5	(1)	(6)	(7)
Adjusted		13,706	18,236	2,887	4,838	2,287
Change in expected credit losses and other credit impairment charges						
Reported		(516)	(214)	(143)	199	(463)
Adjusted		(516)	(214)	(143)	199	(463)
Operating expenses						
Reported		(14,502)	(6,539)	(1,920)	(4,987)	(1,303)
Significant items		531	16	–	919	–
– costs of structural reform		294	9	–	–	–
– customer redress programmes		146	–	–	–	–
– disposals, acquisitions and investment in new businesses		–	–	–	–	–
– past service costs of guaranteed minimum pension benefits equalisation		228	–	–	–	–
– restructuring and other related costs		39	7	–	11	–
– settlements and provisions in connection with legal and regulatory matters		(176)	–	–	908	–
Adjusted		(13,971)	(6,523)	(1,920)	(4,068)	(1,303)
Share of profit in associates and joint ventures						
Reported		25	36	2,033	–	–
Adjusted		25	36	2,033	–	–
Profit/(loss) before tax						
Reported		(1,396)	11,514	2,858	(47)	528
Significant items		640	21	(1)	1,016	(7)
– revenue		109	5	(1)	97	(7)
– operating expenses		531	16	–	919	–
Adjusted		(756)	11,535	2,857	969	521
Loans and advances to customers (net)						
Reported		287,144	290,547	38,979	64,011	17,895
Adjusted		287,144	290,547	38,979	64,011	17,895
Customer accounts						
Reported		399,487	484,897	45,712	82,523	19,936
Adjusted		399,487	484,897	45,712	82,523	19,936

* *Of which US (excluding CML run-off portfolio): adjusted revenue $4,792m (RBWM: $1,200m; CMB: $1,016m; GB&M $1,924m; GPB: $259m); adjusted ECL $199m; adjusted operating expenses $(3,996)m; adjusted profit before tax ('PBT') $996m (RBWM: $(180)m; CMB: $473m; GB&M $618m; GPB: $23m); adjusted RWAs (RBWM: $10.6bn; CMB: $27.8bn; GB&M $45.5bn; GPB: $4.1bn; Corporate Centre: $10.2bn).*

† *Of which Mexico: adjusted revenue $2,287m (RBWM: $1,508m; CMB: $378m; GB&M $321m); adjusted ECL $(463)m; adjusted operating expenses $(1,303)m; adjusted PBT $521m (RBWM: $194m; CMB: $114m; GB&M $189m); adjusted RWAs (RBWM: $7.0bn; CMB: $6.9bn; GB&M $10.6bn; Corporate Centre: $3.0bn).*

For footnotes, see page 89.

Reconciliation of reported and adjusted items (continued)

		2017					
		Europe	Asia	MENA	North America*	Latin America†	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Revenue	26						
Reported	73	17,420	25,806	2,660	6,713	3,225	51,445
Currency translation	73	751	(130)	(75)	—	(403)	133
Significant items		66	123	1	(93)	(14)	83
– customer redress programmes		108	—	—	—	—	108
– disposals, acquisitions and investment in new businesses		(98)	(27)	—	(130)	(19)	(274)
– fair value movements on financial instruments	65	54	148	1	37	5	245
– currency translation on significant items		2	2	—	—	—	4
Adjusted	73	18,237	25,799	2,586	6,620	2,808	51,661
LICs							
Reported		(658)	(570)	(207)	189	(523)	(1,769)
Currency translation		17	5	3	2	29	56
Adjusted		(641)	(565)	(204)	191	(494)	(1,713)
Operating expenses							
Reported	73	(18,665)	(11,790)	(1,394)	(5,305)	(2,109)	(34,884)
Currency translation	73	(565)	65	60	—	287	(143)
Significant items		2,876	634	28	201	57	3,796
– costs of structural reform		420	—	—	—	—	420
– costs to achieve		1,908	623	34	371	66	3,002
– customer redress programmes		655	—	—	—	—	655
– disposals, acquisitions and investment in new businesses		36	—	—	17	—	53
– gain on partial settlement of pension obligation		—	—	—	(188)	—	(188)
– settlements and provisions in connection with legal and regulatory matters		(215)	17	—	—	—	(198)
– currency translation on significant items		72	(6)	(6)	1	(9)	52
Adjusted	73	(16,354)	(11,091)	(1,306)	(5,104)	(1,765)	(31,231)
Share of profit in associates and joint ventures							
Reported		39	1,883	442	4	7	2,375
Currency translation		—	45	—	—	(4)	41
Adjusted		39	1,928	442	4	3	2,416
Profit/(loss) before tax							
Reported		(1,864)	15,329	1,501	1,601	600	17,167
Currency translation		203	(15)	(12)	2	(91)	87
Significant items		2,942	757	29	108	43	3,879
– revenue		66	123	1	(93)	(14)	83
– operating expenses		2,876	634	28	201	57	3,796
Adjusted		1,281	16,071	1,518	1,711	552	21,133
Loans and advances to customers (net)							
Reported		381,547	425,971	28,050	107,607	19,789	962,964
Currency translation		(19,881)	(8,138)	(1,177)	(3,194)	(1,733)	(34,123)
Adjusted		361,666	417,833	26,873	104,413	18,056	928,841
Customer accounts							
Reported		505,182	657,395	34,658	143,432	23,795	1,364,462
Currency translation		(26,838)	(8,991)	(1,112)	(3,619)	(2,273)	(42,833)
Adjusted		478,344	648,404	33,546	139,813	21,522	1,321,629

For footnotes, see page 89.

Reconciliation of reported and adjusted items (continued)

	Footnotes	2017 UK $m	2017 Hong Kong $m	2017 Mainland China $m	2017 US* $m	2017 Mexico† $m
Revenue	26					
Reported		12,922	16,117	2,379	4,876	2,160
Currency translation		550	(91)	58	—	(45)
Significant items		55	(51)	101	(99)	5
– customer redress programmes		108	—	—	—	—
– disposals, acquisitions and investment in new businesses		(78)	(126)	99	(130)	—
– fair value movements on financial instruments	65	24	75	2	31	5
– currency translation on significant items		1	—	—	—	—
Adjusted		13,527	15,975	2,538	4,777	2,120
LICs						
Reported		(492)	(396)	(67)	108	(473)
Currency translation		14	3	(3)	—	9
Adjusted		(478)	(393)	(70)	108	(464)
Operating expenses						
Reported		(15,086)	(6,131)	(1,687)	(4,267)	(1,297)
Currency translation		(424)	34	(35)	—	25
Significant items		2,537	306	71	119	45
– costs of structural reform		410	—	—	—	—
– costs to achieve		1,766	291	69	290	46
– customer redress programmes		655	—	—	—	—
– disposals, acquisitions and investment in new businesses		—	—	—	17	—
– gain on partial settlement of pension obligation		—	—	—	(188)	—
– settlements and provisions in connection with legal and regulatory matters		(362)	17	—	—	—
– currency translation on significant items		68	(2)	2	—	(1)
Adjusted		(12,973)	(5,791)	(1,651)	(4,148)	(1,227)
Share of profit in associates and joint ventures						
Reported		38	8	1,863	—	—
Currency translation		—	—	45	—	—
Adjusted		38	8	1,908	—	—
Profit/(loss) before tax						
Reported		(2,618)	9,598	2,488	717	390
Currency translation		140	(54)	65	—	(11)
Significant items		2,592	255	172	20	50
– revenue		55	(51)	101	(99)	5
– operating expenses		2,537	306	71	119	45
Adjusted		114	9,799	2,725	737	429
Loans and advances to customers (net)						
Reported		295,538	268,966	40,686	65,168	15,172
Currency translation		(16,216)	(582)	(2,194)	—	27
Adjusted		279,322	268,384	38,492	65,168	15,199
Customer accounts						
Reported		401,733	477,104	45,991	89,887	17,809
Currency translation		(22,062)	(1,033)	(2,481)	—	32
Adjusted		379,671	476,071	43,510	89,887	17,841

* *Of which US (excluding CML run-off portfolio): adjusted revenue $4,737m (RBWM: $1,194m; CMB: $947m; GB&M $1,951m; GPB: $317m); adjusted LICs $118m; adjusted operating expenses $(3,936)m; adjusted PBT $920m (RBWM: $(58)m; CMB: $432m; GB&M $527m; GPB: $64m); adjusted RWAs (RBWM: $11.0bn; CMB: $25.1bn; GB&M $45.2bn; GPB: $4.2bn; Corporate Centre: $10.0bn).*

† *Of which Mexico: adjusted revenue $2,120m (RBWM: $1,413m; CMB: $342m; GB&M $277m); adjusted LICs $(464)m; adjusted operating expenses $(1,227)m; adjusted PBT $429m (RBWM: $143m; CMB: $103m; GB&M $158m); adjusted RWAs (RBWM: $7.0bn; CMB: $5.9bn; GB&M $8.3bn; Corporate Centre: $2.8bn).*

For footnotes, see page 89.

Reconciliation of reported and adjusted items (continued)

		2016					
		Europe	Asia	MENA	North America*	Latin America[†]	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Revenue	26						
Reported	73	15,516	23,320	2,969	7,065	2,686	47,966
Currency translation	73	96	(166)	(448)	37	(336)	(803)
Significant items		1,774	(10)	(7)	155	185	2,097
– customer redress programmes		(2)	—	—	—	—	(2)
– disposals, acquisitions and investment in new businesses		(547)		(11)	21	273	(264)
– fair value movements on financial investments	65, 66	2,289	(6)	—	134	36	2,453
– currency translation on significant items		34	(4)	4	—	(124)	(90)
Adjusted	73	17,386	23,144	2,514	7,257	2,535	49,260
LICs							
Reported		(446)	(677)	(316)	(732)	(1,229)	(3,400)
Currency translation		—	1	59	(5)	(31)	24
Significant items		—	—	—	—	804	804
– disposals, acquisitions and investment in new businesses		—	—	—	—	748	748
– currency translation on significant items		—	—	—	—	56	56
Adjusted		(446)	(676)	(257)	(737)	(456)	(2,572)
Operating expenses							
Reported	73	(21,845)	(10,785)	(1,584)	(6,147)	(3,037)	(39,808)
Currency translation	73	(109)	72	225	(20)	207	361
Significant items		6,638	418	71	990	1,183	9,300
– costs of structural reform		223	—	—	—	—	223
– costs to achieve		2,098	476	103	402	39	3,118
– customer redress programmes		559	—	—	—	—	559
– disposals, acquisitions and investment in new businesses		28	—	—	—	1,059	1,087
– impairment of GPB – Europe goodwill		3,240	—	—	—	—	3,240
– settlements and provisions in connection with legal and regulatory matters		484	(46)	—	587	—	1,025
– currency translation on significant items		6	(12)	(32)	1	85	48
Adjusted	73	(15,316)	(10,295)	(1,288)	(5,177)	(1,647)	(30,147)
Share of profit in associates and joint ventures							
Reported		1	1,921	434	(1)	(1)	2,354
Currency translation		—	10	—	—	—	10
Significant items		—	—	—	—	1	1
– disposals, acquisitions and investment in new businesses		—	—	—	—	1	1
– currency translation on significant items		—	—	—	—	—	—
Adjusted		1	1,931	434	(1)	—	2,365
Profit/(loss) before tax							
Reported		(6,774)	13,779	1,503	185	(1,581)	7,112
Currency translation		(13)	(83)	(164)	12	(160)	(408)
Significant items		8,412	408	64	1,145	2,173	12,202
– revenue		1,774	(10)	(7)	155	185	2,097
– LICs		—	—	—	—	804	804
– operating expenses		6,638	418	71	990	1,183	9,300
– share of profit in associates and joint ventures		—	—	—	—	1	1
Adjusted		1,625	14,104	1,403	1,342	432	18,906
Loans and advances to customers (net)							
Reported		336,670	365,430	30,740	111,710	16,954	861,504
Currency translation		17,113	(481)	(1,370)	697	(1,093)	14,866
Adjusted		353,783	364,949	29,370	112,407	15,861	876,370
Customer accounts							
Reported		446,615	631,723	34,766	138,790	20,492	1,272,386
Currency translation		21,775	(1,617)	(1,450)	842	(1,743)	17,807
Adjusted		468,390	630,106	33,316	139,632	18,749	1,290,193

For footnotes, see page 89.

Reconciliation of reported and adjusted items (continued)

		2016				
		UK	Hong Kong	Mainland China	US*	Mexico†
	Footnotes	$m	$m	$m	$m	$m
Revenue	26					
Reported		10,893	14,014	2,343	5,239	1,963
Currency translation		(209)	(133)	(10)	—	(56)
Significant items		1,834	(1)	—	148	—
– customer redress programmes		(2)	—	—	—	—
– disposals, acquisitions and investment in new businesses		(441)	—	—	21	—
– fair value movements on financial instruments	65, 66	2,238	(1)	—	127	—
– currency translation on significant items		39	—	—	—	—
Adjusted		12,518	13,880	2,333	5,387	1,907
LICs						
Reported		(245)	(321)	(121)	(631)	(452)
Currency translation		12	3	—	—	13
Adjusted		(233)	(318)	(121)	(631)	(439)
Operating expenses						
Reported		(14,562)	(5,646)	(1,507)	(5,079)	(1,264)
Currency translation		106	54	(6)	—	36
Significant items		2,660	181	54	879	29
– costs of structural reform		223	—	—	—	—
– costs to achieve		1,838	229	54	292	30
– customer redress programmes		559	—	—	—	—
– settlements and provisions in connection with legal and regulatory matters		50	(46)	—	587	—
– currency translation on significant items		(10)	(2)	—	—	(1)
Adjusted		(11,796)	(5,411)	(1,459)	(4,200)	(1,199)
Share of profit in associates and joint ventures						
Reported		1	22	1,892	—	—
Currency translation		—	—	10	—	—
Adjusted		1	22	1,902	—	—
Profit/(loss) before tax						
Reported		(3,913)	8,069	2,607	(471)	247
Currency translation		(91)	(76)	(6)	—	(7)
Significant items		4,494	180	54	1,027	29
– revenue		1,834	(1)	—	148	—
– operating expenses		2,660	181	54	879	29
Adjusted		490	8,173	2,655	556	269
Loans and advances to customers (net)						
Reported		264,098	230,629	33,303	74,596	12,876
Currency translation		11,660	(2,181)	133	—	548
Adjusted		275,758	228,448	33,436	74,596	13,424
Customer accounts						
Reported		361,278	461,626	46,576	88,751	14,423
Currency translation		15,691	(4,370)	185	—	613
Adjusted		376,969	457,256	46,761	88,751	15,036

* *Of which US (excluding CML run-off portfolio): adjusted revenue $4,698m (RBWM: $1,161m; CMB: $981m; GB&M $1,979m; GPB: $303m); adjusted LICs $(503)m; adjusted operating expenses $(3,808)m; adjusted PBT $387m (RBWM: $(81)m; CMB: $341m; GB&M $100m; GPB: $67m); adjusted RWAs (RBWM: $11.0bn; CMB: $26.8bn; GB&M $48.3bn; GPB: $4.1bn; Corporate Centre: $13.6bn).*

† *Of which Mexico: adjusted revenue $1,907m (RBWM: $1,256m; CMB: $330m; GB&M $214m; GPB: $13m); adjusted LICs $(439)m; adjusted operating expenses $(1,199)m; adjusted PBT $269m (RBWM: $97m; CMB: $83m; GB&M $78m; GPB: $5m); adjusted RWAs (RBWM: $6.4bn; CMB: $6.3bn; GB&M $6.7bn; Corporate Centre: $1.7bn).*

For footnotes, see page 89.

Analysis of reported results by country/territory

Profit/(loss) before tax by country/territory within global businesses

	Footnotes	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
		$m	$m	$m	$m	$m	$m
Europe		**440**	**2,289**	**690**	**(122)**	**(4,112)**	**(815)**
– UK		**476**	**1,901**	**409**	**23**	**(4,205)**	**(1,396)**
of which: HSBC Holdings	75	***(644)***	***(428)***	***(394)***	***(77)***	***(888)***	***(2,431)***
– France		**(56)**	**170**	**8**	**16**	**(101)**	**37**
– Germany		**14**	**85**	**99**	**8**	**(5)**	**201**
– Switzerland		**(1)**	**5**	**(1)**	**(100)**	**20**	**(77)**
– other		**7**	**128**	**175**	**(69)**	**179**	**420**
Asia		**6,190**	**4,176**	**3,773**	**353**	**3,298**	**17,790**
– Hong Kong		**5,951**	**3,114**	**1,670**	**333**	**446**	**11,514**
– Australia		**115**	**120**	**185**	**(1)**	**44**	**463**
– India		**20**	**143**	**387**	**—**	**275**	**825**
– Indonesia		**(1)**	**13**	**91**	**—**	**1**	**104**
– mainland China		**(200)**	**262**	**566**	**(4)**	**2,234**	**2,858**
– Malaysia		**130**	**82**	**132**	**—**	**30**	**374**
– Singapore		**75**	**98**	**230**	**25**	**63**	**491**
– Taiwan		**55**	**23**	**117**	**—**	**30**	**225**
– other		**45**	**321**	**395**	**—**	**175**	**936**
Middle East and North Africa		**182**	**108**	**733**	**7**	**527**	**1,557**
– Egypt		**34**	**54**	**202**	**—**	**43**	**333**
– UAE		**112**	**58**	**296**	**7**	**—**	**473**
– Saudi Arabia		**—**	**—**	**—**	**—**	**436**	**436**
– other		**36**	**(4)**	**235**	**—**	**48**	**315**
North America		**(96)**	**968**	**738**	**11**	**(822)**	**799**
– US		**(205)**	**473**	**624**	**23**	**(962)**	**(47)**
– Canada		**55**	**455**	**139**	**—**	**116**	**765**
– other		**54**	**40**	**(25)**	**(12)**	**24**	**81**
Latin America		**166**	**178**	**378**	**(1)**	**(162)**	**559**
– Mexico		**194**	**114**	**197**	**—**	**23**	**528**
– other		**(28)**	**64**	**181**	**(1)**	**(185)**	**31**
Year ended 31 Dec 2018		**6,882**	**7,719**	**6,312**	**248**	**(1,271)**	**19,890**
Europe		(159)	1,899	777	(231)	(4,150)	(1,864)
– UK		(177)	1,539	192	(23)	(4,149)	(2,618)
of which: HSBC Holdings	75	*(658)*	*(372)*	*(739)*	*(89)*	*(3,308)*	*(5,166)*
– France		(12)	204	228	5	(156)	269
– Germany		21	61	141	9	39	271
– Switzerland		(2)	7	1	(192)	2	(184)
– other		11	88	215	(30)	114	398
Asia		5,372	3,394	3,135	285	3,143	15,329
– Hong Kong		5,039	2,460	1,357	257	485	9,598
– Australia		122	101	108	(1)	35	365
– India		21	159	362	—	374	916
– Indonesia		(24)	76	98	—	30	180
– mainland China		(44)	161	387	(4)	1,988	2,488
– Malaysia		85	50	162	—	28	325
– Singapore		69	94	202	34	64	463
– Taiwan		43	10	107	(1)	40	199
– other		61	283	352	—	99	795
Middle East and North Africa		144	199	593	—	565	1,501
– Egypt		26	69	164	—	46	305
– UAE		110	53	268	—	48	479
– Saudi Arabia		—	—	—	—	441	441
– other		8	77	161	—	30	276
North America		305	932	671	67	(374)	1,601
– US		166	435	494	66	(444)	717
– Canada		61	453	132	—	43	689
– other		78	44	45	1	27	195
Latin America		161	199	259	—	(19)	600
– Mexico		139	105	158	—	(12)	390
– other		22	94	101	—	(7)	210
Year ended 31 Dec 2017		5,823	6,623	5,435	121	(835)	17,167

Profit/(loss) before tax by country/territory within global businesses (continued)

	Footnotes	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
		$m	$m	$m	$m	$m	$m
Europe		524	2,129	1,009	(3,695)	(6,741)	(6,774)
– UK		338	1,834	385	86	(6,556)	(3,913)
of which: HSBC Holdings	75,76	*(676)*	*(379)*	*(425)*	*(63)*	*(3,748)*	*(5,291)*
– France		147	198	289	9	(53)	590
– Germany		23	68	142	7	13	253
– Switzerland		—	9	—	(493)	(7)	(491)
– other		16	20	193	(3,304)	(138)	(3,213)
Asia		4,115	2,920	3,211	268	3,265	13,779
– Hong Kong		3,796	2,191	1,298	221	563	8,069
– Australia		108	74	156	—	31	369
– India		15	123	355	10	240	743
– Indonesia		(9)	66	110	—	11	178
– mainland China		(72)	68	456	(3)	2,158	2,607
– Malaysia		65	65	172	—	53	355
– Singapore		107	43	170	42	77	439
– Taiwan		24	10	102	(1)	13	148
– other		81	280	392	(1)	119	871
Middle East and North Africa		20	290	652	—	541	1,503
– Egypt		58	104	213	—	79	454
– UAE		83	94	298	—	5	480
– Saudi Arabia		1	—	—	—	434	435
– other		(122)	92	141	—	23	134
North America		64	648	259	90	(876)	185
– US		(28)	336	86	67	(932)	(471)
– Canada		46	292	155	—	47	540
– other		46	20	18	23	9	116
Latin America		(136)	59	309	9	(1,822)	(1,581)
– Mexico		94	84	79	5	(15)	247
– other		(230)	(25)	230	4	(1,807)	(1,828)
– of which: Brazil		*(281)*	*(139)*	*176*	*4*	*(1,836)*	*(2,076)*
Year ended 31 Dec 2016		4,587	6,046	5,440	(3,328)	(5,633)	7,112

For footnotes, see page 89.

Reconciliations of return on equity and return on tangible equity

Return on Equity and Return on Tangible Equity

	2018	2017	2016
	$m	$m	$m
Profit			
Profit/(loss) attributable to the ordinary shareholders of the parent company	**12,608**	9,683	1,299
Goodwill impairment	**—**	—	3,240
Increase/(decrease) in PVIF (net of tax)	**(506)**	16	(667)
Profit/(loss) attributable to the ordinary shareholders, excluding goodwill impairment and PVIF	**12,102**	9,699	3,872
Significant items (net of tax) and UK bank levy	**2,590**	3,827	8,740
Profit/(loss) attributable to the ordinary shareholders, excluding goodwill impairment, PVIF, significant items and UK bank levy	**14,692**	13,526	12,612
Equity			
Average ordinary shareholders' equity	**163,483**	163,419	170,168
Effect of goodwill, PVIF and other intangibles (net of deferred tax)	**(22,102)**	(20,721)	(23,577)
Average tangible equity	**141,381**	142,698	146,591
Fair value of own debt, DVA and other adjustments	**2,439**	2,788	(1,171)
Average tangible equity excluding fair value of own debt, DVA and other adjustments	**143,820**	145,486	145,420
	%	%	%
Ratio			
Return on equity	**7.7**	5.9	0.8
Return on tangible equity	**8.6**	6.8	2.6
Return on tangible equity excluding significant items and UK bank levy	**10.2**	9.3	8.7

Return on tangible equity by global business

	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
	Year ended 31 Dec 2018					
	$m	**$m**	**$m**	**$m**	**$m**	**$m**
Profit before tax	**6,882**	**7,719**	**6,312**	**248**	**(1,271)**	**19,890**
Tax expense	**(1,238)**	**(1,680)**	**(1,350)**	**(53)**	**(544)**	**(4,865)**
Profit after tax	**5,644**	**6,039**	**4,962**	**195**	**(1,815)**	**15,025**
Less attributable to: preference shareholders, other equity holders, non-controlling interests	**(763)**	**(746)**	**(659)**	**(19)**	**(230)**	**(2,417)**
Profit attributable to ordinary shareholders of the parent company	**4,881**	**5,293**	**4,303**	**176**	**(2,045)**	**12,608**
Increase in PVIF (net of tax)	**(483)**	**(21)**	**—**	**—**	**(2)**	**(506)**
Significant items (net of tax) and UK bank levy	**146**	**(36)**	**(168)**	**75**	**2,573**	**2,590**
Balance Sheet Management allocation and other adjustments	**555**	**581**	**851**	**82**	**(2,069)**	**—**
Profit attributable to ordinary shareholders, excluding PVIF, significant items and UK bank levy	**5,099**	**5,817**	**4,986**	**333**	**(1,543)**	**14,692**
Average tangible shareholders' equity excluding fair value of own debt, DVA and other adjustments	**24,287**	**41,550**	**47,477**	**3,376**	**27,130**	**143,820**
Return on tangible equity excluding significant items and UK bank levy (%)	**21.0%**	**14.0%**	**10.5%**	**9.9%**	**(5.7)%**	**10.2%**
	Year ended 31 Dec 2017					
Profit before tax	5,823	6,623	5,435	121	(835)	17,167
Tax expense	(1,089)	(1,565)	(1,376)	(26)	(1,232)	(5,288)
Profit after tax	4,734	5,058	4,059	95	(2,067)	11,879
Less attributable to: preference shareholders, other equity holders, non-controlling interests	(723)	(678)	(522)	(22)	(251)	(2,196)
Profit attributable to ordinary shareholders of the parent company	4,011	4,380	3,537	73	(2,318)	9,683
Increase in PVIF (net of tax)	17	2	—	1	(4)	16
Significant items (net of tax) and UK bank levy	501	116	294	133	2,783	3,827
Balance Sheet Management allocation and other adjustments	630	663	913	107	(2,313)	—
Profit attributable to ordinary shareholders, excluding PVIF, significant items and bank levy	5,159	5,161	4,744	314	(1,852)	13,526
Average tangible shareholders' equity excluding fair value of own debt, DVA and other adjustments	23,838	36,935	44,664	4,400	35,649	145,486
Return on tangible equity excluding significant items and UK bank levy (%)	21.6%	14.0%	10.6%	7.1%	(5.2)%	9.3%

Other information

Funds under management and assets held in custody

Funds under management

	Footnotes	2018 $bn	2017 $bn
Funds under management	77		
At 1 Jan		**943**	831
Net new money		**22**	2
Value change		**(37)**	77
Exchange and other		**(29)**	33
Disposals		**—**	—
At 31 Dec		**899**	943
Funds under management by business			
Global Asset Management		**444**	462
Global Private Banking		**241**	258
Affiliates		**4**	4
Other		**210**	219
At 31 Dec		**899**	943

For footnotes, see page 89.

Funds under management ('FuM') represents assets managed, either actively or passively, on behalf of our customers. At 31 December 2018, FuM amounted to $899bn, a decrease of 5% primarily reflecting adverse market performance together with adverse foreign exchange movements.

Global Asset Management FuM decreased by 4% to $444bn compared with 31 December 2017. The reduction primarily reflected adverse foreign exchange movements, together with adverse market performance of $14bn. This was partly offset by net new money, primarily from money market solutions across all regions.

GPB FuM decreased by 7% to $241bn compared with 31 December 2017. The reduction reflected adverse market movements of $17bn, together with adverse foreign exchange. This was partly offset by positive net new money, mainly in Hong Kong.

Other FuM, of which the main element is a corporate trust business in Asia, decreased by 4% to $210bn.

Assets held in custody[77] and under administration

Custody is the safekeeping and servicing of securities and other financial assets on behalf of clients. At 31 December 2018, we held assets as custodian of $7.4tn, 4% lower than the $7.7tn held at 31 December 2017. This decrease was mainly driven by adverse foreign exchange movements in Europe and Asia together with adverse market movements in Asia, which was partly offset by incremental assets under custody in North America.

Our Assets Under Administration business, which includes the provision of bond and loan administration services and the valuation of portfolios of securities and other financial assets on behalf of clients, complements the custody business.

At 31 December 2018, the value of assets held under administration by the Group amounted to $3.5tn, which was 2% lower than the $3.6tn held at 31 December 2017. This decrease was mainly driven by adverse foreign exchange movements which were partly offset by a net inflow of new assets in Europe and Asia.

Taxes paid by region and country/territory

The following table reflects a geographical view of HSBC's operations.

Taxes paid by HSBC relate to HSBC's own tax liabilities including tax on profits earned, employer taxes, bank levy and other duties/levies such as stamp duty. Numbers are reported on a cash flow basis.

Taxes paid by country/territory

	2018 $m	2017 $m	2016 $m
Europe	**3,398**	3,340	3,151
– UK	**2,693**	2,654	2,385
of which: HSBC Holdings	***832***	*1,078*	*1,253*
– France	**536**	530	553
– Germany	**111**	140	124
– Switzerland	**13**	(67)	34
– other	**45**	83	55
Asia	**2,742**	2,277	2,755
– Hong Kong	**1,398**	1,043	1,488
– Australia	**140**	142	147
– mainland China	**235**	227	241
– India	**384**	297	315
– Indonesia	**44**	84	46
– Malaysia	**94**	81	99
– Singapore	**88**	64	85
– Taiwan	**53**	42	35
– other	**306**	297	299
Middle East and North Africa	**234**	419	293
– Saudi Arabia	**—**	170	60
– UAE	**67**	101	89
– Egypt	**104**	58	97
– other	**63**	90	47
North America	**399**	317	276
– US	**162**	134	135
– Canada	**240**	182	141
– other	**(3)**	1	—
Latin America	**281**	443	965
– Mexico	**90**	129	79
– other	**191**	314	886
of which: Brazil	***28***	*36*	*658*
Year ended 31 Dec	**7,054**	6,796	7,440

Conduct-related matters

Conduct-related costs included in significant items

	2018 $m	2017 $m	2016 $m
Income statement			
Net interest income/(expense)	**53**	(108)	2
– customer redress programmes	**53**	(108)	2
Operating expenses	**(780)**	(457)	(1,584)
– legal proceedings and regulatory matters	**(634)**	198	(1,025)
– customer redress programmes	**(146)**	(655)	(559)
Total charge for the year relating to significant items	**(727)**	(565)	(1,582)
Total provisions utilised during the year	**1,759**	1,136	2,265
Balance sheet at 31 Dec			
Total provisions	**1,526**	2,595	3,056
– legal proceedings and regulatory matters	**872**	1,248	2,060
– customer redress programmes	**654**	1,347	996
Accruals, deferred income and other liabilities	**8**	20	106

The table above provides a summary of conduct-related costs included in significant items (see pages 38 and 43).

The HSBC approach to conduct is designed to ensure that through our actions and behaviours we deliver fair outcomes for our customers, and do not disrupt the orderly and transparent operation of financial markets. The Board places a strong emphasis on conduct, requiring adherence to high behavioural standards and the HSBC Values. The Board oversight of conduct matters was transitioned to the Group Risk Committee following the demise of the Conduct & Values Committee during the first half of 2018. Additionally the Remuneration Committee also considers conduct and compliance-related matters relevant to remuneration. These committees' reports may be found on pages 206 to 209. For information on initiatives implemented in 2018 to raise our standards in relation to the conduct of our business, see page 123 under 'Conduct of business'.

Provisions relating to significant items raised for conduct costs in 2018 resulted from the ongoing consequences of a small number of historical events.

Operating expenses included significant items related to conduct matters in respect of legal proceedings and regulatory matters of $634m and customer remediation costs mainly in respect of the mis-selling of payment protection insurance of $172m. For further details on payment protection insurance and legal proceedings and regulatory matters, see Notes 27 and 35 on the Financial Statements, respectively.

Carbon dioxide emissions

We report our carbon emissions with reference to the GHG Protocol including the amendments to Scope 2 Guidance, which incorporate market-based emission methodology. We report carbon dioxide emissions resulting from energy use in our buildings and employees' business travel.

In 2018, we collected data on energy use and business travel for our operations in 28 countries and territories, which accounted for approximately 93% of our full-time employees ('FTEs'). To estimate the emissions of our operations in countries and territories where we have operational control and a small presence, we scale up the emissions data from 93% to 100%.

We then apply emission uplift rates to reflect uncertainty concerning the quality and coverage of emission measurement and estimation. The rates are 4% for electricity, 10% for other energy and 6% for business travel. This is consistent both with the Intergovernmental Panel on Climate Change's *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* and our internal analysis of data coverage and quality.

Carbon dioxide emissions in tonnes

	2018	2017
Total	**559,000**	580,000
From energy	**437,000**	473,000
From travel	**122,000**	107,000

Carbon dioxide emissions in tonnes per FTE

	2018	2017
Total	**2.39**	2.49
From energy	**1.87**	2.03
From travel	**0.52**	0.46

The reduction in our carbon emissions continues to be driven by energy efficiency initiatives, as well as our procurement of electricity from renewable sources under power purchase agreements. Travel emissions increased due to improved business travel data collection.

Our greenhouse gas reporting year runs from October to September. For the year from 1 October 2017 to 30 September 2018, carbon dioxide emissions from our global operations were 559,000 tonnes. Independent assurance of our carbon dioxide emissions will be available in the first half of 2019 on our website.

Disclosure controls

The Group Chief Executive and Group Chief Financial Officer, with the assistance of other members of management, carried out an evaluation of the effectiveness of the design and operation of HSBC Holdings' disclosure controls and procedures as at 31 December 2018. Based upon that evaluation, the Group Chief Executive and Group Chief Financial Officer concluded that the disclosure controls and procedures at 31 December 2018 were effective to provide reasonable assurance that information required to be disclosed in the reports that the company files and submits under the US Securities Exchange Act of 1934, as amended, is recorded, processed, summarised and reported as and when required. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

There have been no changes in HSBC Holdings' internal control over financial reporting during the year ended 31 December 2018 that have materially affected, or are reasonably likely to materially affect, HSBC Holdings' internal control over financial reporting.

Management's assessment of internal controls over financial reporting

Management is responsible for establishing and maintaining an adequate internal control structure and procedures for financial reporting, and has completed an assessment of the effectiveness of the Group's internal controls over financial reporting for the year ended 31 December 2018. In making the assessment, management used the framework for internal control evaluation contained in the Financial Reporting Council's Guidance on Risk Management, Internal Control and Related Financial and Business Reporting (September 2014), as well as the criteria established by the Committee of Sponsoring Organizations of the Treadway Commission ('COSO') in 'Internal Control-Integrated Framework (2013)'.

Based on the assessment performed, management concluded that for the year ended 31 December 2018, the Group's internal control over financial reporting were effective.

PricewaterhouseCoopers LLP, which has audited the consolidated financial statements of the Group for the year ended 31 December 2018, has also audited the effectiveness of the Group's internal control over financial reporting under Auditing Standard No. 5 of the Public Company Accounting Oversight Board (United States) as stated in their report on page 252.

Footnotes to strategic report, financial summary, global businesses, geographical regions and other information

1 *The Group has adopted the EU's regulatory transitional arrangements for IFRS 9 'Financial Instruments'. These apply to reported and adjusted RWAs, regulatory capital and related ratios for 2018 throughout the Annual Report and Accounts, unless otherwise stated.*

2 *Full-time equivalent staff.*

3 *Recognised by* Euromoney *Awards for Excellence 2018.*

4 *Source: Greenwich Associates – Large Corporate Banking; percentage of large corporates choosing HSBC as their lead international bank.*

5 *Revenue from international clients is derived from an allocation of adjusted revenue based on internal management information. International clients are businesses and individuals with an international presence.*

6 *Adjusted basis, geographical view; Group total and regional percentage composition excludes Holdings; regional percentage composition calculated with regional figures that include intra-Group revenue.*

7 *Our wealth business in Asia includes our asset management business in Asia, our insurance business in Asia, our private banking business Asia and the wealth portion of our RBWM business in Asia.*

8 *Source for market data is Bank of England mortgage data.*

9 *Both digital metrics include the following markets: the UK (excluding M&S Bank and John Lewis Finance customers), Hong Kong (excluding Hang Seng customers), Mexico, Malaysia, Singapore, UAE, mainland China, Canada, Australia, the US, France, India, Indonesia, Turkey, Egypt, Argentina, and Taiwan. Digital sales also include M&S Bank customers in the UK. Digitally active customers are defined as percentage of customers who have logged on to HSBC digital channels at least once in the last 90 days. Percentage of sales include the sales of loans and deposits through digital channels.*

10 *Eight scale markets are UK, Hong Kong, Pearl River Delta, Singapore, Malaysia, Mexico, UAE and Saudi Arabia.*

11 *Commitment by 2025.*

12 *Excluding market impact in Insurance, which constitutes P&L impacts resulting from changes in financial market factors as compared with economic conditions in place at the start of the year.*

13 *Market shares: Saudi Arabia as of September 2018; UAE as of October 2018; HK, Mexico, PRD and Singapore as of November 2018; UK and Malaysia as of December 2018.*

14 *Revenue growth from international network includes transaction banking revenue growth and international client revenue growth.*

15 *Transaction banking includes GLCM, GTRF, Securities Services, and FX.*

16 *Market share data is as of 3Q 2018.*

17 *Top-three rank or improvement by two ranks; measured by customer recommendation for RBWM and customer satisfaction for CMB among relevant competitors.*

18 *Customer satisfaction metrics for Pearl River Delta will be available from 2019, therefore they have been excluded from the assessment. Surveys are based on a relevant and representative subset of the market. Data provided by Kantar.*

19 *Customer satisfaction metrics for Pearl River Delta will be available from 2019, therefore they have been excluded from the assessment. In HK, Singapore, Malaysia, Mexico and UAE, 2017 CMB performance is based on the bank that the customer defines as their main bank, whereas 2018 CMB performance for these markets is based on the bank that the customer defines as the most important. Surveys are based on a relevant and representative subset of the market. Data provided by RFi Group, Kantar and another third-party vendor.*

20 *Both digital metrics include the following markets: the UK (excluding M&S Bank and John Lewis Finance customers), Hong Kong (excluding Hang Seng customers), Mexico, Malaysia, Singapore, UAE, mainland China, Canada, Australia, the US, France, India, Indonesia, Turkey, Egypt, Argentina, and Taiwan. Digital sales also include M&S Bank customers in the UK. Digitally active customers are defined as percentage of customers who have logged on to HSBC digital channels at least once in the last 90 days. Percent of sales include the sales of loans and deposits through digital channels.*

21 *Based on Sustainalytics.*

22 *Costs relating to 'Settlements and provisions in connection with legal and regulatory matters', a significant item in 2018 includes a 1Q18 provision in relation to the US Department of Justice's ('DoJ') civil claims relating to its investigation of HSBC's legacy residential mortgage-backed securities origination and securitisation activities from 2005 to 2007. Refer to Note 35 'Legal proceedings and regulatory matters' for further details.*

23 *'Other personal lending' includes personal non-residential closed-end loans and personal overdrafts.*

24 *'Investment distribution' includes Investments, which comprises mutual funds (HSBC manufactured and third party), structured products and securities trading, and Wealth Insurance distribution, consisting of HSBC manufactured and third-party life, pension and investment insurance products.*

25 *'Other' mainly includes the distribution and manufacturing (where applicable) of retail and credit protection insurance.*

26 *Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.*

27 *Adjusted return on average risk-weighted assets ('Adjusted RoRWA') is a measure used to assess the performance of RBWM, CMB, GB&M and GPB. Adjusted RoRWA is calculated using profit before tax and reported average risk-weighted assets at constant currency adjusted for the effects of significant items.*

28 *'Markets products, Insurance and Investments and Other' includes revenue from Foreign Exchange, insurance manufacturing and distribution, interest rate management and global banking products.*

29 *From 1 January 2018, the qualifying components according to IFRS 7 'Financial Instruments: Disclosures' of fair value movements relating to changes in credit spreads on structured liabilities, were recorded through other comprehensive income. The residual movements remain in credit and funding valuation adjustments, and comparatives have not been restated.*

30 *'Other' in GB&M includes net interest earned on free capital held in the global business not assigned to products, allocated funding costs and gains resulting from business disposals. Within the management view of adjusted revenue, notional tax credits are allocated to the businesses to reflect the economic benefit generated by certain activities which is not reflected within operating income; for example, notional credits on income earned from tax-exempt investments where the economic benefit of the activity is reflected in tax expense. In order to reflect the total operating income on an IFRS basis, the offsets to these tax credits are included within 'Other'.*

31 *Under the old revenue allocation, the 2017 results would have been: Global Markets: $6,840m; FICC: $5,555m; FX: $2,587m; Rates:$2,037m; Credit: $931m; Equities: $1,285m; Securities Services: $1,762m; Global Banking: $3,858m; GLCM: $2,199m; GTRF: $703m; Principal Investments: $322m; Credit and funding valuation adjustments: $(267)m; Other revenue: $(132)m. 2016 numbers have not been re-presented on the new basis.*

32 *Corporate Centre comprises Central Treasury, including Balance Sheet Management ('BSM'), our legacy businesses, interests in our associates and joint ventures, central stewardship costs and the UK bank levy.*

33 *Central Treasury includes revenue relating to BSM of $2.5bn (2017: $2.7bn; 2016: $3.0bn), interest expense of $1,267m (2017: $888m; 2016: $707m) and adverse valuation differences on issued long-term debt and associated swaps of $313m (2017: gain of $120m; 2016: loss of $271m). Revenue relating to BSM includes other internal allocations, including notional tax credits to reflect the economic benefit generated by certain activities, which is not reflected within operating income, for example notional credits on income earned from tax-exempt investments where the economic benefit of the activity is reflected in tax expense. In order to reflect the total operating income on an IFRS basis, the offsets to these tax credits are included in other Central Treasury.*

34 *Other miscellaneous items in Corporate Centre includes internal allocations relating to Legacy Credit.*

35 *Complaint figures for 2017 restated and weighted by country volumes.*

36 *OECD, IEA, Investing in Climate, Investment in Growth, July 2017. The OECD estimates that for infrastructure to be consistent with a 2°C scenario, investment needs to amount to $6.9tn per year in the next 15 years, an increase of about 10% in total infrastructure investment from the reference estimate of $6.3tn.*

37 *Amounts shown in table include green and other sustainable finance loans, which support the transition to the low-carbon economy. The methodology for the quantification of our exposure to higher transition risk sectors will evolve over time as more data becomes available and is incorporated in our risk management systems and processes.*
Counterparties are allocated to the higher transition risk sectors via a two-step approach:
1 - Where the main business of a group of connected counterparties is in a higher transition risk sector all lending to the group is included irrespective of the sector of each individual obligor within the group.
2 - Where the main business of a group of connected counterparties is not in a higher transition risk sector only lending to individual obligors in the higher transition risk sectors is included.

38 *60% of the 2012 annual incentive for Stuart Gulliver and Iain Mackay disclosed in the 2012 Directors' remuneration report was deferred for five years. The vesting of these awards was subject to a service condition and satisfactory completion of the five-year deferred prosecution agreement ('AML DPA') with the US Department of Justice ('DoJ'). The AML DPA condition was satisfied in March 2018 and the awards were released to the executive Directors. For Marc Moses the value of the award attributable to services provided as an executive Director between 1 January 2014 and the vesting date has been included in the table.*

39 *The first long-term incentive ('LTI') award was made in February 2017, with a performance period ending in 2019. Vesting of the first LTI award will be included in the single figure of remuneration table for the financial year ending 31 December 2019.*

40 *John Flint succeeded Stuart Gulliver as Group Chief Executive with effect from 21 February 2018 and his remuneration in the single figure table of remuneration is in respect of services provided as an executive Director. For services rendered between 1 January 2018 and 20 February 2018, he received salary of £97,138, fixed pay allowance of £130,236, cash in lieu of pension of £27,999 and an annual incentive award of £272,000.*

41 *Stuart Gulliver stepped down from the Board on 20 February 2018 and retired from the Group on 11 October 2018. His remuneration in the single figure table of remuneration is in respect of services provided as an executive Director.*

42 *Iain Mackay stepped down as executive Director and Group Finance Director on 31 December 2018.*

43 *To meet regulatory deferral requirements for 2018, 60% of the annual incentive award of Stuart Gulliver and Iain Mackay will be deferred in awards linked to HSBC's shares and and will vest in five equal instalments between the third and seventh anniversary of the grant date. On vesting, the awards will be subject to a one-year retention period. The deferred awards are subject to the executive Director maintaining a good leaver status during the deferral period.*

44 *Prior to 2018, foreign exchange exposure on some financial instruments designated at fair value was presented in the same line in the income statement as the underlying fair value movement on these instruments. In 2018, we grouped the entire effect of foreign exchange exposure in the profit and loss and presented it within 'Net trading activities' in 'Net income from financial instruments held for trading or managed on a fair value basis'. Comparative data has been re-presented. There is no net impact on total operating income and the impact on 'changes in fair value of long-term debt and related derivatives' in 2017 was $(517)m, 2016: $1,978m, 2015: $110m and 2014: $130m.*

45 *The classification and measurement requirements under IFRS 9, which was adopted from 1 January 2018, are based on an entity's assessment of both the business model for managing the assets and the contractual cash flow characteristics of the assets. The standard contains a classification for items measured mandatorily at fair value through profit or loss as a residual category. Given its residual nature, the presentation of the income statement has been updated to separately present items in this category, which are of a dissimilar nature or function, in line with IAS 1 'Presentation of financial statements' requirements. Comparative data has been re-presented. There is no net impact on total operating income.*

46 *Dividends recorded in the financial statements are dividends per ordinary share declared in a year and are not dividends in respect of, or for, that year.*

47 *Dividends per ordinary share expressed as a percentage of basic earnings per share.*

48 *Return on average risk-weighted assets is calculated using profit before tax and reported average risk-weighted assets.*

49 *Gross interest yield is the average annualised interest rate earned on average interest-earning assets ('AIEA').*

50 *Net interest spread is the difference between the average annualised interest rate earned on AIEA, net of amortised premiums and loan fees, and the average annualised interest rate payable on average interest-bearing liabilities.*

51 *Net interest margin is net interest income expressed as an annualised percentage of AIEA.*

51a *This includes interest-bearing bank deposits only. See page 61 for an analysis of all bank deposits.*

52 *Interest income on trading assets is reported as 'Net income/(expense) from financial instruments held for trading or managed on a fair value basis' in the consolidated income statement.*

52a *Interest expense on financial liabilities designated at fair value is reported as 'Net income from financial instruments held for trading or managed on a fair value basis' in the consolidated income statement, other than interest on own debt, which is reported in 'Interest expense'.*

53 *Interest income on financial assets designated and otherwise mandatorily measured at fair value is reported as 'Net income/(expense) from financial instruments designated at fair value' in the consolidated income statement.*

53a *This includes interest-bearing customer accounts only. See page 62 for an analysis of all customer accounts.*

54 *Including interest-bearing bank deposits only.*

54a *Net interest margin is calculated as net interest income divided by average interest-earning assets.*

55 *Interest expense on financial liabilities designated at fair value is reported as 'Net income on financial instruments designated at fair value' in the consolidated income statement, other than interest on own debt, which is reported in 'Interest expense'.*

55a *Impacted by transfers from HSBC Bank plc to HSBC UK Bank plc on 1 July 2018 following the completion of ring-fencing activities in the UK under the Financial Services (Banking Reform) Act 2013.*

56 *Including interest-bearing customer accounts only.*

56a *Comparatives have been re-presented to align with current year presentation.*

57 *Trading income also includes movements on non-qualifying hedges. These hedges are derivatives entered into as part of a documented interest rate management strategy for which hedge accounting was not, nor could be, applied. They are principally cross-currency and interest rate swaps used to economically hedge fixed-rate debt issued by HSBC Holdings, and up until May 2016 to economically hedge floating rate debt issued by HSBC Finance. The size and direction of the changes in the fair value of non-qualifying hedges that are recognised in the income statement can be volatile from year-to-year, but do not alter the cash flows expected as part of the documented interest rate management strategy for both the instruments and the underlying economically hedged assets and liabilities if the derivative is held to maturity.*

58 *2018 ECL are prepared on an IFRS 9 basis and 2017/2016 LICs are prepared on an IAS 39 basis and are not comparable.*

59 *Net of impairment allowances.*

60 *Capital resources are regulatory capital, the calculation of which is set out on page 193.*

61 *Including perpetual preferred securities, details of which can be found in Note 28 on the Financial Statements.*

62 *The definition of net asset value per ordinary share is total shareholders' equity, less non-cumulative preference shares and capital securities, divided by the number of ordinary shares in issue excluding shares the company has purchased and are held in treasury. The comparative for 2015 have been re-presented to align with this definition.*

63 *Others include items with no currency information available ($10,351m for loans to banks, $64,999m for loans to customers, nil for deposits by banks and $29m for customer accounts).*

64 *Adjusted risk-weighted assets are calculated using reported risk-weighted assets adjusted for the effects of currency translation differences and significant items.*

65 *Excludes items where there are substantial offsets in the income statement for the same year.*

66 *'Fair value movements on financial instruments' includes the fair value movements on our long-term debt attributable to credit spread where the net result of such movements will be zero upon maturity of the debt ('own credit spread'). This does not include fair value changes due to own credit risk in respect of trading liabilities or derivative liabilities. From 1 January 2017, HSBC adopted, in its consolidated financial statements, the requirements of IFRS 9 'Financial Instruments' relating to the presentation of gains and losses on financial liabilities designated at fair value. As a result, the effects of changes in those liabilities' credit risk is presented in other comprehensive income. These requirements were adopted in the separate financial statements of HSBC Holdings plc on 1 January 2016. Refer to HSBC Holdings plc* Annual Report and Accounts *2017 'Compliance with International Financial Reporting Standards' on page 186 for further detail.*

67 *The results presented for insurance manufacturing operations are shown before elimination of intercompany transactions with HSBC non-insurance operations.*

68 *The effect on the Insurance manufacturing operations of applying hyperinflation accounting in Argentina resulted in a reduction in adjusted revenue in 2018 of $29m and a reduction in PBT in 2018 of $27m. These effects are recorded in 'all global businesses', within Corporate Centre.*

69 *'Client assets' are translated at the rates of exchange applicable for their respective period-ends, with the effects of currency translation reported separately. The components of client assets were funds under management ($241bn at 31 December 2018), which were not reported on the Group's balance sheet, and customer deposits ($68bn at 31 December 2018), of which $65bn was reported on the Group's balance sheet and $3bn were off-balance sheet deposits.*

70 *Client assets related to our Middle East clients are booked across to various other regions, primarily in Europe.*

71 *'Other income' in this context comprises where applicable net income/expense from other financial instruments designated at fair value, gains less losses from financial investments, dividend income, net insurance premium income and other operating income less net insurance claims and benefits paid and movement in liabilities to policyholders.*

72 *Risk-weighted assets are non-additive across geographical regions due to market risk diversification effects within the Group.*

73 *Amounts are non-additive across geographical regions due to intercompany transactions within the Group.*

74 *Europe's adjusted 2018 loss of $40m includes a number of items incurred centrally on behalf of the Group as a whole, but which are disclosed in the Europe segment, including consolidation adjustments and Holdings costs such as interest costs on Group debt and the UK bank levy.*

75 *Excludes intra-Group dividend income.*

76 *For the purposes of the analysis of reported results by country/territory table, HSBC Holdings profit/(loss) is presented excluding the effect of the early adoption of the requirements of IFRS 9 'Financial Instruments' relating to the presentation of gains and losses on financial liabilities designated at fair value', which was early adopted in the separate financial statements of HSBC Holdings but not in the consolidated financial statements of HSBC.*

77 *Funds under management and assets held in custody are not reported on the Group's balance sheet, except where it is deemed that we are acting as principal rather than agent in our role as investment manager, and these assets are consolidated as Structured entities (see Note 20 on the Financial Statements).*

Regulation and supervision

The ordinary shares of HSBC Holdings are listed in London, Hong Kong, New York, Paris and Bermuda. As a result of the listing in London, HSBC Holdings is subject to the Listing Rules of the Financial Conduct Authority ('FCA') in its role as the UK Listing Authority. As a result of the listing in Hong Kong, HSBC Holdings is subject to The Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited ('HKEx'). In the US, where the listing is through an American Depositary Receipt ('ADR') Programme, shares are traded in the form of American Depositary Shares ('ADS'), which are registered with the US Securities and Exchange Commission ('SEC'). As a consequence of its US listing, HSBC Holdings is also subject to the reporting and other requirements of the US Securities Act of 1933, as amended; the Securities Exchange Act of 1934, as amended; and the New York Stock Exchange's ('NYSE') Listed Company Manual, in each case as applied to foreign private issuers. In France and Bermuda, HSBC Holdings is subject to the listing rules of Euronext, Paris and the Bermuda Stock Exchange, respectively, applicable to companies with secondary listings.

A statement of our compliance with the provisions of the UK Corporate Governance Code issued by the Financial Reporting Council and with the Hong Kong Corporate Governance Code set out in Appendix 14 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited can be found in the 'Report of the Directors: Corporate Governance Codes' on page 216.

Our operations throughout the world are regulated and supervised globally by a large number of different regulatory authorities, central banks and other bodies in those jurisdictions in which we have offices, branches or subsidiaries. These authorities impose a variety of requirements and controls designed to provide financial stability, transparency in financial markets and a contribution to economic growth. Requirements to which our operations must adhere include those relating to capital and liquidity, disclosure standards and restrictions on certain types of products or transaction structures, requirements on recovery and resolution, governance standards, and those relating to conduct of business and financial crime.

The UK Prudential Regulation Authority ('PRA') is the HSBC Group's consolidated lead regulator. The other UK regulator, the Financial Conduct Authority ('FCA'), supervises 17 HSBC-regulated entities in the UK, including eight where the PRA is responsible for prudential supervision. The FCA also supervises the Group globally in relation to financial crime matters. Additionally, both the PRA and FCA have certain direct supervisory powers over our unregulated qualifying parent company, HSBC Holdings, including (in the FCA's case) pursuant to agreements entered into with HSBC Holdings as part of a global settlement with a number of US authorities in relation to the Group's failure to comply with anti-money laundering ('AML') rules, US sanctions requirements and related matters ('the FCA Requirements Notice'). In addition, each operating bank, finance company or insurance operation within HSBC is regulated by local supervisors.

The Group's primary regulatory authorities are those in the UK, Hong Kong and the US, our principal jurisdictions of operation. However, and in addition, with the implementation of the European Union's ('EU') Single Supervisory Mechanism ('SSM') in 2014, the European Central Bank ('ECB') assumed direct supervisory responsibility for HSBC France and HSBC Malta as 'significant supervised entities' within the eurozone for the purposes of the EU's SSM Regulation, and HSBC Germany may also come under ECB supervision in the near future. Under the SSM, the ECB increasingly engages with the relevant 'national competent authorities' in relation to HSBC's businesses in other eurozone countries and more widely with other HSBC regulators. It is therefore expected that we will continue to see changes in how the Group is regulated and supervised on a day-to-day basis in the eurozone and, more generally, as the ECB and other of our regulators develop their powers having regard to some of the regulatory initiatives highlighted in this report including the UK's decision to exit the EU.

UK regulation and supervision

The UK financial services regulatory structure is comprised of three regulatory bodies: the Financial Policy Committee ('FPC'), a committee of the Bank of England ('BoE'); the PRA; and the FCA.

The FPC is responsible for macro-prudential supervision, focusing on systemic risks that may affect the UK's financial stability. The BoE prudentially regulates and supervises financial services firms through the PRA and in addition to its wider role as the UK's central bank, the BoE is also the resolution authority responsible for taking action to manage the failure of financial institutions in the UK if necessary. The latter involves a set of responsibilities and powers that apply outside of an actual bank failure and relate to general resolution planning, including an assessment of any barriers to resolution of banks, the exercise of powers to require the removal of impediments to resolvability, and the setting of minimum requirements for own funds and eligible liabilities ('MREL').

The PRA and the FCA are micro-prudential supervisors. The Group's banking subsidiaries, such as HSBC Bank plc and HSBC UK, are 'dual-regulated' firms, subject to prudential regulation by the PRA and to conduct regulation by the FCA. Other (generally smaller, non-bank) UK-based Group subsidiaries are 'solo regulated' by the FCA (i.e. the FCA is responsible for both prudential and conduct regulation of those subsidiaries). HSBC Group is subject to consolidated supervision by the PRA.

UK banking and financial services institutions are subject to multiple regulations. The primary UK statute in this context is the Financial Services and Markets Act 2000 ('FSMA'), as amended by subsequent legislation. Other UK financial services legislation currently includes that derived from EU directives and regulations relating to banking, securities, insurance, investments and sales of personal financial services. In particular, the Banking Act 2009 ('Banking Act') defines the UK resolution regime which applies to banks, building societies and certain investment firms, and their financial holding companies that are incorporated in the UK. It sets out the objectives that the BoE must pursue in its role of resolution authority and defines the responsibilities of other UK authorities (the PRA, the FCA and HM Treasury) in relation to specific aspects of the resolution regime. It also confers on the BoE a set of resolution tools to manage the failure of a bank and minimise the impact on financial stability. Further details can be found in the 'Recovery and resolution' section below.

The PRA and FCA are together responsible for authorising and supervising all our operating businesses in the UK that require authorisation under FSMA. These include deposit-taking, retail banking, consumer credit, life and general insurance, pensions, investments, mortgages, custody and share-dealing businesses, and treasury and capital markets activity. The FCA is also responsible for promoting effective competition in the interests of consumers, and an independent subsidiary of the FCA, the Payment Systems Regulator, regulates payment systems in the UK.

The PRA and FCA rules establish the minimum criteria for the authorisation of banks and other financial sector entities that carry out regulated activities. In the UK, the PRA and FCA have the right to object, on prudential grounds, to persons who hold, or intend to hold, 10% or more of the voting power or shares of a financial institution that they regulate, or of its parent undertaking. In its capacity as our supervisor on a consolidated basis, the PRA receives information on the capital adequacy of, and sets requirements for, the Group as a whole, as well as conducting stress tests both on HSBC's UK entities and more widely on the Group. Individual banking subsidiaries in the Group are directly regulated by their local banking supervisors, who set and monitor, *inter alia*, their capital adequacy requirements.

The Group is subject to capital requirements as set out in CRD IV and implemented by the PRA. The Pillar 1 regulatory capital framework has been, and continues to be, significantly enhanced. From 1 January 2019, the capital requirements framework was complemented by a requirement for total loss-absorbing capacity ('TLAC'), in accordance with the final standards adopted by the

Financial Stability Board. In the EU, the TLAC requirements have been introduced in the form of MREL as set out in the Bank Recovery and Resolution Directive ('BRRD'). These include own funds and liabilities that can be written down or converted into capital resources in order to absorb losses or recapitalise a bank in the event of its failure. These requirements are based on the resolution strategy for the Group, as agreed by the BoE in consultation with our local regulators.

The Group is also subject to liquidity requirements as set out in the Capital Requirements Regulation and Directive IV ('CRD IV') and implemented by the PRA, and will in due course become subject to the net stable funding requirements prescribed under Basel III and expected to be implemented in the first half of 2021 through changes to CRD IV.

The PRA and FCA monitor authorised institutions through ongoing supervision and the review of routine and ad hoc reports relating to financial, prudential and conduct of business matters. They may also obtain independent reports from a Skilled Person on the adequacy of procedures and systems covering internal control and governing records and accounting. The PRA meet regularly with the Group's senior executives to discuss our adherence to the PRA's prudential guidelines. In addition, both the PRA and FCA regularly discuss fundamental matters relating to our business in the UK and internationally with relevant management, including areas such as strategic and operating plans, risk control, loan portfolio composition and organisational changes, succession planning, and recovery and resolution arrangements.

There are a substantial number of other ongoing regulatory initiatives affecting the Group driven by or from the UK. Current and anticipated areas of particular focus for the UK regulators include:

- changes to UK law and regulation following the UK's decision to leave the EU;
- the UK's implementation of the final reforms to Basel III, including the changes to the market risk framework and the revised approaches to calculate credit, counterparty, operational and credit valuation adjustment ('CVA') risk, RWAs, changes to the leverage ratio framework and the application of capital floors;
- the UK's implementation of the outstanding elements of Basel III reforms, including the sovereign risk regime and the long-term treatment of International Financial Reporting Standard 9, Financial Instruments ('IFRS 9') expected credit loss provisions;
- the UK's implementation of any new MREL requirements that are expected to be implemented in EU legislation through changes to CRD IV and the BRRD;
- ongoing implementation of requirements regarding resolution plans (see further details outlined below under 'Recovery and resolution');
- implementation of revisions to the PRA's framework for groups policy (particularly double-leverage) and large exposures/intra-group regimes;
- the abolition of Libor and the transition to SONIA and other replacement reference rates;
- ongoing embedding of the Senior Managers and Certification Regime, aimed at strengthening accountability in banking and its extension from banks to all UK authorised firms during 2019;
- proposed plans to increase consumer access to financial advice in the UK;
- proposals driven by the UK Competition and Markets Authority's ('CMA') investigation into the supply of retail banking services in the UK that are designed to deliver increased transparency and innovation;
- proposals to provide greater levels of protection and remediation to SMEs, increasing the scope of customers eligible to refer matters to the UK's Financial Ombudsman Service and the level of compensation payable;
- continued high level of focus by the FCA on management of conduct of business and customer outcomes as well as on controls to combat financial crime (including market abuse and fraud);
- cyber risk, financial technology, operational resilience and data security initiatives that may require changes to systems and processes; and
- climate change, where the UK regulators expect firms to incorporate any financial risks arising within their Pillar 2 assessments.

Our UK ring-fenced bank, HSBC UK, was fully established in mid-2018, well ahead of the deadline of 1 January 2019.

The FCA also continues to apply close scrutiny to the Group's financial crime control framework both generally in conjunction with the exercise of its wider powers under FSMA and more specifically under the FCA Requirements Notice described above.

As a result of the decision of the UK to leave the EU following the referendum on 23 June 2016, there could be changes to those EU laws applicable in the UK. Leaving the EU should not in and of itself affect existing UK laws. HMT, the FCA and the PRA have stated their intention that EU laws and regulations that are directly applicable to UK firms will be transposed into UK law and regulation ahead of the official date of exit. A series of draft statutory instruments and consultations to onshore EU law and regulation have been published. In the absence of a withdrawal agreement, such transposed laws will take effect on 29 March 2019, but should such agreement be reached and a transitional period agreed, existing EU law is likely to remain in place until the end of the transition period.

Hong Kong regulation and supervision

The Banking Ordinance provides the legal framework for banking supervision in Hong Kong. Section 7(1) of the Ordinance provides that the principal function of the Hong Kong Monetary Authority ('HKMA') is to "promote the general stability and effective working of the banking system". The HKMA seeks to establish a regulatory framework in line with international standards, in particular those issued by the Basel Committee on Banking Supervision ('Basel Committee') and the Financial Stability Board. The objective is to maintain a prudential supervisory system that underpins the general stability and effective working of the banking system, while at the same time providing sufficient flexibility for authorised institutions to take commercial decisions. One of the principal functions of the HKMA is to promote the stability and integrity of the financial system, including the banking system in Hong Kong. The HKMA is responsible for regulating and supervising banking business and the business of taking deposits in Hong Kong. Under the Banking Ordinance, the HKMA is the licensing authority responsible for the authorisation, suspension and revocation of authorised institutions. To provide checks and balances, the HKMA is required under the Ordinance to consult with the Financial Secretary on important authorisation decisions, such as suspension and revocation.

The Hongkong and Shanghai Banking Corporation Limited and its overseas branches and subsidiaries are licensed under the Banking Ordinance and hence subject to the supervision, regulation and examination of the HKMA.

The HKMA follows international practices as recommended by the Basel Committee to supervise authorised institutions. The HKMA adopts a risk-based supervisory approach based on a policy of 'continuous supervision' through on-site examinations, off-site reviews, prudential meetings, cooperation with external auditors and sharing information with other supervisors. The HKMA requires all authorised institutions to have adequate systems of internal control and requires the institutions' external auditors, upon request, to report on those systems and other matters, such as the accuracy of information provided to the HKMA. In addition, the HKMA may from time to time conduct tripartite discussions with authorised institutions and their external auditors.

The HKMA aims to ensure that the standards for regulatory disclosure in Hong Kong remain in line with those of other leading financial centres. The Banking (Disclosure) Rules take into account the latest disclosure standards released by the Basel Committee, which prescribe quarterly, semi-annual and annual disclosure of specified items, including in the form of standard templates and tables, in order to promote user-relevance and the consistency and comparability of regulatory disclosure among banks and across jurisdictions.

The HKMA's powers to collect prudential data from authorised institutions on a routine or ad hoc basis are provided by Section 63 of the Banking Ordinance. The same section of the Ordinance also empowers the HKMA to require any holding company or subsidiary or sister company of an authorised institution to submit such information as may be required for the exercise of the HKMA’s functions under the Ordinance.

The HKMA has the power to serve a notice of objection on persons if they are no longer deemed to be fit and proper to be controllers of the authorised institution, if they may otherwise threaten the interests of depositors or potential depositors, or if they have contravened any conditions specified by the HKMA. The HKMA may revoke authorisation in the event of an institution’s non-compliance with the provisions of the Banking Ordinance. These provisions require, among other things, the furnishing of accurate reports.

The HKMA is the relevant authority under the Anti-Money Laundering and Counter-Terrorist Financing (Financial Institutions) Ordinance (‘AMLO’) for supervising authorised institutions’ compliance with the legal and supervisory requirements set out in the AMLO and the Guideline on Anti-Money Laundering and Counter-Terrorist Financing (for Authorised Institutions). The HKMA requires authorised institutions in Hong Kong and its overseas branches and subsidiaries to establish effective systems and controls to prevent and detect money laundering and terrorist financing. It works closely with other stakeholders within both the government and the industry to ensure that the banking sector is able to play its gatekeeper role in Hong Kong’s anti-money laundering and counter-terrorist financing regime.

To enhance the exchange of supervisory information and cooperation, the HKMA has entered into a Memorandum of Understanding or other formal arrangements with a number of banking supervisory authorities within and outside Hong Kong.

The marketing of, dealing in and provision of advice and asset management services in relation to securities and futures in Hong Kong are subject to the provisions of the Securities and Futures Ordinance of Hong Kong. Entities engaging in activities regulated by the Ordinance are required to be licensed or registered with the Securities and Futures Commission (‘SFC’). The HKMA is the front-line regulator for banks involved in the securities and futures business.

The HKMA and the SFC work very closely to ensure that there is an open market with a level playing field for all intermediaries in the securities industry of Hong Kong. The HKMA has entered into a Memorandum of Understanding with the SFC, which elaborates on the legal framework and sets out the operational details relating to the respective roles and responsibilities of the two regulators regarding the securities-related activities of authorised institutions. The HKMA and the SFC hold regular meetings under the Memorandum of Understanding to discuss matters of mutual interest. The training programmes of either regulator are also made available to the staff of the other where relevant.

Among other functions, the Securities and Futures Ordinance vested the SFC with powers to set and enforce market regulations, including investigating breaches of rules and market misconduct and taking appropriate enforcement action. The SFC is responsible for licensing and supervising intermediaries conducting SFC-regulated activities, such as investment advisers, fund managers and brokers. Additionally, the SFC sets standards for the authorisation and regulation of investment products, and reviews and authorises offering documents of retail investment products to be marketed to the public.

The HKMA and the Insurance Authority (‘IA’) have signed a Memorandum of Understanding to enhance the cooperation, exchange of information and mutual assistance between the two authorities. Under this Memorandum of Understanding, the HKMA and the IA agree to work together to coordinate the supervision of the insurance-related activities of authorised institutions in Hong Kong (such as when they act as insurance intermediaries) and authorised insurers that are connected to them, and to promote information exchange and sharing, as permitted under the Banking Ordinance and the Insurance Ordinance, between the HKMA and the IA in order to assist each other to exercise their respective statutory functions.

Under the statutory regime for the regulation of Mandatory Provident Fund ('MPF') intermediaries, the Mandatory Provident Fund Schemes Authority is the lead regulator in respect of regulation of MPF intermediaries whereas the HKMA, the IA and the SFC are the front-line regulators of the MPF intermediaries. A Memorandum of Understanding Concerning the Regulation of Regulated Persons with Respect to Registered Schemes under the Mandatory Provident Fund Schemes Ordinance has been signed by the four regulators. It sets out certain administrative and operational arrangements among the four regulators regarding the exercise of their respective functions under the Mandatory Provident Fund Schemes Ordinance concerning regulation of MPF intermediaries.

The Financial Institutions (Resolution) Ordinance ('FIRO') established the legal basis for a cross-sector resolution regime in Hong Kong, under which the HKMA is the resolution authority for banking sector entities, including all authorised institutions. The HKMA is also designated as the lead resolution authority for the cross-sectoral groups in Hong Kong that include banking sector entities within the scope of FIRO. The HKMA’s function as a resolution authority is supported by the Resolution Office within the HKMA. The Resolution Office is operationally independent and has a direct reporting line to the chief executive of the HKMA.

In order to support capacity building and talent development, the HKMA is working with the banking industry and relevant professional bodies to implement an industry-wide enhanced competency framework ('ECF') for banking practitioners. The availability of a set of common and transparent competency standards enables more effective training for new entrants and professional development for existing practitioners. Authorised institutions are encouraged to adopt it as the benchmark for enhancing the level of core competence and ongoing professional development of banking practitioners.

Currently, the ECF for banking practitioners covers four professional work streams: anti-money laundering and counter-financing of terrorism; cybersecurity; treasury management; and retail and wealth management, with credit risk management, risk management and compliance to be launched in due course.

US regulation and supervision

The Group is subject to federal and state supervision and regulation in the US. Banking laws and regulations of the Federal Reserve Board (‘FRB’), the Office of the Comptroller of the Currency (the ‘OCC’) and the Federal Deposit Insurance Corporation (the ‘FDIC’) (collectively, the ‘US banking regulators’) govern all aspects of our US business. Furthermore, since we have substantial operations outside the US that conduct many of their day-to-day transactions with the US, HSBC entities’ operations outside the US are also subject to the extraterritorial effects of US regulation in many respects.

In September 2017, HSBC Holdings and HSBC North America Holdings Inc. (‘HNAH’) entered into a consent order with the FRB in connection with its investigation into HSBC’s historical foreign exchange activities, which requires HSBC Holdings and HNAH to undertake certain remedial steps. In January 2018, HSBC Holdings entered into a three-year deferred prosecution agreement with the Criminal Division of the US Department of Justice (‘DoJ’) (the 'FX DPA'), resolving the DOJ’s investigation into HSBC’s historical foreign exchange activity. Under the terms of the FX DPA, HSBC is required to further enhance its internal controls and procedures regarding its Global Markets business. For further details, see Note 35 on the Financial Statements.

HSBC Holdings and its US operations are subject to supervision, regulation and examination by the FRB because HSBC Holdings is a 'bank holding company' under the US Bank Holding Company Act of 1956, as a result of its control of HSBC Bank USA, N.A., Tysons Corner, Virginia ('HSBC Bank USA') and HSBC Trust Company (Delaware), N.A., Wilmington, Delaware ('HTCD'). HNAH is also a 'bank holding company' and an intermediate holding company ('IHC'). Both HSBC Holdings and HNAH have elected to be financial holding companies pursuant to the provisions of the Gramm-Leach-Bliley Act (the 'GLBA') and, accordingly, may affiliate with securities firms and insurance companies, and engage in other activities that are financial in nature or incidental or complementary to activities that are financial in nature.

Under regulations implemented by the FRB, if any financial holding company, or any depositary institution controlled by a financial holding company, ceases to meet certain capital or management standards, the FRB may impose corrective capital and/or managerial requirements on the financial holding company and place limitations on its ability to conduct the broader financial activities permissible for financial holding companies. In addition, the FRB may require divestiture of the holding company's depositary institutions or its affiliates engaged in broader financial activities in reliance on the GLBA if the deficiencies persist. The regulations also provide that if any depositary institution controlled by a financial holding company fails to maintain a satisfactory rating under the Community Reinvestment Act of 1977, the FRB must prohibit the financial holding company and its subsidiaries from engaging in any additional activities other than those permissible for bank holding companies that are not financial holding companies.

The two US banks, HSBC Bank USA and HTCD, are subject to regulation and examination primarily by the OCC. HSBC Bank USA and HTCD are subject to additional regulation and supervision, secondly by the FDIC, and by the FRB and the Consumer Financial Protection Bureau ('CFPB'). Banking laws and regulations restrict many aspects of their operations and administration, including the establishment and maintenance of branch offices, capital and reserve requirements, deposits and borrowings, investment and lending activities, payment of dividends and numerous other matters.

In the US, parent company insolvencies are governed by the US Bankruptcy Code, 11 U.S.C. § 101 et seq. (the 'Bankruptcy Code'). Chapter 7 of the Bankruptcy Code sets forth the procedures for liquidation of a debtor company's assets for distribution to creditors, whereas Chapter 11 permits the operation of the debtor's business while either negotiating a plan of reorganisation with the company's creditors or liquidating the business. Subsidiary banks are subject to the Federal Deposit Insurance Act (the 'FDIA'). Under the FDIA, the FDIC has the authority as receiver to liquidate and wind up a bank's affairs and to succeed to all rights, titles, powers and privileges of the bank and relevant associated persons.

Under a special regime introduced by Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act ('Dodd-Frank'), the US Secretary of the Treasury has the authority to appoint the FDIC as receiver of certain qualifying parent companies and their subsidiaries under specified conditions. The FDIC's powers under what is referred to as the Orderly Liquidation Authority ('OLA') incorporate elements of both the FDIA and the Bankruptcy Code, and are intended to minimise the adverse effects of a complex financial group's failure on the financial stability of the US. In respect of a banking group with a parent company not organised under the laws of the US, any actions under the OLA would likely be directed at the US-based intermediate holding company.

Following implementation of the Basel III capital framework by the US banking regulators, HNAH, HSBC USA Inc. and HSBC Bank USA are required to maintain minimum capital ratios (exclusive of any countercyclical capital buffer), including a minimum supplementary leverage ratio of 3% and an effective minimum total risk-based capital ratio of 10.5%. The 10.5% ratio includes the capital conservation buffer, which is not a minimum requirement *per se*, but rather a necessary condition to allow capital distributions. A countercyclical capital buffer requirement, applicable to banking organisations that meet the advanced approaches thresholds, also applies to HNAH and HSBC Bank USA, and the buffer has been currently set at 0%. Additionally, failure to maintain minimum regulatory ratios in simulated stress conditions, as required by the FRB's Comprehensive Capital Analysis and Review ('CCAR') programme, would restrict HNAH from engaging in capital distributions such as dividends or share repurchases. In addition to the CCAR stress testing requirements, the Dodd-Frank Act Stress Test ('DFAST') requires HNAH and HSBC Bank USA to undergo regulatory stress tests conducted by the FRB annually, and requires HNAH to conduct and publish the results of their own internal stress tests periodically.

As part of the CCAR process, the FRB undertakes a supervisory assessment of the capital adequacy of bank holding companies, including HNAH, based on a review of a comprehensive capital plan submitted by each participating bank holding company to the FRB that describes the company's planned capital actions, such as plans to pay or increase common stock dividends, reinstate or increase common stock repurchase programmes, or redeem preferred stock or other regulatory capital instruments, during the nine-quarter review period, as well as the results of stress tests conducted by both the company and the FRB under different hypothetical macroeconomic scenarios, including a severely adverse scenario provided by the FRB. The FRB can object to a capital plan for qualitative or quantitative reasons, in which case the company cannot make capital distributions without specific FRB approval.

HNAH submitted its latest CCAR capital plan and annual company-run DFAST results in April 2018. HSBC Bank USA is also subject to the OCC's DFAST requirements, which require certain banks to conduct annual company-run stress tests, and submitted its latest annual DFAST results in April 2018. The company-run stress tests are forward-looking exercises to assess the impact of hypothetical macroeconomic baseline and severely adverse scenarios provided by the FRB and the OCC for the annual exercise, and internally developed scenarios for both the annual periodic exercises, on the financial condition and capital adequacy of a bank-holding company or bank over a nine-quarter planning horizon.

In June 2018, the FRB informed HNAH that it did not object to HNAH's capital plan or the planned capital distributions included in its 2018 CCAR submission.

In April 2018, the FRB issued a proposal to replace the capital conservation buffer with a stress capital buffer, which would be floored at 2.5%. Under the proposal, the stress capital buffer would equal (i) a bank holding company's projected decline in common equity tier 1 under the supervisory severely adverse stress testing scenario prior to any planned capital actions, plus (ii) one year of planned common stock dividends and would be reset each year based on the bank holding company's supervisory stress testing results.

Large international banks, such as HSBC Holdings (generally with regard to its US operations), and large insured depositary institutions, such as HSBC Bank USA, are required to file resolution plans identifying among other things, material subsidiaries and core business lines, and describing which strategy would be followed to resolve the institution in the event of significant financial distress, including identifying how insured bank subsidiaries would be adequately protected from risk created by other affiliates. The failure to cure deficiencies in a resolution plan would enable the FRB and the FDIC, acting jointly, to impose more stringent capital, leverage or liquidity requirements, or restrictions on growth, activities or operations and, if such failure persists, require the divestiture of assets or operations. In 2018, HSBC and HSBC Bank USA submitted their latest resolution plans.

In 2014, the FRB adopted a rule requiring enhanced supervision of the US operations of non-US banks such as HSBC Holdings. The rule required HSBC to establish a single intermediate holding company ('IHC') to hold their US bank and non-bank subsidiaries, although because the HSBC Group had been operating in the US through such an IHC structure (i.e. HNAH), the implementation of this requirement did not itself have a significant impact on our US operations.

In June 2018, the FRB finalised a rule, consistent with the Dodd-Frank Act, to limit credit exposures to single counterparties for large bank holding companies and IHCs, including HNAH. As a result of the rule, HNAH, together with its subsidiaries, will be prohibited from having net credit exposure to a single unaffiliated counterparty in excess of 25% of HNAH's tier 1 capital beginning July 1, 2020. In addition, HNAH, together with its subsidiaries, could become subject to a separate limit on its exposures to certain unaffiliated systemically important counterparties if its parent, HSBC Holdings, cannot certify its compliance with a large exposure regime in the UK that is consistent with the Basel large exposure framework by January 1, 2020. We continue to evaluate the potential effects of this rule on our operations.

An IHC may calculate its capital requirements under the US standardised approach, even if it meets the asset thresholds that would require a bank holding company to use advanced approaches. HNAH and HSBC Bank USA received regulatory approval to opt out of the advanced approach in 2015. In 2018, HSBC Bank USA submitted an annual statement to the OCC to renew its opt out of the advanced approaches. HNAH and HSBC Bank USA remain subject to the other capital requirements applicable to advanced-approaches banking organisations, such as the supplementary leverage ratio, the countercyclical capital buffer, stress testing requirements, certain deductions and adjustments to capital, enhanced risk management standards, enhanced governance and stress testing requirements for liquidity management, and other applicable prudential standards.

HNAH and HSBC Bank USA are required to maintain a liquidity coverage ratio ('LCR') of 100% under rules adopted by the US banking regulators implementing the LCR standard established by the Basel Committee. In 2016, the US banking regulators proposed a rule to implement the Basel Committee's final standard for a net stable funding requirement in the US. This proposal has not yet been finalised.

In 2018, the US banking regulators released a proposed rule for advanced approach firms to update the standardised approach for calculating the exposure amount of derivative contracts. The proposal would require HNAH to apply the standardised approach for measuring counterparty credit risk as a replacement for the current exposure method for purposes of calculating standardised risk-weighted assets and supplementary leverage ratio exposure for derivative contracts. The proposal would require full implementation by 1 July 2020.

In the US, the FRB adopted final rules implementing the FSB's TLAC standard. The rules require, among other things, that IHC companies of non-US global systemically important banks ('G-SIBs'), including HNAH, maintain minimum amounts of TLAC that may include minimum levels of tier 1 capital and long-term debt satisfying certain eligibility criteria, and a related TLAC buffer commencing 1 January 2019 without the benefit of a phase-in period. The TLAC rules also include 'clean holding company requirements' that impose limitations on the types of financial transactions HSBC's US intermediate holding company, HNAH, may engage in. In December 2018, the FRB formally approved HNAH's TLAC structure. The FSB's TLAC standard and the FRB's TLAC rules represent a significant expansion of the current regulatory capital framework. To support compliance with the TLAC rules, HNAH has issued additional long-term debt that is TLAC-compliant and has modified the terms of existing long-term debt in order for that debt to be TLAC-compliant, and will be required to issue additional long-term debt that is TLAC-compliant in future periods.

In April 2018, the FRB issued a proposal to align the calculation of TLAC for US IHCs of non-US G-SIBs with the calculation methodology used by G-SIBs beginning on 1 January 2019. The proposal seeks to modify the leverage requirements related to TLAC and will likely impact the calculation of TLAC for HNAH. The comment period for the proposal closed on 25 June 2018.

HSBC Bank USA and HTCD are subject to risk-based assessments from the FDIC, which insures deposits generally to a maximum of $250,000 per depositor for domestic deposits. Dodd-Frank changed the FDIC's risk-based deposit insurance assessment framework primarily by basing assessments on an FDIC-insured institution's total assets less tangible equity rather than US domestic deposits, which is expected to shift a greater portion of the aggregate assessments to large FDIC-insured institutions. In 2016, the FDIC imposed an additional temporary surcharge on the quarterly assessments of insured depository institutions with total consolidated assets of $10bn or more, including HSBC Bank USA. The FDIC terminated this temporary surcharge in December 2018.

Title VII of Dodd-Frank provides for an extensive framework for the regulation of over-the-counter ('OTC') derivatives by the Commodity Futures Trading Commission ('CFTC') and the SEC, including mandatory clearing, exchange trading, and public and regulatory transaction reporting of certain OTC derivatives, as well as rules regarding the registration of swap dealers and major swap participants, and related capital, margin, business conduct, record keeping and other requirements applicable to such entities.

The CFTC has adopted rules implementing many of the most significant provisions of Title VII. In particular, HSBC Bank USA and HSBC Bank are provisionally registered as swap dealers with the CFTC. Because HSBC Bank is a non-US swap dealer, the CFTC generally limits its direct regulation of HSBC Bank's swap transactions to swaps with US persons and certain affiliates of US persons. However, the CFTC continues to consider whether to apply mandatory clearing, exchange trading, public transaction reporting, margin and business conduct rules to swaps with non-US persons arranged, negotiated or executed by US personnel or agents. The CFTC is also considering whether to apply regulatory transaction reporting requirements on all swaps entered into by a non-US swap dealer or instead to permit reliance on transaction reporting under comparable EU rules. The application of CFTC rules to HSBC Bank's swaps with non-US persons could have an adverse effect on the willingness of non-US counterparties to trade swaps with HSBC Bank, and we continue to assess how developments in these areas will affect our business. On 25 July 2017, the CFTC extended pre-existing relief from the requirement for non-US swap dealers (e.g., HSBC Bank) to comply with clearing, trade execution, reporting, and business conduct rules for swaps with non-US counterparties, when using personnel or agents located in the US to arrange, negotiate, or execute such swaps. This relief extends until the CFTC takes further action on whether to subject such swaps to particular rule requirements. HSBC Bank also relies on substituted compliance with comparable EU regulation to satisfy certain CFTC internal business conduct requirements. There is continued uncertainty regarding the ability of swap dealers located in UK to continue to rely on substituted compliance following the withdrawal of the UK from the EU. If the CFTC fails to provide relief or make a determination of equivalence with UK regulations, HSBC Bank would no longer permitted to rely on substituted compliance and would instead be forced to comply with US requirements. HSBC Bank would be subject to significant additional costs of compliance with Title VII by requiring the implementation of significant additional policies, procedures, documentation, systems and controls that could negatively affect its business and its ability to compete with swap dealers located outside the UK.

In 2016, the CFTC finalised rules that require additional interest rate swaps to be cleared, which have come into effect in phases based on the implementation of parallel clearing requirements in non-US jurisdictions, and are fully effective as of October 2018. In November of 2018, the CFTC proposed amendments to rules governing swap execution facilities ('SEFs') and the associated mandatory trading obligation that requires certain products subject to mandatory clearing to be executed on a SEF or a designated contract market ('DCM'). The proposed rules would significantly expand the mandatory trading requirement to effectively cover all swaps subject to mandatory clearing.
The proposed expansion of the mandatory trading requirements would significantly increase the burden and cost of executing certain interest rate and credit-default swaps and may adversely affect HSBC to a greater extent than some of our competitors.

The CFTC has also proposed rules that would apply position limits to certain physical commodity swaps.

In 2014, the SEC finalised rules regarding the cross-border application of the security-based swap ('SBS') dealer and major SBS participant definitions. These rules share many similarities with parallel guidance finalised by the CFTC in July 2013. In January 2015, the SEC also finalised rules regarding reporting and public dissemination requirements for SBS transaction data. In August 2015, the SEC also finalised rules for the registration of SBS dealers and major SBS participants. The SEC has not yet finalised the implementation dates for these rules or finalised several related Title VII rules. Because our equity and credit derivatives businesses are also subject to the CFTC's jurisdiction under Title VII, material differences between the final SEC rules and existing CFTC rules could materially increase our costs of compliance with Title VII by requiring the implementation of significant additional policies, procedures, documentation, systems and controls for those businesses. On 13 July 2016, the SEC delayed its SBS reporting requirement to one month after its SBS dealer registration rule takes effect. SBS dealer registration will not be required until six months after the SEC finalises a number of additional rules, including on capital, margin and segregation. The ultimate timeframe for finalisation and effectiveness of remaining SEC rulemakings, including SBS dealer and major SBS participant registration, remains uncertain.

In 2015, the OCC, jointly with other US banking regulators, adopted final rules establishing margin requirements for non-cleared swaps and SBS. Subject to certain exceptions, the final margin rules require HSBC Bank USA and HSBC Bank to collect and post initial and variation margin for certain non-cleared swaps and SBS entered into with other swap dealers and financial end-users that exceed a minimum threshold of transactional activity and for financial end-users that do not meet the minimum transactional activity threshold, to collect and post variation margin (but not initial margin).

The final margin rules also limit the types of assets that are eligible to satisfy initial and variation margin requirements, require initial margin to be segregated at a third-party custodian, impose requirements on internal models used to calculate initial margin requirements and contain specific provisions for cross-border transactions and inter-affiliate transactions. The final margin rules follow a phased implementation schedule with additional counterparties becoming subject to initial margin requirements in September 2019 and September 2020, depending on the transactional volume of the parties and their affiliates. These final rules, as well as parallel non-cleared swaps and SBS margin rules from the CFTC, the SEC and certain non-US regulators will increase the costs and liquidity burden associated with trading non-cleared swaps and SBS, and may adversely affect our business in such products. In particular, the imposition of initial margin requirements on inter-affiliate transactions will significantly increase the cost of certain consolidated risk management activities and may adversely affect HSBC to a greater extent than some of our competitors.

Dodd-Frank grants the SEC discretionary rule-making authority to modify the standard of care that applies to brokers, dealers and investment advisers when providing personalised investment advice to retail customers and to harmonise other rules applying to these regulated entities. Dodd-Frank also expands the extra-territorial jurisdiction of US courts over actions brought by the SEC or the US with respect to violations of the anti-fraud provisions in the Securities Act, the Securities Exchange Act of 1934 and the Investment Advisers Act of 1940. In addition, regulations which the FSOC, the CFPB or other regulators may adopt could affect the nature of the activities that our FDIC-insured depository institution subsidiaries may conduct, and may impose restrictions and limitations on the conduct of such activities.

The implementation of the remaining Dodd-Frank provisions, including those related to the recommended imposition of the fiduciary standard on broker-dealers, could result in additional costs or limit or restrict the way we conduct our business in the US.

Global and regional prudential and other regulatory developments

The Group is subject to regulation and supervision by a large number of regulatory bodies and other agencies. In addition to changes being introduced at a country level, changes are often driven by global bodies such as the G-20, the FSB and Basel Committee, which are then implemented at country level or regionally through the EU sometimes with modifications and with separate additional measures.

We are also subject to regulatory stress testing in many jurisdictions. These have increased both in frequency and in the granularity of information required by supervisors. They include the programmes of the BoE, the FRB (as explained in the 'US regulation and supervision' section), the OCC, the EBA, the ECB, the HKMA and other regulators. For further details, see 'Stress testing' on page 115. On prudential changes, further details can be found in the 'Regulatory developments' section on page 4 of the *Pillar 3 Disclosures at 31 December 2018*.

Recovery and resolution

Although many elements of the approach are similar across jurisdictions, there is currently no consistent implementation and a number of key areas still need to be addressed, including an international framework for cross-border resolution. HSBC has engaged with the BoE's Resolution Directorate and the PRA on the topic of recovery and resolution planning.

The preferred resolution strategy for HSBC Group, as confirmed by the BoE is a multiple point of entry ('MPE') strategy, whereby each individual resolution group can be resolved by its respective local resolution authority. However, an enhancement to this approach was endorsed whereby the Group will issue TLAC to the market from HSBC Holdings only and then downstream the proceeds to subsidiaries as necessary and in accordance with set requirements from our regulators. This approach gives the option to host authorities to recapitalise their subsidiaries through the write-down of the internal TLAC resources, with the BoE applying the bail-in tool at the HSBC Holdings level where necessary and subsequently conducting any necessary restructuring and separation of the group in co-ordination with the host authorities.

Similar to all G-SIBs, we are working with our regulators to mitigate or remove critical inter-dependencies between our subsidiaries to further facilitate the resolution of the Group. In particular, in order to remove operational dependencies (where one subsidiary bank provides critical services to another), we have established a Service Company sub-group to house shared services to remove inter-bank dependencies across the Group. The process of transferring critical services from our subsidiary banks to the separate Service Company sub-group is largely complete.

The BoE and PRA have also published a consultation package on a revised resolvability assessment framework which requires additional disclosures about the resolvability of banking groups by June 2021.

European regulation

Through the UK's membership of the EU, HSBC has been both directly and indirectly subject to European financial services regulation. The continued applicability of European financial services regulation in the UK will be determined as part of the UK's deal on withdrawal from the EU and any associated transition period. In the absence of an exit agreement it is the intention of the UK parliament, the FCA and the PRA to transpose existing EU regulation into UK law to take effect 29 March 2019. Existing requirements to EU regulation may change as a result of such transposition. It is not clear how the UK will treat EU regulation that comes into effect after the exit date, which would include various proposals falling under the Capital Markets Union initiative in the areas of consumer protection and financial markets and various proposals in relation to cyber risk, use of financial technology and data processing.

The Group continues to enhance and strengthen its governance and resourcing more generally in relation to regulatory change management and the implementation of required measures, actively to address this ongoing and significant agenda of regulatory change.

Financial crime regulation

HSBC operates in many countries around the world. As part of financial crime risk management, we have built a strong global financial crime compliance framework, and have a dedicated financial crime risk team. HSBC takes a comprehensive, risk-based approach to compliance with applicable financial crime-related laws and regulations, including anti-money laundering, sanctions, anti-bribery and corruption, fraud and tax transparency laws and regulations.

HSBC has established a global anti-money laundering ('AML') programme for this purpose. The objective of the AML programme is to ensure that money laundering risks identified by HSBC are appropriately mitigated. The AML programme is based upon various laws, regulations and regulatory guidance from the UK, the EU, Hong Kong, the US, and, as applicable, local jurisdictions in which HSBC does business.

HSBC continues to monitor and assess changes in financial crime regulations in the countries in which it operates. Where appropriate, HSBC will incorporate revised standards as part of its Global AML Programme. Where local country regulations have been amended, all such requirements must be followed by the HSBC entities that are located in that jurisdiction or are obligated through their legal structure to incorporate them.

While acknowledging the primacy of local laws, HSBC's global sanctions policy is based on a comprehensive assessment of financial crime risk. It seeks to implement, with limited exceptions, the sanctions laws and regulations administered by the US, the United Nations, the UK, the EU and Hong Kong.

During 2018, the US reinstated certain sanctions against Iran that had been lifted under the Iran Nuclear Deal and expanded sanctions on Russia and Venezuela. Some of these US sanctions have extraterritorial effect and may affect non-US operators undertaking certain activity captured by these sanctions.

In August 2018, the EU amended the Annex to the EU Blocking Regulation No. 2271/96 (Regulation), and EU persons are now generally prohibited from complying with the US Iran-related sanctions laws and regulations listed in the Annex. As HSBC's global sanctions policy is based on a comprehensive assessment of financial crime risk and acknowledges the primacy of local laws, no changes were required to our sanctions policy as a result of the updated Regulation.

We do not consider that our business activities with counterparties with whom transactions are restricted under applicable sanctions are material to our business for the year ended 31 December 2018.

HSBC requires compliance with all applicable anti-bribery and corruption laws in all markets and jurisdictions in which we operate. These laws include the UK Bribery Act, the US Foreign Corrupt Practices Act, and the Hong Kong Prevention of Bribery Ordinance, as well as other similar laws and regulations in the countries where we operate. We have a global anti-bribery and corruption policy, which gives practical effect to these laws and regulations.

Despite the expiration on 11 December 2017 of the five-year deferred prosecution agreement ('DPA') entered into with the US Department of Justice, and the dismissal of the charges contained within, we continue to take further steps to refine and strengthen our defences against financial crime by investing in advanced analytics and artificial intelligence.

HSBC Bank USA entered into a Consent Order with the Office of the Comptroller of the Currency, and HSBC North American Holdings ('HNAH') entered into a Consent Order with the Federal Reserve Board in October 2010. The Orders required improvement of our compliance risk management programme, including AML controls across our US businesses. These Orders were both terminated in 2018.

In 2012, Holdings entered into a Consent Order with the Federal Reserve Board and agreed to an undertaking with the UK Financial Conduct Authority ('FCA'), both of which contained certain forward-looking obligations in relation to HSBC's AML and sanctions compliance programme. This Consent Order and the undertaking, which is an FCA Direction, remain in effect as of year-end 2018.

Disclosures pursuant to Section 13(r) of the Securities Exchange Act

Section 13(r) of the Securities Exchange Act requires each issuer registered with the SEC to disclose in its annual or quarterly reports whether it or any of its affiliates have knowingly engaged in specified activities or transactions with persons or entities targeted by US sanctions programmes relating to Iran, terrorism, or the proliferation of weapons of mass destruction, even if those activities are not prohibited by US law and are conducted outside the US by non-US affiliates in compliance with local laws and regulations.

To comply with this requirement, HSBC Holdings plc (together with its affiliates, 'HSBC') has requested relevant information from its affiliates globally. The following activities conducted by HSBC are disclosed in response to Section 13(r):

Loans in repayment

Between 2001 and 2005, the Project and Export Finance division of HSBC arranged or participated in a portfolio of loans to Iranian energy companies and banks. All of these loans were guaranteed by European and Asian export credit agencies and had varied maturity dates with final maturity in 2018. We continued to seek repayment in accordance with our obligations to the supporting export credit agencies.

During 2018, the remaining five loans all matured. These loans were supported by the official export credit agencies of the UK, South Korea and Japan. We do not currently intend to extend any new loans. We generated the equivalent of approximately $4,400 of gross revenue and net profit from the loans maturing during 2018.

Legacy contractual obligations related to guarantees

Between 1996 and 2007, we provided guarantees to a number of our non-Iranian customers in Europe and the Middle East for various business activities in Iran. In a number of cases, we issued counter-indemnities in support of guarantees issued by Iranian banks as the Iranian beneficiaries of the guarantees required that they be backed directly by Iranian banks. The Iranian banks to which we provided counter indemnities included Bank Tejarat, Bank Melli, and the Bank of Industry and Mine.

There was no measurable gross revenue in 2018 under those guarantees and counter indemnities. We do not allocate direct costs to fees and commissions and, therefore, have not disclosed a separate net profit measure. We are seeking to cancel all relevant guarantees and counter indemnities, and do not currently intend to provide any new guarantees or counter indemnities involving Iran. Currently, approximately 15 remain outstanding.

Other relationships with Iranian banks

Activity related to US-sanctioned Iranian banks not covered elsewhere in this disclosure includes the following:

- We maintained an account in the UK for an Iranian-owned, UK-regulated financial institution during 2018. The account was generally no longer restricted under UK law, though we maintained restrictions on the account as a matter of policy. We exited this account in 2018. Estimated gross revenue in 2018 on this account, which includes fees and/or commissions, was approximately $106,300.
- We act as the trustee and administrator for a pension scheme involving eight employees of a US-sanctioned Iranian bank in Hong Kong, two of whom joined the scheme during 2018. Under the rules of this scheme, we accept contributions from

the Iranian bank each month and allocate the funds into the pension accounts of the Iranian bank's employees. We run and operate this pension scheme in accordance with Hong Kong laws and regulations. Estimated gross revenue, which includes fees and/or commissions, generated by this pension scheme during 2018 was approximately $634.

For the Iranian bank-related activity discussed above, we do not allocate direct costs to fees and commissions and, therefore, have not disclosed a separate net profit measure.

We have been holding a safe custody box for the Central Bank of Iran. For a number of years, the box has not been accessed by the Central Bank of Iran and no fees have been charged to the Central Bank of Iran.

We currently intend to continue to wind down the activity discussed in this section, to the extent legally permissible, and not enter into any new such activity.

Activity related to US Executive Order 13382

We maintained an account for an individual customer who is designated under Executive Order 13382. The customer used an HSBC credit card to make payments during 2018. The account was closed and exited during 2018. There was no measurable gross revenue or net profit generated from these transactions during 2018.

Other activity

We have an insurance company customer in the United Arab Emirates that, during 2018, made payments for the reimbursement of medical treatment to a hospital located in the United Arab Emirates and owned by the government of Iran. We processed all these payments to the hospital made by its customer.

We maintain accounts for certain customers in the United Arab Emirates that, during 2018, received cheque payments from two entities owned by the government of Iran.

We maintain accounts for certain customers in Europe and Asia that made payments to an Iranian-owned airline during 2018.

We maintain accounts for certain individual customers in Asia that have used HSBC credit cards to make travel-related payments to Iranian embassies during 2018.

We maintain an account for a customer in the United Arab Emirates that received a payment from an Iranian-owned bank during 2018.

For the activity in this section, there was no measurable gross revenue or net profit to HSBC during 2018.

Frozen accounts and transactions

We maintain several accounts that are frozen as a result of relevant sanctions programmes, and safekeeping boxes and other similar custodial relationships, for which no activity, except as licensed or otherwise authorised, took place during 2018.
There was no measurable gross revenue or net profit to HSBC during 2018 relating to these frozen accounts.

Risk

Our conservative risk appetite

Throughout its history, HSBC has maintained an evolving conservative risk profile. This is central to our business and strategy.

The following principles guide the Group's overarching risk appetite and determine how its businesses and risks are managed.

Financial position

- Strong capital position, defined by regulatory and internal capital ratios.
- Liquidity and funding management for each operating entity, on a stand-alone basis.

Operating model

- Ambition and capability to generate returns in line with a conservative risk appetite and strong risk management capability.
- Ambition and capability to deliver sustainable earnings and consistent returns for shareholders.

Business practice

- Zero tolerance for knowingly engaging in any business, activity or association where foreseeable reputational risk or damage has not been considered and/or mitigated.
- No appetite for deliberately or knowingly causing detriment to consumers, or incurring a breach of the letter or spirit of regulatory requirements.
- No appetite for inappropriate market conduct by a member of staff or by any Group business.

Enterprise-wide application

Our risk appetite encapsulates consideration of financial and non-financial risks and is expressed in both quantitative and qualitative terms. It is applied at the global business level, at the regional level, and to material operating entities.

Top and emerging risks

Our approach to identifying and monitoring top and emerging risks is described on page 115. During 2018, we made a number of changes to our top and emerging risks to reflect our assessment of the issues facing HSBC. Our current top and emerging risks are as follows.

Externally driven

Economic outlook and capital flows

Economic activity diverged across the global economy during 2018. The US benefited from a fiscal stimulus that helped to drive GDP growth above its long-term trend. The growth rate in trade-dependent regions like the European Union ('EU') declined on the back of a slowing Chinese economy, and trade and geopolitical tensions. Tightening global financial conditions alongside the tapering off of fiscal stimulus in the US is expected to lead to more moderate growth in global economic activity in 2019. Oil prices will likely remain volatile as contrasting supply and demand factors prevail in turn.

The stand-off between the US and China on a variety of economic and technological issues is likely to continue in 2019, although further liberalising initiatives in a vein similar to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership ('CPTPP') and the EU-Japan trade deal, as well as some re-organisation of global supply chains, could partly offset rising protectionism. Nevertheless, the net impact on trade flows could be negative, and may damage HSBC's traditional lines of business.

Emerging markets are set to face challenging cross-currents. The reduction in global liquidity and consequent increase in the cost of external funding could expose vulnerabilities that spread more broadly. However, China has pledged to enact some stimulus to offset the effects of tariff hikes. This should help emerging markets achieve reasonable growth rates even in the face of headwinds, though downside risks abound.

US midterm elections brought in a divided Congress, while two of Latin America's largest economies, Mexico and Brazil, elected new presidents. In Europe, populist parties have made political gains and could make further breakthroughs. In conjunction with continuing significant uncertainty around the ultimate shape of the UK's exit from the EU, as well as developments in countries such as Italy, severe bouts of economic and financial turbulence could spread beyond Europe. We believe HSBC's strong UK and European franchises are well placed to weather risks, but would nevertheless be affected by severe shocks.

Mitigating actions

- We actively assess the impact of economic developments in key markets on specific customer segments and portfolios and take appropriate mitigating actions. These actions include revising risk appetite and/or limits, as circumstances evolve.
- We use internal stress testing and scenario analysis, as well as regulatory stress test programmes, to evaluate the potential impact of macroeconomic shocks on our businesses and portfolios. Our approach to stress testing is described on page 115.
- We have carried out detailed reviews and stress tests of our wholesale credit, retail credit and trading portfolios to determine those sectors and customers most vulnerable to the UK's exit from the EU, in order to proactively manage and mitigate this risk.

Geopolitical risk

Our operations and portfolios are exposed to risks associated with political instability, civil unrest and military conflict, which could lead to disruption to our operations, physical risk to our staff and/or physical damage to our assets. In addition, rising protectionism and the increasing trend of using trade and investment policies as diplomatic tools may also adversely affect global trade flows.

Geopolitical risk remained heightened throughout 2018. The growing presence of populist parties means political systems across Europe are increasingly fragmented, volatile and less predictable. Political uncertainty remains high in the UK as its departure from the EU continues to dominate the political agenda in 2019 (see 'Process of UK withdrawal from the European Union' on page 111).

In the Middle East, the US has reinstated components of its Iran sanctions regime that were previously lifted to implement the Iran Nuclear Deal. The US is also putting pressure to end the war in Yemen and the boycott of Qatar. In Turkey, which has local elections in March 2019, the president may face increasing pressure to solve economic challenges after the Turkish lira came under pressure in 2018.

In Asia, US-China competition and confrontation across multiple dimensions will likely continue, including concerning economic power and technology leadership. US investment and export restrictions on Chinese imports could disrupt investment decisions, leading to a slow decoupling of the US and Chinese technology sectors.

Key presidential votes in HSBC markets Mexico and Brazil have changed the political status quo. A major source of uncertainty for Mexico was removed with the negotiation of the United States-Mexico-Canada Agreement ('USMCA'), which replaces NAFTA as a key driver of the Mexican economy, but still must be ratified. In Argentina, elections due in October 2019 will be shaped by economic factors and potential further market volatility. Corruption and security dynamics will continue to shape voter preferences.

Mitigating actions

We continually monitor the geopolitical outlook, in particular in countries where we have material exposures and/or a physical presence. We have also established dedicated forums to monitor geopolitical developments.

- We use internal stress tests and scenario analysis as well as regulatory stress test programmes, to adjust limits and exposures to reflect our risk appetite and mitigate risks as appropriate. Our internal credit risk ratings of sovereign counterparties take into account geopolitical developments that could potentially disrupt our portfolios and businesses.
- We continue to carry out contingency planning for the UK's exit from the EU and we are assessing the potential impact on our portfolios, operations and staff. This includes the increased possibility of an exit with no transition agreement.
- We have taken steps to enhance physical security in those geographical areas deemed to be at high risk from terrorism and military conflicts.

The credit cycle

Steadily rising US interest rates and the looming end of the ECB's quantative easing programme, alongside the uncertainty caused by trade and geopolitical tensions, caused a correction in stock indices and a widening in corporate bond spreads in the fourth quarter of 2018. The Bank for International Settlements ('BIS') estimates that 80% of US leveraged loans are 'covenant-lite'. Pressures in this segment could come to a head and spill over to other asset classes. The International Monetary Fund deems that thin liquidity coverage ratios ('LCRs') and stable funding ratios ('SFRs') for international banks' US dollar positions could cause offshore dollar liquidity to tighten abruptly during periods of high volatility, possibly affecting HSBC's positions.

After reining in excess leverage during 2018, China has pledged renewed stimulus in 2019 to counter various adverse effects on economic activity. This could lead to renewed global concerns about Chinese debt levels. In addition, debt-servicing burdens are high in some emerging markets, making them vulnerable to shocks.

Mitigating actions

- We closely monitor economic developments in key markets and sectors and undertake scenario analysis. This helps enable us to take portfolio actions where necessary, including enhanced monitoring, amending our risk appetite and/or reducing limits and exposures.
- We stress test portfolios of particular concern to identify sensitivity to loss under a range of scenarios, with management actions being taken to rebalance exposures and manage risk appetite where necessary.
- We undertake regular reviews of key portfolios to help ensure that individual customer or portfolio risks are understood and our ability to manage the level of facilities offered through any downturn is appropriate.

Cyber threat and unauthorised access to systems

HSBC and other organisations continue to operate in an increasingly hostile cyber threat environment, which requires ongoing investment in business and technical controls to defend against these threats.

Key threats include unauthorised access to online customer accounts, advanced malware attacks and distributed denial of service ('DDOS') attacks.

Destructive malware (including ransomware), DDOS attacks and organised cyber criminals targeting payments are increasingly dominant threats across the industry. In 2018, the Group was subjected to a small number of DDOS attacks on our external facing websites, which were successfully mitigated across the Group with no destructive malware (including ransomware) or payment infrastructure attacks reported.

Mitigating actions

- We continue to strengthen and significantly invest in both business and technical controls in order to prevent, detect and respond to an increasingly hostile cyber threat environment. We continually evaluate the threat environment for the most prevalent attack types and their potential outcomes to determine the most effective controls to mitigate those threats.
- Specifically, we continue to enhance our controls to protect against advanced malware, data leakage, infiltration of payment systems and denial of service attacks as well as enhance our ability to quickly detect and respond to increasingly sophisticated cyber-attacks. Ensuring our staff continue to be 'cyber aware' is a key element of our defence strategy.
- Cyber risk is a priority area for the Board and is routinely reported at Board level to ensure appropriate visibility, governance and executive support for our ongoing cybersecurity programme.

Regulatory developments including conduct, with adverse impact on business model and profitability

Financial service providers continue to face stringent regulatory and supervisory requirements, particularly in the areas of capital and liquidity management, conduct of business, financial crime, internal control frameworks, the use of models and the integrity of financial services delivery. The competitive landscape in which the Group operates may be significantly altered by future regulatory changes and government intervention. Regulatory changes, including any resulting from the UK's exit from the EU, may affect the activities of the Group as a whole, or of some or all of its principal subsidiaries. This would include the loss of passporting rights and free movement of services, which are likely to arise in the event of the UK leaving the EU without an exit deal. Changes to business models and structures will be necessary to accommodate any such restrictions. For further details, see page 111.

Additionally, as described in Note 35 on the Financial Statements, we continue to be subject to a number of material legal proceedings, regulatory actions and investigations, including, for example, our January 2018 deferred prosecution agreement with the US DoJ arising from its investigation into HSBC's historical foreign exchange activities (the 'FX DPA').

Mitigating actions

- We are fully engaged, wherever possible, with governments and regulators in the countries in which we operate, to help ensure that new requirements are considered properly by regulatory authorities and the financial sector and can be implemented effectively. Significant regulatory programmes are overseen by the Group Change Committee.
- We hold regular meetings with all relevant authorities to discuss strategic contingency plans covering a wide range of scenarios relating to the UK's exit from the EU. In the absence of an agreement on the terms of the UK's withdrawal from the EU, these discussions increasingly focus on no deal scenarios and our plans to navigate the restrictions that are likely to arise regarding our ability to access EU markets and customers from the UK if passporting rights are withdrawn.
- We have invested significant resources and have taken, and will continue to take, a number of steps to improve our compliance systems and controls relating to our activities in global markets. These included enhancements to trade, voice and audio surveillance and the implementation of algorithmic trading for benchmark orders. For further details, see 'Regulatory compliance risk management' on page 123.

Financial crime risk environment

Financial institutions remain under considerable regulatory scrutiny regarding their ability to prevent and detect financial crime. Financial crime threats continue to evolve, often in tandem with geopolitical developments. The highly speculative, volatile and opaque nature of virtual currencies, as well as the pace of new currencies and associated technological developments, create challenges in effectively managing financial crime risks. The evolving regulatory environment continues to present execution challenge. An increasing trend towards greater data privacy requirements may affect our ability to effectively manage financial crime risks.

In December 2012, among other agreements, HSBC Holdings plc ('HSBC Holdings') consented to a cease-and-desist order with the US Federal Reserve Board ('FRB') and agreed to an undertaking with the UK Financial Conduct Authority ('FCA') to comply with certain forward-looking anti-money laundering ('AML') and sanctions-related obligations. HSBC Holdings also agreed to retain an independent compliance monitor – who is for FCA purposes a 'Skilled Person' under section 166 of the Financial Services and Markets Act, and for FRB purposes an 'Independent Consultant' – to produce periodic assessments of the Group's AML and sanctions compliance programme. In December 2012, HSBC Holdings also entered into an agreement with the Office of Foreign Assets Control ('OFAC') regarding historical transactions involving parties subject to OFAC sanctions. The Skilled Person/Independent Consultant will continue to conduct country reviews and provide periodic reports for a period of time at the FCA's and FRB's discretion. The role of the Skilled Person/Independent Consultant is discussed on page 124.

Mitigating actions

- We continued to enhance our financial crime risk management capabilities. We are investing in the next generation of tools to fight financial crime through the application of advanced analytics and artificial intelligence.
- We are developing procedures and controls to manage the risks associated with direct and indirect exposure to virtual currencies.
- We continue to work with jurisdictions and relevant international bodies to address data privacy challenges through international standards, guidance, and legislation to enable effective management of financial crime risk.
- We continue to take steps designed to ensure that the reforms we have put in place are both effective and sustainable over the long term.

Ibor transition

Interbank offered rates ('Ibors') are used to set interest rates on hundreds of trillions of US dollars' worth of different types of financial transactions and are used extensively for valuation purposes, risk measurement and performance benchmarking.

Following the recommendations of the Financial Stability Board, a fundamental review and reform of the major interest rates benchmarks, including Ibors, are underway across the world's largest financial markets. In some cases, the reform will include replacing interest rate benchmarks with alternative risk-free rates ('RFRs'). This replacement process is at different stages, and is progressing at different speeds, across several major currencies. There is therefore uncertainty as to the basis, method and timing of transition and their implications on the participants in the financial markets.

HSBC has identified a number of potential prudential, conduct and systemic risks associated with the transition.

Mitigating actions

- We have established a global programme across all of our global businesses to coordinate HSBC's transition activities and to assess the potential risks and impacts of any transition.
- We will continue to engage with industry participants and the official sector to support an orderly transition.

Climate-related risks

Climate change can create physical risks such as severe weather events of increasing severity and/or frequency. The move to a low-carbon economy also creates transition risks both at idiosyncratic and systemic levels, such as through policy, regulatory and technological changes. These physical and transition risks create potential financial impacts for HSBC through higher risk-weighted assets ('RWAs), greater transactional losses and increased capital requirements.

There is potential for a rapid deterioration of credit quality in sectors and/or countries most exposed to transition risks, particularly if policy changes are radical or quickly enacted. HSBC could be significantly impacted by increased credit RWAs and losses through exposure to pools of stranded assets if the Group does not adequately respond to the changing landscape.

Physical risks from natural disasters, such as floods and hurricanes, could also impact credit RWAs, while the financial losses caused by these events could impair asset values and the creditworthiness of customers.

Mitigating actions

- We are increasingly incorporating climate-related risk, both physical and transition, into how we manage and oversee risks internally and with our customers.
- A programme of work to measure and monitor the transition risk of our portfolio is underway. This includes identifying those customers that need to adapt most rapidly to a transition to a low-carbon economy and integrating climate change risk considerations into credit risk analysis, decision making and credit policies.
- We have a number of sustainability risk policies covering sectors that have particular risks and/or public exposure. In 2018, we updated our energy policy to limit the financing of high-carbon intensity energy projects, while still supporting energy customers on their transition to a low-carbon economy.
- We continue to expand our thinking with regards to stress testing of climate risks. Over time, we will articulate narratives for a baseline and a number of alternative scenarios, as well as undertake portfolio-specific sensitivity tests. We expect to learn more about the impacts of climate risk as scenario analysis and stress testing evolves.
- Our enterprise risk management framework continues to be enhanced to develop and embed the measurement, monitoring and management of climate-related risks.

- An internal Climate Risk Council provides oversight by seeking to develop policy and limit frameworks in order to achieve desired portfolios over time, and protect the Group from climate-related risks that are outside of risk appetite.

Internally driven

IT systems infrastructure and resilience

We continue to invest in the reliability and resilience of our IT systems and critical services. We do so to help prevent disruption to customer services, which could result in reputational and regulatory damage.

Mitigating actions

- We continue to invest in transforming how software solutions are developed, delivered and maintained, with a particular focus on providing high-quality, stable and secure services. As part of this, we are concentrating on materially improving system resilience and service continuity testing. We have enhanced the security features of our software development life cycle and improved our testing processes and tools.
- We continue to upgrade our IT systems, simplify our service provision and replace older IT infrastructure and applications. Enhancements have led to continued global improvements in service availability for both our customers and employees.

Risks associated with workforce capability, capacity and environmental factors with potential impact on growth

Our success in delivering our strategic priorities, as well as proactively managing the regulatory environment, depends on the development and retention of our leadership and high-performing employees. The ability to continue to attract, train, motivate and retain highly qualified professionals in an employment market where expertise is often mobile and in short supply is critical, particularly as our business lines execute their strategic business outlooks. This may be affected by external and environmental factors, such as the UK's exit from the EU, changes to immigration policies and regulations and tax reforms in key markets that require active responses. Although potential people impacts related to the UK's exit from the EU have not yet materialised, we continue to monitor retention trends and the recruitment of key roles.

Mitigating actions

- HSBC University is focused on developing opportunities and tools for current and future skills, personal skills and leaders to create an environment for success.
- We continue to develop succession plans for key management roles, with actions agreed and reviewed on a regular basis by the Group Management Board.
- We actively respond to immigration changes through the global immigration programme. Other political and regulatory challenges are being closely monitored to minimise the impact on the attraction and retention of talent and key performers.
- HSBC is building the healthiest human system where colleagues can thrive. A number of initiatives have been launched to improve our ways of working and encourage an open and positive culture (e.g. simplifying processes and governance, and adopting new behaviours). We also promote a diverse and inclusive workforce and provide active support across a wide range of health and well-being activities.

Risks arising from the receipt of services from third parties

We utilise third parties for the provision of a range of services, in common with other financial service providers. Risks arising from the use of third-party service providers may be less transparent and therefore more challenging to manage or influence. It is critical that we ensure we have appropriate risk management policies, processes and practices. These should include adequate control over the selection, governance and oversight of third parties, particularly for key processes and controls that could affect operational resilience. Any deficiency in our management of risks arising from the use of third parties could affect our ability to meet strategic, regulatory or client expectations.

Mitigating actions

- We continued to embed our delivery model in the first line of defence through a dedicated team. Processes, controls and technology to assess third-party service providers against key criteria and associated control monitoring, testing and assurance have been deployed.
- A dedicated oversight forum in the second line of defence monitors the embedding of policy requirements and performance against risk appetite. In the fourth quarter of 2018, regional second line of defence oversight capabilities were established in the major markets.

Enhanced model risk management expectations

We use models for a range of purposes in managing our business, including regulatory capital calculations, stress testing, credit approvals, financial crime risk management and financial reporting. Internal and external factors have had a significant impact on our approach to model risk management. Moreover, the adoption of more sophisticated modelling techniques and technology across the industry could also lead to increased model risk.

Mitigating actions

- We established a model risk management sub-function in the second line of defence to strengthen governance and oversight of this risk type.
- We further strengthened model oversight by reconfiguring the Global Model Oversight Committee, which is chaired by the Group Chief Risk Officer and attended by CEOs of the global businesses.
- We incorporated model risk-specific metrics within the Group risk appetite statement as part of the embedding of model risk as a risk discipline.
- We enhanced our model risk governance framework while partnering with the business to help enable more effective management of model risk in a commercial context. As we adopt new modelling technologies, we are updating our model risk management framework and governance standards to help drive the evolution of the overall governance framework to ensure best practice.
- We are refreshing the existing model risk controls to enable better understanding of control objectives and to provide the modelling areas with implementation guidance to enhance effectiveness.

Data management

The Group uses a large number of systems and applications to support key business processes and operations. As a result, we often need to reconcile multiple data sources, including customer data sources, to reduce the risk of error. HSBC, along with other organisations, also needs to meet external/regulatory obligations such as the General Data Protection Regulation ('GDPR'), which requires implementation of data privacy and protection capabilities across our customer data systems.

Mitigating actions

- We continue to improve data quality across a large number of systems globally. Our data management, aggregation and oversight continues to strengthen and enhance the effectiveness of internal systems and processes. We are implementing data controls for critical processes in the front-office systems to improve our data capture at the point of entry. We have achieved our objectives of meeting a 'largely compliant' rating in support of the Basel Committee for Banking Supervision (BCBS 239) principles.
- Through our global data management framework, we have commenced embedding governance processes to monitor proactively the quality of critical customer, product and transaction data and resolving associated data issues in a

timely manner. We continue to implement controls to improve the reliability of data used by our customers and staff.

- We are leveraging our investment in the GDPR initiative to roll out and implement a global and consistent data privacy framework.

Risk factors

We have identified a suite of risk factors that cover a broad range of risks our businesses are exposed to. These risks have the potential to have a material adverse effect on our business, financial condition, results of operations, prospects, capital position, strategy, reputation and/or customers. They may not necessarily be deemed as top or emerging risks; however, they inform the ongoing assessment of our top and emerging risks that may result in our risk appetite being revised. The risk factors are set out below.

Macroeconomic and geopolitical risk

Current economic and market conditions may adversely affect our results

Our earnings are affected by global and local economic and market conditions.

Uncertain and at times volatile economic conditions can create a challenging operating environment for financial services companies such as HSBC. In particular, we may face the following challenges to our operations and operating model in connection with these factors:

- the demand for borrowing from creditworthy customers may diminish if economic activity slows or remains subdued;
- if interest rates rise further, consumers and businesses may struggle with the additional debt burden, which could lead to increased delinquencies and expected credit losses ('ECLs');
- our ability to borrow from other financial institutions or to engage in funding transactions may be adversely affected by market disruption, for example in the event of contagion from stress in the eurozone and global sovereign and financial sectors; and
- market developments may depress consumer and business confidence beyond expected levels. If economic growth is subdued, for example, asset prices and payment patterns may be adversely affected, leading to greater than expected increases in delinquencies, default rates and ECLs. However, if growth is too rapid, new asset valuation bubbles could appear, particularly in the real estate sector, with potentially negative consequences for banks.

The occurrence of any of these events or circumstances could have a material adverse effect on our business, financial condition, results of operations, prospects and customers.

The UK's withdrawal from the European Union may adversely affect our operating model and financial results

The modalities of the UK's exit from the European Union, scheduled for end-March 2019, will likely have a significant impact on general economic conditions in the United Kingdom and the European Union. The UK's future relationship with the EU and its trading relationships with the rest of the world will likely take a number of years to resolve. This may result in a prolonged period of uncertainty, unstable economic conditions and market volatility, including currency fluctuations.

We also expect the UK's withdrawal to have implications for our London-based cross-border operations. The extent of these implications will depend on the outcome of negotiations. To ensure continuity of service, independent of the outcome of negotiations, HSBC assumes a scenario whereby the UK exits the EU without the existing passporting or regulatory equivalence framework that supports cross-border business. This scenario would impact (i) our legal entities in the UK and the EU, (ii) our product offering, (iii) our clients and (iv) our employees.

We have made good progress in terms of ensuring we are prepared for the UK leaving the EU in the first quarter of 2019 (see 'Process of UK withdrawal from the European Union' on page 111). However, there remain execution risks, many of them linked to the uncertain outcome of negotiations and potentially tight timelines to implement significant changes to our UK and European operating models. If these risks materialise, HSBC's clients and employees are likely to be affected. The exact impact on our clients will depend on their individual circumstances and, in a worst case scenario, could include disruption to the provision of products and services.

We are likely to be affected by global geopolitical trends, including the risk of government intervention

While economic globalisation appears to remain deeply embedded in the international system, it is increasingly challenged by nationalism and protectionism and international institutions may be less capable of arresting this trend. A gradual shift in global power from the US and Europe towards China and emerging markets also appears to be occurring and may continue.

A rise in nationalism and protectionism, including trade barriers, may be driven by populist sentiment and structural challenges facing developed economies. Similarly, if capital flows are disrupted, some emerging markets may impose protectionist measures that could affect financial institutions and their clients, and other emerging, as well as developed, markets, may be tempted to follow suit. This rise could contribute to weaker global trade, potentially affecting HSBC's traditional lines of business.

The broad geographic footprint and coverage of HSBC will make us and our customers susceptible to protectionist measures taken by national governments and authorities, including imposition of trade tariffs, restrictions on market access, restrictions on the ability to transact on a cross border basis, expropriation, restrictions on international ownership, interest-rate caps, limits on dividend flows and increases in taxation.

There may be uncertainty as to the conflicting nature of such measures, their duration, the potential for escalation, and their potential impact on global economies. Whether these emerging trends are cyclical or permanent is hard to determine, and their causes are likely to be difficult to address. The occurrence of any of these events or circumstances could have a material adverse effect on our business, financial condition, results of operations and prospects.

We are subject to political, social and other risks in the countries in which we operate

We operate through an international network of subsidiaries and affiliates in over 65 countries and territories around the world. Our global operations are subject to potentially unfavourable political, social, environmental and economic developments in such jurisdictions, which may include:

- coups, civil wars or acts of terrorism;
- social instability;
- currency fluctuations;
- climate change and acts of God, such as natural disasters and epidemics; and
- infrastructure issues, such as transportation or power failures.

These risk events may give rise to disruption to our services and result in physical damage to our operations and/or risks to the safety of our personnel and customers.

Physical risks from natural disasters such as floods and hurricanes, could also impact credit RWAs, while the financial losses caused by these events could impair asset values and the creditworthiness of customers.

Such developments may result in a material adverse effect on our business, financial condition, results of operations, prospects and strategy.

Changes in foreign currency exchange rates may affect our results

We prepare our accounts in US dollars because the US dollar and currencies linked to it form the major currency bloc in which we transact and fund our business. However, a substantial portion of our assets, liabilities, assets under management, revenues and expenses are denominated in other currencies. Changes in foreign exchange rates, including those that may result from a currency becoming de-pegged from the US dollar, have an effect on our accounting standards, reported income, cash flows and shareholders' equity. For example, as a result of significant inflation, Argentina has been deemed a hyperinflationary economy effective July 1, 2018 and we are required to apply inflation accounting on a retrospective basis in accordance with IAS 29, as further described in our Financial Statements. Unfavourable changes in foreign exchange rates could have a material adverse effect on our business, financial condition, results of operations and prospects.

Macro-prudential, regulatory and legal risks to our business model

We are subject to unfavourable legislative or regulatory developments and changes in the policy of regulators or governments and we may fail to comply with all applicable regulations, particularly any changes thereto

Our businesses are subject to ongoing regulation and associated regulatory risks, including the effects of changes in the laws, regulations, policies, voluntary codes of practice and interpretations in the UK, the US, Hong Kong, the EU and the other markets in which we operate. This is particularly the case given the current post-financial crisis regulatory and economic environment, where we expect government and regulatory intervention in the banking sector to remain high for the foreseeable future. Additionally, many of these changes have an effect beyond the country in which they are enacted, as either regulators deliberately enact regulation with extra-territorial impact or our operations mean that the Group is obliged to give effect to 'local' laws and regulations on a wider basis.

In recent years, regulators and governments have focused on reforming both the prudential regulation of the financial services industry and the ways in which the business of financial services is conducted. Measures include enhanced capital, liquidity and funding requirements, the separation or prohibition of certain activities by banks, changes in the operation of capital markets activities, the introduction of tax levies and transaction taxes, changes in compensation practices and more detailed requirements on how business is conducted. The governments and regulators in the UK, the US, Hong Kong, the EU or elsewhere may intervene further in relation to areas of industry risk already identified, or in new areas, which could adversely affect us.

Specific areas where regulatory changes could have a material effect on our business, financial condition, results of operations, prospects, capital position, and reputation include, but are not limited to:

- general changes in government, central bank, regulatory or competition policy, or changes in regulatory regimes that may influence investor decisions in particular markets in which we operate;
- the structural separation of certain banking and other activities proposed or enacted in a number of jurisdictions;
- requirements flowing from arrangements for the resolution strategy of the Group and its individual operating entities that may have different effects in different countries;
- the implementation of extra-territorial laws, including initiatives to share tax information;
- the abolition of certain Ibor reference rates across the world and the transition to new replacement rates (as discussed further under 'We may not manage risks associated with the replacement of benchmark indices effectively');
- the UK's exit from the EU, and the transposition of existing EU financial services regulation into UK regulation;
- the treatment of 'third countries' under EU law with regard to their access to EU markets (which may have an adverse impact on the UK in the absence of/subject to the terms of a withdrawal agreement);
- the implementation of the European Commission's proposals for amendments to the BRRD and CRD IV, designed to implement various changes to the EU prudential framework and the subsequent implementation of these amendments in the UK;
- the completion of the outstanding work by the Basel Committee in relation to the Basel II framework, including the treatment of sovereign risk and the long-term regulatory treatment for International Financial Reporting Standard 9, Financial Instruments ('IFRS 9') provisions;
- the implementation of the remaining reforms to the Basel III package, which include changes to the approaches to market risk, credit risk, operational risk, credit valuation adjustment, capital charges and the application of capital floors together with the amendments to the leverage ratio;
- the implementation of more stringent capital, liquidity and funding requirements, and adjustments in the use of models for measuring risk, particularly if capital requirements are increased;
- the proposal by the European Commission that EU banking groups with two or more institutions in the EU, but whose ultimate parent is outside the EU, must establish an EU parent undertaking that would be subject to consolidated prudential supervision in the EU and be subject to capital requirements, recovery and resolution measures, and separate reporting and disclosure requirements. It is unclear, particularly in light of the UK's exit from the EU, how these requirements will affect us or how we will arrange any required restructuring in order to comply with the requirements;
- the corporate governance, business conduct, capital, margin, reporting, clearing, execution and other regulatory requirements to which HSBC Bank USA and certain of our affiliates are or may become subject in their role as a swap dealer, including as imposed by the CFTC and the SEC;
- proposals by the US banking regulators applicable to foreign banking organisations regarding changes to the applicability thresholds for regulatory capital and liquidity requirements;
- the financial effects of climate changes being incorporated within the global prudential framework, including the transition risks resulting from a shift to a low carbon economy;
- the increasing focus by regulators, international bodies, organizations and unions on how institutions conduct business, particularly with regard to the delivery of fair outcomes for customers, promoting effective competition in the interests of consumers and ensuring the orderly and transparent operation of global financial markets;
- a continuing interest in financial services activities by competition authorities;
- restrictions on the structure of remuneration and increasing requirements to detail management accountability within the Group (e.g. the requirements of the Senior Managers and Certification Regime in the UK and similar regimes in Hong Kong and elsewhere that are under consideration/implementation);
- the implementation of any conduct measures as a result of regulators' increased focus on institutional culture, employee behaviour and whistleblowing, including measures resulting from ongoing thematic reviews into the workings of the retail, SME and wholesale banking

sectors and the provision of financial advice to consumers;

- the focus globally on data (including on data processing and subject rights/transfer of information), financial technology risks, operational resilience, crypto assets and cybersecurity and the introduction of new and/or enhanced standards in this area (as discussed further under 'We remain susceptible to a wide range of cyber risks that impact and/or are facilitated by technology, and our operations are highly dependent on our information technology systems' and 'Our data management policies and processes may not be sufficiently robust');
- changes in national or supra-national requirements regarding the ability to offshore or outsource the provision of services and resources or transfer material risk to financial services companies located in other countries, which impact our ability to implement globally consistent and efficient operating models;
- external bodies applying or interpreting standards or laws differently to us;
- further requirements relating to financial reporting, corporate governance and employee compensation;
- expropriation, nationalisation, confiscation of assets and changes in legislation or regulations relating to foreign ownership; and
- the application and enforcement of economic sanctions including those with extra-territorial effect.

We may not manage risks associated with the replacement of benchmark indices effectively

The expected discontinuation of certain key interbank offered rates ('Ibors') such as the London Interbank Offered Rate ('Libor'), and the adoption of alternative risk-free benchmark rates ('RFRs') by the market, introduces a number of risks for HSBC, its clients, and the financial services industry more widely. These include, but are not limited to:

- Legal risks, as changes required to documentation for new and existing transactions may be required;
- Financial risks, arising from any changes in the valuation of financial instruments linked to RFRs;
- Pricing risks, as changes to RFRs could impact pricing mechanisms on some instruments;
- Operational risks, due to the potential need to adapt IT systems, trade reporting infrastructure, operational processes and controls to accommodate one or more RFRs; and
- Conduct risks, through potentially material adverse impact on customers or financial markets.

The benchmark specifications together with the timetable and mechanisms for discontinuation of existing Ibors and implementation of RFRs have not yet been agreed across the industry and regulatory authorities. Accordingly, it is not currently possible to determine whether, or to what extent, any such changes would affect HSBC. However, the discontinuation of existing Ibors and implementation of RFRs could have a material adverse effect on our business, financial condition, results of operations, prospects and customers.

We are subject to the risk of current and future legal, regulatory or administrative actions and investigations, the outcomes of which are inherently difficult to predict

We face significant legal and regulatory risks in our business. The volume and amount of damages claimed in litigation, regulatory proceedings, administrative actions and other adversarial proceedings against financial institutions are increasing for many reasons, including a substantial increase in the number of regulatory changes taking place globally, increased media attention and higher expectations from regulators and the public. In addition, criminal prosecutions of financial institutions for, among other things, alleged conduct breaches, breaches of AML and sanctions regulations, antitrust violations, market manipulation, aiding and abetting tax evasion, and providing unlicensed cross-border banking services, have become more commonplace and may increase in frequency due to increased media attention and higher expectations from prosecutors and the public. Any such legal, regulatory or administrative action against HSBC Holdings or one or more of our subsidiaries could result in, among other things, substantial fines, civil penalties, criminal penalties, cease and desist orders, forfeitures, the suspension or revocation of key licences, requirements to exit certain businesses, other disciplinary actions and/or withdrawal of funding from depositors and other stakeholders. Any threatened or actual litigation, regulatory proceeding, administrative action or other adversarial proceeding against HSBC Holdings or one or more of our subsidiaries could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

Additionally, as described in Note 35 on the Financial Statements, we continue to be subject to a number of material legal proceedings, regulatory actions and investigations, including, for example, our January 2018 deferred prosecution agreement with the US DoJ arising from its investigation into HSBC's historical foreign exchange activities (the 'FX DPA'). It is inherently difficult to predict the outcome of many of the legal, regulatory and other adversarial proceedings involving our businesses, particularly those cases in which the matters are brought on behalf of various classes of claimants, seek damages of unspecified or indeterminate amounts or involve novel legal claims. Potential consequences of breaching the FX DPA could include the imposition of additional terms and conditions on HSBC, an extension of the agreement or the criminal prosecution of HSBC, which could, in turn, entail further financial penalties and collateral consequences. Moreover, we may face additional legal proceedings, investigations or regulatory actions in the future, including in other jurisdictions and/or with respect to matters similar to, or broader than, the existing legal proceedings, investigations or regulatory actions. An unfavourable result in one or more of these proceedings could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We may fail to effectively manage affiliate risk

HSBC Bank USA, as the primary US dollar correspondent bank for the Group, is subject to heightened financial crime risk arising from business conducted on behalf of clients, as well as its non-US HSBC affiliates. If HSBC Bank USA fails to conduct adequate due diligence on clients, including its affiliates, or otherwise inappropriately processes US dollar payments on behalf of non-US HSBC affiliates, it could be in breach of applicable US AML and sanctions laws and regulations, become subject to legal or regulatory enforcement actions by OFAC or other US agencies and be required to pay substantial fines or penalties. Any such action against HSBC Bank USA could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We may fail to meet the requirements of regulatory stress tests

We are subject to regulatory stress testing in many jurisdictions, which are described on page 125. These exercises are designed to assess the resilience of banks to potential adverse economic or financial developments and ensure that they have robust, forward-looking capital planning processes that account for the risks associated with their business profile. Assessment by regulators is on both a quantitative and qualitative basis, the latter focusing on our data provision, stress testing capability and internal management processes and controls.

Failure to meet quantitative or qualitative requirements of regulatory stress test programmes, or the failure by regulators to approve our stress results and capital plans, could have a material adverse effect on our business, financial condition, results of operations, prospects, capital position and reputation.

We and our UK subsidiaries may become subject to stabilisation provisions under the Banking Act 2009, as amended, in certain significant stress situations

The Banking Act 2009, as amended, implements the BRRD in the UK and creates a special resolution regime (the 'SRR'). Under the SRR, HM Treasury, the BoE and the PRA and FCA (together, the 'Authorities') are granted substantial powers to resolve and stabilise UK-incorporated institutions with permission to accept deposits pursuant to Part 4A of the FSMA that are failing or are likely to fail to satisfy the threshold conditions (within the meaning of section 55B of the FSMA) where it is in the public interest to do so. The SRR presently consists of five stabilisation options: (i) transfer of all of the business of a relevant entity or the shares of the relevant entity to a private sector purchaser; (ii) transfer of all or part of the business of the relevant entity to a 'bridge bank' wholly owned by the BoE; (iii) transfer of part of the assets, rights or liabilities of the relevant entity to one or more asset management vehicles for management of the transferor's assets, rights or liabilities; (iv) the write-down, conversation, transfer, modification, or suspension of the relevant entity's equity, capital instruments and liabilities; and (v) temporary public ownership of the relevant entity. These tools may also be applied to a parent company or affiliate of a relevant entity where certain conditions are met. In addition, the SRR provides for modified insolvency and administration procedures for relevant entities. It also confers ancillary powers on the Authorities, including the power to modify or override certain contractual arrangements in certain circumstances. The Authorities are also empowered by order to amend the law for the purpose of enabling the powers under the SRR to be used effectively. Such orders may promulgate provisions with retrospective applicability.

In general, the Banking Act requires the Authorities to have regard to specified objectives in exercising the powers provided for by the Banking Act. One of the objectives (which is required to be balanced as appropriate with the other specified objectives) refers to the protection and enhancement of the stability of the financial system of the UK. The Banking Act includes provisions related to compensation in respect of transfer instruments and orders made under it.

There is considerable uncertainty about how the Authorities may exercise the powers granted to them under the Banking Act. However, if we are at or approaching the point of non-viability, such as to require regulatory intervention, any exercise of any resolution regime powers by the Authorities may result in holders of our ordinary shares or other instruments that may fall within the scope of the 'bail in' powers described above being adversely affected, including by the cancellation of shares, the write-down or conversion into shares of other instruments, the loss of rights associated with shares or other instruments (including rights to dividends or interest payments), the dilution of their percentage ownership of our share capital, and any corresponding material adverse effect on the market price of our ordinary shares and other instruments.

We are subject to tax-related risks in the countries in which we operate

We are subject to the substance and interpretation of tax laws in all countries in which we operate and are subject to routine review and audit by tax authorities in relation thereto. Our interpretation or application of these tax laws may differ from those of the relevant tax authorities and we provide for potential tax liabilities that may arise on the basis of the amounts expected to be paid to the tax authorities. The amounts ultimately paid may differ materially from the amounts provided depending on the ultimate resolution of such matters. For example, in the UK, the Finance Act 2019 contains certain changes to the taxation of regulatory capital securities which may have a material impact in future periods on corporation tax expense for the Group depending upon, among other things, any future guidance or amendments by way of regulation. In general, changes to tax laws and tax rates, and penalties for failing to comply, could have a material adverse effect on our business, financial condition, results of operations, prospects, capital position and reputation.

Risks related to our business, business operations, governance and internal control systems

Our operations are highly dependent on our information technology systems

The reliability and security of our information and technology infrastructure, and our customer databases are crucial to maintaining the service availability of banking applications and processes and to protecting the HSBC brand. The proper functioning of our payment systems, financial control, risk management, credit analysis and reporting, accounting, customer service and other information technology systems, as well as the communication networks between our branches and main data processing centres, are critical to our operations.

Critical system failure, any prolonged loss of service availability or any material breach of data security, particularly involving confidential customer data, could cause serious damage to our ability to service our clients, could breach regulations under which we operate and could cause long-term damage to our business and brand that could have a a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We remain susceptible to a wide range of cyber risks that impact and/or are facilitated by technology.

The threat from cyber-attacks remains a concern for our organisation, and failure to protect our operations from internet crime or cyber-attacks may result in financial loss, business disruption and/or loss of customer services and data or other sensitive information that could undermine our reputation and our ability to attract and keep customers.

Destructive malware (including ransomware), distributed denial of service ('DDOS') attacks and organised cyber criminals targeting payments are increasingly dominant threats across the industry. In 2018, we were subjected to a small number of DDOS attacks on our external facing websites that were successfully mitigated across the Group with no destructive malware (including ransomware) or payment infrastructure attacks reported. Although cyber-attacks in 2018 had a negligible effect on our customers, services or firm, due to the increasing sophistication of cyber-attacks there is the potential for future attacks to have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

Our data management policies and processes may not be sufficiently robust

Critical business processes across the Group rely on large volumes of data from a number of different systems and sources. If data governance (including data retention and deletion, data quality and data architecture policies and procedures) is not sufficiently robust, manual intervention, adjustments and reconciliations may be required to reduce the risk of error in reporting to senior management or regulators. Inadequate policies and processes may also affect our ability to use data within the Group to service customers more effectively and/or improve our product offering. Moreover, financial institutions that fail to comply with in-country (local) and global regulatory and compliance requirements may face supervisory measures. In addition, failure to comply with new Global Data Privacy Requirements may result in regulatory sanctions. Any of these failures could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We could incur losses or be required to hold additional capital as a result of model limitations or failure

HSBC uses models for a range of purposes in managing our business, including regulatory capital calculations, stress testing, credit approvals, calculation of ECLs on an IFRS 9 basis, financial crime and fraud risk management and financial reporting. HSBC could face adverse consequences as a result of decisions that may lead to actions by management based on models that are poorly developed, implemented or used, or as a result of the modelled outcome being misunderstood or the use of such information for purposes for which it was not designed. Regulatory scrutiny and supervisory concerns over banks' use of models is considerable, particularly the internal models and assumptions used by banks in the calculation of regulatory capital. Risks arising from the use of models could have a material adverse effect on our business, financial condition, results of operations, prospects, capital position and reputation.

Our operations utilise third-party suppliers and service providers

HSBC relies on third parties to supply goods and services. The use of third-party service providers by financial institutions is of particular focus to global regulators, including with respect to how outsourcing decisions are made and how key relationships are managed. The inadequate management of third-party risk could impact our ability to meet strategic, regulatory and client expectations. This may lead to a range of effects, including regulatory censure, civil penalties or damage both to shareholder value and to our reputation, which could have a material adverse effect on our business, financial condition, results of operations, prospects and strategy.

We rely on recruiting, retaining and developing appropriate senior management and skilled personnel

The demands being placed on the human capital of the Group are unprecedented. The cumulative workload arising from a regulatory reform programme that is often extra-territorial and regularly evolving consumes significant human resources, placing increasingly complex and conflicting demands on a workforce that operates in an employment market where expertise in key markets is often in short supply and mobile.

Our continued success depends in part on the retention of key members of our management team and wider employee base. The ability to continue to attract, train, motivate and retain highly qualified professionals is a key element of our strategy. The successful implementation of our growth strategy depends on the availability of skilled management in each of our global businesses and global functions, which may depend on factors beyond our control, including economic, market and regulatory conditions.

If global businesses or global functions fail to staff their operations appropriately or lose one or more of their key senior executives and fail to successfully replace them in a satisfactory and timely manner, or fail to implement successfully the organisational changes required to support the Group's strategy, our business, financial condition, results of operations and prospects, including control and operational risks, could be materially adversely affected.

We may suffer losses due to employee misconduct

Our businesses are exposed to risk from potential non-compliance with Group policies, including the HSBC Values, and related behaviours and employee misconduct such as fraud or negligence, all of which could result in regulatory sanctions and/or reputational or financial harm. In recent years, a number of multinational financial institutions have suffered material losses due to the actions of 'rogue traders' or other employees. It is not always possible to deter employee misconduct, and the precautions we take to prevent and detect this activity may not always be effective. Employee misconduct could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

The delivery of our strategic actions is subject to execution risk

Effective management of transformation projects is required to effectively deliver the Group's strategic priorities, involving delivering both on externally driven programmes (e.g. regulatory), as well as key business initiatives to deliver revenue growth, product enhancement and operational efficiency outcomes. The magnitude, complexity and, at times, concurrent demands of the projects required to meet these can result in heightened execution risk, which we endeavour to manage through appropriate governance. The failure to successfully deliver these key strategic initiatives may have material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We may not achieve any of the expected benefits of our strategic initiatives

The Group's strategy (see pages 12 to 13) is built around two trends – the continued growth of international trade and capital flows, and wealth creation, particularly in faster-growing markets. We have analysed those trends and developed criteria to help us better deploy capital in response. The development and implementation of our strategy requires difficult, subjective and complex judgements, including forecasts of economic conditions in various parts of the world. We may fail to correctly identify the trends we seek to exploit and the relevant factors in making decisions as to capital deployment and cost reduction.

Key to achieving our growth strategy is increasing the number of HSBC products held by our customers through cross-selling and driving synergies across our global businesses to grow revenue and earnings. Key opportunities to drive business synergies arise between CMB and GB&M, and separately in RBWM, which are both areas where many of our competitors also focus. In both instances, this may limit our ability to cross-sell additional products to our customers or may influence us to sell our products at lower prices, reducing our net interest income and revenue from our fee-based products. A failure to deliver the cross-selling and/or business synergies required to achieve our growth strategy could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

Our ability to execute our strategy may be limited by our operational capacity and the increasing complexity of the regulatory environment in which we operate. We continue to pursue our cost management initiatives, though they may not be as effective as expected, and we may be unable to meet the cost saving targets included in our productivity programmes.

In addition, factors beyond our control, including but not limited to economic and market conditions, could limit our ability to achieve any of the expected benefits of these initiatives. The global economic outlook is more uncertain, particularly with regard to UK economic risks, global trade tensions and revised interest rate expectations. There remains a risk that, in the absence of an improvement in economic conditions, our cost and investment actions may not be sufficient to achieve the expected benefits.

Failure to achieve any of the expected benefits of our strategic initiatives could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We operate in markets that are highly competitive

We compete with other financial institutions in a highly competitive industry that continues to undergo significant change as a result of financial regulatory reform, including Open Banking in the UK, as well as increased public scrutiny stemming from the financial crisis and continued challenging economic conditions.

We target internationally mobile clients who need sophisticated global solutions and generally compete on the basis of the quality of our customer service, the wide variety of products and services that we can offer our customers, and the ability of those products and services to satisfy our customers' needs, the extensive distribution channels available for our customers, our innovation and our reputation. Continued and increased competition in any one or all of these areas may negatively affect our market share and/or cause us to increase our capital investment in our businesses in order to remain competitive. Additionally, our products and services may not be accepted by our targeted clients.

In many markets, there is increased competitive pressure to provide products and services at current or lower prices. Consequently, our ability to reposition or reprice our products and services from time to time may be limited, and could be influenced significantly by the actions of our competitors who may or may not charge similar fees for their products and services. Any changes in the types of products and services that we offer our customers, and/or the pricing for those products and services, could result in a loss of customers and market share.

Further, new entrants to the market or new technologies could require us to spend more to modify or adapt our products to attract and retain customers. We may not respond effectively to these competitive threats from existing and new competitors, and may be forced to increase our investment in our business to modify or adapt our existing products and services or develop new products and services to respond to our customers' needs.

Any of these factors could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

Our risk management measures may not be successful

The management of risk is an integral part of all our activities. Risk constitutes our exposure to uncertainty and the consequent variability of return. Specifically, risk equates to the adverse effect on profitability or financial condition arising from different sources of uncertainty, including retail and wholesale credit risk, market risk, non-traded market risk, operational risk, insurance risk, concentration risk, liquidity and funding risk, litigation risk, reputational risk, strategic risk, pension risk and regulatory risk.

While we employ a broad and diversified set of risk monitoring and mitigation techniques, such methods and the judgements that accompany their application cannot anticipate every unfavourable event or the specifics and timing of every outcome. Failure to manage risks appropriately could have a material adverse effect on our business, financial condition, results of operations, prospects, strategy and reputation.

Operational risks are inherent in our business, including the risk of fraudulent activity

We are exposed to many types of operational risk that are inherent in banking operations, including fraudulent and other criminal activities (both internal and external), breakdowns in processes or procedures and systems failure or non-availability. These risks are also present when we rely on outside suppliers or vendors to provide services to us and our customers.

In particular, fraudsters may target any of our products, services and delivery channels, including lending, internet banking, payments, bank accounts and cards. This may result in financial loss to the Group and/or our customers, an adverse customer experience, reputational damage and potential litigation, regulatory proceeding, administrative action or other adversarial proceeding in any jurisdiction in which we operate, depending on the circumstances of the event.

These operational risks could have a material adverse effect on our business, financial condition, results of operations, prospects, strategy and reputation.

Our operations have inherent reputational risk

Reputational risk is the risk of failing to meet stakeholder expectations as a result of any event, behaviour, action or inaction, either by HSBC Group, our employees or those with whom we are associated. Any material lapse in standards of integrity, compliance, customer service or operating efficiency may represent a potential reputational risk. Stakeholder expectations constantly evolve, and so reputational risk is dynamic and varies between geographical regions, groups and individuals.

Modern technologies, in particular online social media channels and other broadcast tools that facilitate communication with large audiences in short time frames and with minimal costs, may significantly enhance and accelerate the distribution and effect of damaging information and allegations. Reputational risk could also arise from negative public opinion about the actual, or perceived, manner in which we conduct our business activities, or our financial performance, as well as actual or perceived practices in banking and the financial services industry generally. Negative public opinion may adversely affect our ability to retain and attract customers, in particular, corporate and retail depositors, and to retain and motivate staff, and could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our financial statements are based in part on judgements, estimates and assumptions that are subject to uncertainty

The preparation of financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of assets, liabilities, income and expenses. Due to the inherent uncertainty in making estimates, particularly those involving the use of complex models, actual results reported in future periods may be based upon amounts that differ from those estimates. Estimates, judgements, assumptions and models are continually evaluated, and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Revisions to accounting estimates are recognised in the period in which the estimate is revised and in any future periods affected. The accounting policies deemed critical to our results and financial position, based upon materiality and significant judgements and estimates, include impairment of loans and advances, goodwill, valuation of financial instruments, deferred tax assets, provisions and impairment of interests in associates, which are discussed in detail in 'Critical accounting estimates and judgements' on page 35.

The valuation of financial instruments measured at fair value can be subjective, in particular where models are used that include unobservable inputs. Given the uncertainty and subjectivity associated with valuing such instruments, future outcomes may differ materially from those assumed using information available at the reporting date. In addition, impairment testing on interests in associates involves significant judgements in determining the value in use, and in particular estimating the present values of cash flows expected to arise from continuing to hold the investment, based on a number of management assumptions. At 31 December 2018, we performed an impairment review of our investment in BoCom and concluded it was not impaired based on our value in use calculation. In future periods, the value in use may increase or decrease depending on the effect of changes to model inputs. The effect of these changes on the future results of operations and the future financial position of the Group may be material. For further details, see 'Critical accounting estimates and judgements' on page 35.

If the judgements, estimates and assumptions we use in preparing our consolidated financial statements are subsequently found to be materially different from those assumed using information available at the reporting date, it could have a material adverse effect on our business, financial condition, results of operations and prospects.

Changes in accounting standards may have a material impact on how we report our financial results and financial condition

We prepare our consolidated financial statements in accordance with International Financial Reporting Standards ('IFRSs') as issued by the International Accounting Standards Board ('IASB'), including interpretations ('IFRICS') issued by the IFRS Interpretations Committee, and as endorsed by the EU. From time to time, the IASB or the IFRS Interpretations Committee may issue new accounting standards or interpretations that could materially impact how we report and disclose our financial results and financial condition as well as affect the calculation of our capital ratios, including the CET1 ratio. We could also be required to apply new or revised standards retrospectively, resulting in our restating prior period financial statements in material amounts.

Third parties may use us as a conduit for illegal activities without our knowledge

We are required to comply with applicable AML laws and regulations, and have adopted various policies and procedures, including internal control and 'know your customer' procedures, aimed at preventing use of HSBC products and services for the purpose of committing or concealing financial crime. A major focus of US and UK government policy relating to financial institutions in recent years has been combating money laundering and enforcing compliance with US and EU economic sanctions. This focus is reflected in part by our agreements with US and UK authorities relating to various investigations regarding past inadequate compliance with AML and sanctions laws. These consent orders do not preclude additional enforcement actions by bank regulatory, governmental or law enforcement agencies or private litigation.

A number of remedial actions have been taken as a result of the matters to which the AML DPA related, which are intended to ensure that the Group's businesses are better protected in respect of these risks. However, there can be no assurance that these will be completely effective.

Moreover, in relevant situations, and where permitted by regulation, we may rely upon certain counterparties to maintain and properly apply their own appropriate AML procedures. While permitted by regulation, such reliance may not be effective in preventing third parties from using us (and our relevant counterparties) as a conduit for money laundering, including illegal cash operations, without our knowledge (and that of our relevant counterparties). Becoming a party to money laundering, association with, or even accusations of being associated with, money laundering will damage our reputation and could make us subject to fines, sanctions and/or legal enforcement. Any one of these outcomes could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We have significant exposure to counterparty risk

We are exposed to counterparties that are involved in virtually all major industries, and we routinely execute transactions with counterparties in financial services, including brokers and dealers, central clearing counterparties, commercial banks, investment banks, mutual and hedge funds, and other institutional clients. Many of these transactions expose us to credit risk in the event of default by our counterparty or client. Our ability to engage in routine transactions to fund our operations and manage our risks could be materially adversely affected by the actions and commercial soundness of other financial services institutions. Financial institutions are necessarily interdependent because of trading, clearing, counterparty or other relationships. As a consequence, a default by, or decline in market confidence in, individual institutions, or anxiety about the financial services industry generally, can lead to further individual and/or systemic difficulties, defaults and losses.

Mandatory central clearing of OTC derivatives, including under Dodd-Frank and the EU's European Market Infrastructure Regulation, poses risks to the Group. As a clearing member, we are required to underwrite losses incurred at a Central Counterparty ('CCP') by the default of other clearing members and their clients. Increased moves towards central clearing brings with it a further element of interconnectedness between clearing members and clients that we believe may increase rather than reduce our exposure to systemic risk. At the same time, our ability to manage such risk ourselves will be reduced because control has been largely outsourced to CCPs, and it is unclear at present how, at a time of stress, regulators and resolution authorities will intervene.

Where bilateral counterparty risk has been mitigated by taking collateral, our credit risk may remain high if the collateral we hold cannot be realised or has to be liquidated at prices that are insufficient to recover the full amount of our loan or derivative exposure. There is a risk that collateral cannot be realised, including situations where this arises by change of law that may influence our ability to foreclose on collateral or otherwise enforce contractual rights.

The Group also has credit exposure arising from mitigants, such as credit default swaps ('CDSs'), and other credit derivatives, each of which is carried at fair value. The risk of default by counterparties to CDSs and other credit derivatives used as mitigants affects the fair value of these instruments depending on the valuation and the perceived credit risk of the underlying instrument against which protection has been purchased. Any such adjustments or fair value changes could have a material adverse effect on our business, financial condition, results of operations and prospects.

Market fluctuations may reduce our income or the value of our portfolios

Our businesses are inherently subject to risks in financial markets and in the wider economy, including changes in, and increased volatility of, interest rates, inflation rates, credit spreads, foreign exchange rates, commodity, equity, bond and property prices, and the risk that our customers act in a manner inconsistent with our business, pricing and hedging assumptions.

Market movements will continue to significantly affect us in a number of key areas. For example, banking and trading activities are subject to interest rate risk, foreign exchange risk, inflation risk and credit spread risk. Changes in interest rate levels, interbank spreads over official rates and yield curves affect the interest rate spread realised between lending and borrowing costs. A declining or low interest rate environment could increase prepayment activity that reduces the weighted average lives of our interest-earning assets and could have a material adverse effect on us. The potential for future volatility and margin changes remains. Competitive pressures on fixed rates or product terms in existing loans and deposits sometimes restrict our ability to change interest rates applying to customers in response to changes in official and wholesale market rates. Our pension scheme assets include equity and debt securities, the cash flows of which change as equity prices and interest rates vary.

Our insurance businesses are exposed to the risk that market fluctuations will cause mismatches to occur between product liabilities and the investment assets that back them.
Market risks can affect our insurance products in a number of ways depending upon the product and associated contract. For example, mismatches between assets and liability yields and maturities give rise to interest rate risk. Some of these risks are borne directly by the customer and some are borne by the insurance businesses, with their excess capital invested in the markets. Some insurance contracts involve guarantees and options that increase in value in adverse investment markets. There is a risk that the insurance businesses will bear some of the cost of such guarantees and options. The performance of the investment markets will thus have a direct effect upon the value embedded in the insurance and investment contracts and our operating results, financial condition and prospects.

It is difficult to predict with any degree of accuracy changes in market conditions, and such changes could have a material adverse effect on our business, financial condition, results of operations and prospects.

Liquidity, or ready access to funds, is essential to our businesses

Our ability to borrow on a secured or unsecured basis, and the cost of doing so, can be affected by increases in interest rates or credit spreads, the availability of credit, regulatory requirements relating to liquidity or the market perceptions of risk relating to the Group or the banking sector, including our perceived or actual creditworthiness.

Current accounts and savings deposits payable on demand or at short notice form a significant part of our funding, and we place considerable importance on maintaining their stability. For deposits, stability depends upon preserving investor confidence in our capital strength and liquidity, and on comparable and transparent pricing. Although deposits have been a stable source of funding historically, this may not continue.

We also access wholesale markets in order to provide funding for entities that do not accept deposits, to align asset and liability maturities and currencies, and to maintain a presence in local markets. In 2018 we issued the equivalent of $34.9bn of debt securities in the public capital markets in a range of currencies and maturities from a number of Group entities, including $19.6bn of senior securities issued by HSBC Holdings.

An inability to obtain financing in the unsecured long-term or short-term debt capital markets, or to access the secured lending markets, could have a material adverse effect on our liquidity. Unfavourable macroeconomic developments, market disruptions or regulatory developments may increase our funding costs or challenge our ability to raise funds to support or expand our businesses.

If we are unable to raise funds through deposits and/or in the capital markets, our liquidity position could be adversely affected, and we might be unable to meet deposit withdrawals on demand or at their contractual maturity, to repay borrowings as they mature, to meet our obligations under committed financing facilities and insurance contracts or to fund new loans, investments and businesses. We may need to liquidate unencumbered assets to meet our liabilities. In a time of reduced liquidity, we may be unable to sell some of our assets, or we may need to sell assets at reduced prices, which in either case could materially adversely affect our business, financial condition, results of operations and prospects.

Any reduction in the credit rating assigned to HSBC Holdings, any subsidiaries of HSBC Holdings or any of their respective debt securities could increase the cost or decrease the availability of our funding and adversely affect our liquidity position and net interest margin

Credit ratings affect the cost and other terms upon which we are able to obtain market funding. Rating agencies regularly evaluate HSBC Holdings and certain of its subsidiaries, as well as their respective debt securities. Their ratings are based on a number of factors, including their assessment of the relative financial strength of the Group or of the relevant subsidiary, as well as conditions affecting the financial services industry generally. There can be no assurance that the rating agencies will maintain HSBC Holdings' or the relevant subsidiary's current ratings or outlook, particularly given the rating agencies' current review of their bank rating methodologies and the potential impact on HSBC Holdings' or its subsidiaries' ratings.

At the date hereof, HSBC Holdings' long-term debt was rated 'AA-' by Fitch, 'A' by Standard and Poor's ('S&P') and 'A2' by Moody's.

The ratings outlook by Fitch was stable and the ratings outlooks by both S&P and Moody's were negative. Any reductions in these ratings and outlook could increase the cost of our funding, limit access to capital markets and require additional collateral to be placed and, consequently, materially adversely affect our interest margins and our liquidity position.

Under the terms of our current collateral obligations under derivative contracts, we could be required to post additional collateral as a result of a downgrade in HSBC Holdings' credit rating.

Risks concerning borrower credit quality are inherent in our businesses

Risks arising from changes in credit quality and the recoverability of loans and amounts due from borrowers and counterparties (e.g. reinsurers and counterparties in derivative transactions) are inherent in a wide range of our businesses. Adverse changes in the credit quality of our borrowers and counterparties arising from a general deterioration in economic conditions or systemic risks in the financial systems could reduce the recoverability and value of our assets, and require an increase in our ECLs.

We estimate and recognise ECLs in our credit exposure. This process, which is critical to our results and financial condition, requires difficult, subjective and complex judgements, including forecasts of how the economic conditions might impair the ability of our borrowers to repay their loans and the ability of other counterparties to meet their obligations. This assessment considers multiple alternative forward-looking economic conditions and incorporates this into the ECL estimates to meet the measurement objective of IFRS 9. As is the case with any such assessments, we may fail to estimate accurately the effect of factors that we identify or fail to identify relevant factors. Further, the information we use to assess the creditworthiness of our counterparties may be inaccurate or incorrect. Any failure by us to accurately estimate the ability of our counterparties to meet their obligations could have a material adverse effect on our business, financial condition, results of operations and prospects.

Our insurance businesses are subject to risks relating to insurance claim rates and changes in insurance customer behaviour

We provide various insurance products for customers with whom we have a banking relationship, including several types of life insurance products. The cost of claims and benefits can be influenced by many factors, including mortality and morbidity rates, lapse and surrender rates and, if the policy has a savings element, the performance of assets to support the liabilities. Adverse developments in any of these factors could materially adversely affect our business, financial condition, results of operations and prospects.

HSBC Holdings is a holding company and, as a result, is dependent on loan payments and dividends from its subsidiaries to meet its obligations, including obligations with respect to its debt securities, and to provide profits for payment of future dividends to shareholders

HSBC Holdings is a non-operating holding company and, as such, its principal source of income is from operating subsidiaries that hold the principal assets of the Group. As a separate legal entity, HSBC Holdings relies on remittance of its subsidiaries' loan interest payments and dividends in order to be able to pay obligations to debt holders as they fall due, and to pay dividends to its shareholders. The ability of HSBC Holdings' subsidiaries and affiliates to pay remittances and dividends to HSBC Holdings could be restricted by changes in regulation, exchange controls and other requirements.

We may be required to make substantial contributions to our pension plans

We operate a number of pension plans throughout the world for our personnel, including defined benefit plans. Pension scheme obligations fluctuate with changes in long-term interest rates, inflation, salary levels and the longevity of scheme members. They can also be affected by operational and legal risks. The level of contributions we make to our pension plans has a direct effect on our cash flow. To the extent plan assets are insufficient to cover existing liabilities, higher levels of contributions will be required. As a result, deficits in those pension plans could have a material adverse effect on our business, financial condition, operations and prospects.

Areas of special interest

During 2018, a number of areas have been identified and considered as part of our top and emerging risks because of the effect they may have on the Group. We have placed particular focus on the UK withdrawal from the European Union ('EU') in this section.

Process of UK withdrawal from the European Union

The UK is due to formally leave the EU in March 2019. Before then, the UK and the EU have to finalise the Article 50 Withdrawal Agreement, which will need to be approved by their respective parliaments. A comprehensive trade deal will not be concluded within this time frame. A period of transition until 31 December 2020 has been agreed between the UK and the EU. However, there will be no legal certainty until this is enshrined in the Withdrawal Agreement. To ensure continuity of service, independent of the outcome of negotiations, our contingency plan is based on the assumption of a scenario whereby the UK exits the

EU without the existing passporting or regulatory equivalence framework that supports cross-border business.

Our programme to manage the impact of the UK leaving the EU was set up in 2017 and now has in excess of 1,000 employees covering all businesses and functions. It focuses on four main components: legal entity restructuring; product offering; customer migrations; and employees.

Legal entity restructuring

The Group currently has branches in seven European Economic Area ('EEA') countries (Belgium, the Netherlands, Luxembourg, Spain, Italy, Ireland and Czech Republic), which rely on passporting out of the UK. Assuming a UK departure from the EU without the existing passporting or regulatory equivalence framework that supports cross-border business, this will no longer be possible. As a result, we have now completed the establishment of new branches of HSBC France ('HBFR'), our primary banking entity authorised in the EU, after receiving regulatory approval in 2018. We are on track to complete the business transfer in the first quarter of 2019, and are making good progress on the operational integration of our EEA branch network into HBFR.

Product offering

To accommodate for customer migrations and new business after the UK's departure from the EU, we are expanding and enhancing our existing product offering in France, the Netherlands and Ireland. HBFR's euro clearing capabilities are now available and further product launches are planned during the first quarter of 2019.

Customer migrations

The UK's departure from the EU is likely to have an impact on our clients' operating models, including their working capital requirements, investment decisions and financial markets infrastructure access. Our priority is to provide continuity of service, and while our intention is to minimise the level of change for our customers, we will be required to migrate some EEA-incorporated clients from the UK to HBFR, or another EEA entity. We are in active dialogue with affected clients to make the transition as smooth as possible. We are organising client events and communications to provide clients with a better understanding of these implications.

Employees

The migration of EEA-incorporated clients will require us to strengthen our local teams in the EU, and France in particular. We expect the majority of roles to be filled through hires and we have started a recruitment process. Throughout, our objective is to minimise the level of change for our people and ensure any transition is as smooth as possible.

Given the scale and capabilities of our existing business in France, we are well prepared to take on additional roles and activities.

Looking beyond the transfer of roles to the EU, we are also providing support to our UK employees resident in EEA countries and EEA employees resident in the UK (e.g. on settlement applications).

Nevertheless, London will continue to be an important global financial centre and the best location for our global headquarters. As at 31 December 2018, HSBC employed approximately 39,000 people in the UK.

Across the programme, we have made good progress in terms of ensuring we are prepared for the UK leaving the EU in the first quarter of 2019 under the terms described above. However, there remain execution risks, many of them linked to the uncertain outcome of negotiations and potentially tight timelines to implement significant changes to our UK and European operating models. If these risks materialise, HSBC's clients and employees are likely to be affected. The exact impact on our clients will depend on their individual circumstances and, in a worst case scenario, could include disruption to the provision of products and services.

We have carried out detailed reviews of our credit portfolios to determine those sectors and customers most vulnerable to the UK's exit from the EU. For further details, please see 'Impact of UK economic uncertainty on ECL' on page 137.

Risk management

This section describes the enterprise-wide risk management framework, and the significant policies and practices employed by HSBC in managing its material risks, both financial and non-financial.

Our risk management framework

We use an enterprise-wide risk management framework across the organisation and across all risk types, underpinned by our risk culture.

The framework fosters continuous monitoring, promotes risk awareness and encourages sound operational and strategic decision making. It also ensures a consistent approach to monitoring, managing and mitigating the risks we accept and incur in our activities.

The following diagram and descriptions summarise key aspects of the framework, including governance and structure, our risk management tools and our risk culture, which together help align employee behaviour with our risk appetite.

Key components of our risk management framework

HSBC Values and risk culture		
Risk governance	Non-executive risk governance	The Board approves the Group's risk appetite, plans and performance targets. It sets the 'tone from the top' and is advised by the Group Risk Committee and the Financial System Vulnerabilities Committee (see page 203).
	Executive risk governance	Our executive risk governance structure is responsible for the enterprise-wide management of all risks, including key policies and frameworks for the management of risk within the Group (see pages 113 and 115).
Roles and responsibilities	Three lines of defence model	Our 'three lines of defence' model defines roles and responsibilities for risk management. An independent Global Risk function helps ensure the necessary balance in risk/return decisions (see page 114).
Processes and tools	Risk appetite Enterprise-wide risk management tools Active risk management: identification/assessment, monitoring, management and reporting	The Group has several processes to identify/assess, monitor, manage and report risks to ensure we remain within our risk appetite (see pages 113 to 115).
Internal controls	Policies and procedures	Policies and procedures define the minimum requirements for the controls required to manage our risks.
	Control activities	The operational risk management framework defines minimum standards and processes for managing operational risks and internal controls (see page 123).
	Systems and infrastructure	The Group has systems and/or processes that support the identification, capture and exchange of information to support risk management activities.

Systems and tools

Our risk culture

Risk culture refers to HSBC's norms, attitudes and behaviours related to risk awareness, risk taking and risk management.

HSBC has long recognised the importance of a strong risk culture, the fostering of which is a key responsibility of senior executives. Our risk culture is reinforced by the HSBC Values and our Global Standards programme. It is instrumental in aligning the behaviours of individuals with our attitude to assuming and managing risk, which helps to ensure that our risk profile remains in line with our risk appetite.

We use clear and consistent employee communication on risk to convey strategic messages and to set the tone from senior management and the Board. We also deploy mandatory training on risk and compliance topics to embed skills and understanding in order to strengthen our risk culture and reinforce the attitude to risk in the behaviour expected of employees, as described in our risk policies.

We operate a global whistleblowing platform, HSBC Confidential, allowing staff to report matters of concern confidentially. We also maintain an external email address for concerns about accounting and internal financial controls or auditing matters (accountingdisclosures@hsbc.com). The Group has a strict policy prohibiting retaliation against those who raise their concerns. All allegations of retaliation reported are escalated to senior management. For further details on whistleblowing, see page 25. For details on the governance of our whistleblowing procedures, see page 203.

Our risk culture is also reinforced by our approach to remuneration. Individual awards, including those for senior executives, are based on compliance with the HSBC Values and the achievement of financial and non-financial objectives, which are aligned to our risk appetite and global strategy.

For further information on remuneration, see the Directors' remuneration report on page 217.

Risk governance

The Board has ultimate responsibility for the effective management of risk and approves HSBC's risk appetite. It is advised on risk-related matters by the Group Risk Committee ('GRC') and the Financial System Vulnerabilities Committee ('FSVC').

Executive accountability for the ongoing monitoring, assessment and management of the risk environment and the effectiveness of the risk management framework resides with the Group Chief Risk Officer. He is supported by the Risk Management Meeting of the Group Management Board ('RMM').

The management of financial crime risk resides with the Group Chief Compliance Officer. He is supported by the Financial Crime Risk Management Meeting, as described under 'Financial crime risk management' on page 124.

Day-to-day responsibility for risk management is delegated to senior managers with individual accountability for decision making. All employees have a role to play in risk management. These roles are defined using the three lines of defence model, which takes into account the Group's business and functional structures as described in the following commentary, under 'Our responsibilities'.

We use a defined executive risk governance structure to help ensure appropriate oversight and accountability of risk, which facilitates reporting and escalation to the RMM. This structure is summarised in the following table.

Governance structure for the management of risk

Authority	Membership	Responsibilities include:
Risk Management Meeting of the Group Management Board	Group Chief Risk Officer Chief Legal Officer Group Chief Executive Group Chief Financial Officer All other Group Managing Directors	• Supporting the Group Chief Risk Officer in exercising Board-delegated risk management authority • Overseeing the implementation of risk appetite and the enterprise risk management framework • Forward-looking assessment of the risk environment, analysing possible risk impacts and taking appropriate action • Monitoring all categories of risk and determining appropriate mitigating action • Promoting a supportive Group culture in relation to risk management and conduct
Global Risk Management Board	Group Chief Risk Officer Chief Risk Officers of HSBC's global businesses and regions Heads of Global Risk sub-functions	• Supporting the Group Chief Risk Officer in providing strategic direction for the Global Risk function, setting priorities and providing oversight • Overseeing a consistent approach to accountability for, and mitigation of, risk across the Global Risk function
Global business/regional risk management meetings	Global business/regional Chief Risk Officer Global business/regional Chief Executive Global business/regional Chief Financial Officer Global business/regional heads of global functions	• Supporting the Chief Risk Officer in exercising Board-delegated risk management authority • Forward-looking assessment of the risk environment, analysing the possible risk impact and taking appropriate action • Implementation of risk appetite and the enterprise risk management framework • Monitoring all categories of risk and determining appropriate mitigating actions • Embedding a supportive culture in relation to risk management and controls

The Board committees with responsibility for oversight of risk-related matters are set out on page 203.

Our responsibilities

All employees are responsible for identifying and managing risk within the scope of their role as part of the three lines of defence model.

Three lines of defence

To create a robust control environment to manage risks, we use an activity-based three lines of defence model. This model delineates management accountabilities and responsibilities for risk management and the control environment.

The model underpins our approach to risk management by clarifying responsibility, encouraging collaboration, and enabling efficient coordination of risk and control activities. The three lines of defence are summarised below:

- The first line of defence owns the risks and is responsible for identifying, recording, reporting and managing them, and ensuring that the right controls and assessments are in place to mitigate them.
- The second line of defence sets the policy and guidelines for managing specific risk areas, provides advice and guidance in relation to the risk, and challenges the first line of defence on effective risk management.
- The third line of defence is our Internal Audit function, which provides independent and objective assurance of the adequacy of the design and operational effectiveness of the Group's risk management framework and control governance process.

Global Risk function

We have a Global Risk function, headed by the Group Chief Risk Officer, which is responsible for the Group's risk management framework. This responsibility includes establishing global policy, monitoring risk profiles, and forward-looking risk identification and management. Global Risk is made up of sub-functions covering all risks to our operations. Global Risk forms part of the second line of defence. It is independent from the global businesses, including sales and trading functions, to provide challenge, appropriate oversight and balance in risk/return decisions.

Enterprise-wide risk management tools

The Group uses a range of tools to identify, monitor and manage risk. The key enterprise-wide risk management tools are as follows:

Risk appetite

The risk appetite statement ('RAS') sets out the aggregate level and types of risk that HSBC is willing to accept to achieve its business objectives. It provides a benchmark for business decisions that are based on balancing risk and return, and making the best use of our capital. The Group RAS is interlinked with the Group's strategic and financial plans, as well as remuneration, and is therefore forward-looking in describing the Group's desired risk appetite profile. The RAS consists of qualitative statements and quantitative metrics, covering financial and non-financial risks and is formally approved by the Board every six months on the recommendation of the GRC. It is fundamental to the development of business line strategies, strategic and business planning, and senior management balanced scorecards.

At a Group level, performance against the RAS is reported to the GRMM on a monthly basis so that any actual performance that falls outside the approved risk appetite is discussed and appropriate mitigating actions are determined. This reporting allows risks to be promptly identified and mitigated, and informs risk-adjusted remuneration to drive a strong risk culture.

Global businesses, regions and strategically important countries are required to have their own RASs, which are monitored to ensure they remain aligned with the Group's. All RASs and business activities are guided and underpinned by qualitative principles. Additionally, for key risk areas, quantitative metrics are defined along with appetite and tolerance thresholds.

Risk map

The Group risk map provides a point-in-time view of the risk profiles of countries, regions and global businesses across HSBC's risk taxonomy. It assesses the potential for these risks to have a material impact on the Group's financial results, reputation and the sustainability of its business. Risks that have an 'amber' or 'red' risk rating require monitoring and mitigating action plans to be either in place or initiated to manage the risk down to acceptable levels.

Descriptions of our material banking and insurance risks are set out on page 116.

Top and emerging risks

We use a top and emerging risks process to provide a forward-looking view of issues with the potential to threaten the execution of our strategy or operations over the medium to long term.

We proactively assess the internal and external risk environment, as well as review the themes identified across our regions and global businesses, for any risks that may require global escalation, updating our top and emerging risks as necessary.

We define a 'top risk' as a thematic issue that may form and crystallise in between six months and one year, and that has the potential to materially affect the Group's financial results, reputation or business model. It may arise across any combination of risk types, regions or global businesses. The impact may be well understood by senior management and some mitigating actions may already be in place. Stress tests of varying granularity may also have been carried out to assess the impact.

An 'emerging risk' is a thematic issue with large unknown components that may form and crystallise beyond a one-year time horizon. If it were to materialise, it could have a material effect on the Group's long-term strategy, profitability and/or reputation. Existing mitigation plans are likely to be minimal, reflecting the uncertain nature of these risks at this stage. Some high-level analysis and/or stress testing may have been carried out to assess the potential impact.

Our current top and emerging risks are discussed on page 100.

Stress testing

HSBC operates a wide-ranging stress testing programme that supports our risk management and capital planning. It includes execution of stress tests mandated by our regulators. Our stress testing is supported by dedicated teams and infrastructure, and is overseen at the most senior levels of the Group.

Our stress testing programme assesses our capital strength through a rigorous examination of our resilience to external shocks. It also helps us understand and mitigate risks and informs our decisions about capital levels. As well as undertaking regulatory-driven stress tests, we conduct our own internal stress tests.

Many of our regulators – including the Bank of England ('BoE'), the Federal Reserve Board ('FRB') and the Hong Kong Monetary Authority ('HKMA') – use stress testing as a prudential regulatory tool, and the Group has focused significant governance and resources to meet their requirements.

Bank of England stress test results for 2018

The annual cyclical scenario ('ACS') used in the BoE's 2018 stress test was the same as that used in 2017 to allow the BoE to isolate the impact on the stress results of the introduction of IFRS 9 in 2018. The scenario specified a global downturn with severe effects in the UK, US, Hong Kong and mainland China, which accounted for approximately two-thirds of HSBC's RWAs at the end of 2017. We estimated that the economic shock to global GDP in this scenario was about as severe as in the global financial crisis of 2007–2009, but with a greater impact on emerging markets. In this scenario for example, there was a 1.2% contraction in the Chinese economy in the first year. In addition, the ACS featured a 32% depreciation of sterling in the first year and a rise of UK base rates to 4%.

The assumed GDP growth rates are detailed in the following table.

	2017	**2018**	2019	2020
	%	**%**	%	%
UK	1.6	**(4.7)**	0.7	1.4
US	2.5	**(3.5)**	0.7	1.4
Mainland China	6.8	**(1.2)**	3.7	5.0
Hong Kong	3.3	**(7.9)**	1.1	2.3

Source: Bank of England.
PRA assumed GDP growth rates are shown in terms of fourth quarter on fourth quarter annual changes

In 2018, the results for HSBC as published by the BoE showed that our capital ratios, after taking account of CRD IV restrictions and strategic management actions, exceeded the BoE's requirements on both an IFRS 9 transitional and non-transitional basis.

This outcome reflected our strong capital position, conservative risk appetite and diversified geographical and business mix.

The following table shows the results of the stress test for the past three years, and reflects HSBC's resilience. From a starting CET1 ratio of 14.6% at the end of 2017, the BoE's 2018 stress test results showed a projected minimum stressed CET1 ratio of 9.1% on an IFRS 9 transitional basis, after the impact of strategic management actions.

Results of Bank of England stress tests for the past three years

	2018	2017	2016
	%	%	%
CET1 ratio at scenario start point	**14.6**	13.6	11.9
Minimum stressed CET1 ratio after strategic management actions	**9.1**	8.9	9.1
Fall in CET1 ratio	**5.5**	4.7	2.8

Source: Bank of England.
Data is presented in terms of the minimum CET1 ratio on an IFRS 9 transitional basis, reached net of strategic management actions.

Internal stress tests are an important element in our risk management and capital management frameworks. Our capital plan is assessed through a range of stress scenarios that explore risks identified by management. They include potential adverse macroeconomic, geopolitical and operational risk events, and other potential events that are specific to HSBC. The selection of scenarios reflects our top and emerging risks identification process and our risk appetite. Stress testing analysis helps management understand the nature and extent of vulnerabilities to which the Group is exposed. Using this information, management decides whether risks can or should be mitigated through management actions or, if they were to crystallise, should be absorbed through capital. This in turn informs decisions about preferred capital levels.

A particular area of focus during the year has been the analysis of the potential impact of a range of outcomes relating to the UK's exit from the EU. As part of our internal stress testing programme, a number of internal macroeconomic and event-driven scenarios were considered to support management's planning for, and assessment of, the impact of the UK's exit. In addition, the BoE judged the severity of the 2018 ACS sufficient to encompass outcomes based on a disorderly departure from the EU.

We conduct reverse stress tests each year at Group and, where required, subsidiary entity level in order to understand which potential extreme conditions would make our business model non-viable. Reverse stress testing identifies potential stresses and vulnerabilities we might face, and helps inform early warning triggers, management actions and contingency plans designed to mitigate risks.

In addition to the Group-wide stress testing scenarios, each major HSBC subsidiary conducts regular macroeconomic and event-driven scenario analyses specific to its region. They also participate, as required, in the regulatory stress testing programmes of the jurisdictions in which they operate, such as the Comprehensive Capital Analysis and Review and Dodd-Frank Act stress test programmes in the US, and the stress tests of the HKMA. Global functions and businesses also perform bespoke stress testing to inform their assessment of risks in potential scenarios.

The Group stress testing programme is overseen by the GRC and results are reported, where appropriate, to the RMM and GRC.

Our material banking and insurance risks

The material risk types associated with our banking and insurance manufacturing operations are described in the following tables:

Description of risks – banking operations

Risks	Arising from	Measurement, monitoring and management of risk
Credit risk (see page 118) Credit risk is the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract.	Credit risk arises principally from direct lending, trade finance and leasing business, but also from certain other products such as guarantees and derivatives.	Credit risk is: • measured as the amount that could be lost if a customer or counterparty fails to make repayments; • monitored using various internal risk management measures and within limits approved by individuals within a framework of delegated authorities; and • managed through a robust risk control framework, which outlines clear and consistent policies, principles and guidance for risk managers.
Liquidity and funding risk (see page 119) Liquidity risk is the risk that we do not have sufficient financial resources to meet our obligations as they fall due or that we can only do so at an excessive cost. Funding risk is the risk that funding considered to be sustainable, and therefore used to fund assets, is not sustainable over time.	Liquidity risk arises from mismatches in the timing of cash flows. Funding risk arises when illiquid asset positions cannot be funded at the expected terms and when required.	Liquidity and funding risk is: • measured using a range of metrics, including liquidity coverage ratio and net stable funding ratio; • assessed through the internal liquidity adequacy assessment process ('ILAAP'); • monitored against the Group's liquidity and funding risk framework; and • managed on a stand-alone basis with no reliance on any Group entity (unless pre-committed) or central bank unless this represents routine established business-as-usual market practice.
Market risk (see page 120) Market risk is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios.	Exposure to market risk is separated into two portfolios: trading and non-trading. Market risk exposures arising from our insurance operations are discussed on page 190.	Market risk is: • measured using sensitivities, value at risk ('VaR') and stress testing, giving a detailed picture of potential gains and losses for a range of market movements and scenarios, as well as tail risks over specified time horizons; • monitored using VaR, stress testing and other measures, including the sensitivity of net interest income and the sensitivity of structural foreign exchange; and • managed using risk limits approved by the RMM and the risk management meeting in various global businesses.
Operational risk (see page 123) Operational risk is the risk to achieving our strategy or objectives as a result of inadequate or failed internal processes, people and systems or from external events.	Operational risk arises from day-to-day operations or external events, and is relevant to every aspect of our business. Regulatory compliance risk and financial crime compliance risk are discussed below.	Operational risk is: • measured using the risk and control assessment process, which assesses the level of risk and the effectiveness of controls, and is also measured for economic capital management using risk event losses and scenario analysis; • monitored using key indicators and other internal control activities; and • managed primarily by global business and functional managers who identify and assess risks, implement controls to manage them and monitor the effectiveness of these controls using the operational risk management framework.
Regulatory compliance risk (see page 123) Regulatory compliance risk is the risk that we fail to observe the letter and spirit of all relevant laws, codes, rules, regulations and standards of good market practice, and incur fines and penalties and suffer damage to our business as a consequence.	Regulatory compliance risk is part of operational risk, and arises from the risks associated with breaching our duty to clients and other counterparties, inappropriate market conduct and breaching other regulatory requirements.	Regulatory compliance risk is: • measured by reference to identified metrics, incident assessments, regulatory feedback and the judgement and assessment of our regulatory compliance teams; • monitored against the first line of defence risk and control assessments, the results of the monitoring and control assurance activities of the second line of defence functions, and the results of internal and external audits and regulatory inspections; and • managed by establishing and communicating appropriate policies and procedures, training employees in them, and monitoring activity to help ensure their observance. Proactive risk control and/or remediation work is undertaken where required.
Financial crime risk (see page 124) Financial crime risk is the risk that we knowingly or unknowingly help parties to commit or to further potentially illegal activity through HSBC.	Financial crime risk is part of operational risk and arises from day-to-day banking operations.	Financial crime risk is: • measured by reference to identified metrics, incident assessments, regulatory feedback and the judgement and assessment of our financial crime risk teams; • monitored against our financial crime risk appetite statements and metrics, the results of the monitoring and control activities of the second line of defence functions, and the results of internal and external audits and regulatory inspections; and • managed by establishing and communicating appropriate policies and procedures, training employees in them, and monitoring activity to help ensure their observance. Proactive risk control and/or remediation work is undertaken where required.

Description of risks – banking operations (continued)

Risks	Arising from	Measurement, monitoring and management of risk
Other material risks		
Reputational risk (see page 125)		
Reputational risk is the risk of failing to meet stakeholder expectations as a result of any event, behaviour, action or inaction, either by HSBC, our employees or those with whom we are associated.	Primary reputational risks arise directly from an action or inaction by HSBC, its employees or associated parties that are not the consequence of another type of risk. Secondary reputational risks are those arising indirectly and are a result of a failure to control any other risks.	Reputational risk is: • measured by reference to our reputation as indicated by our dealings with all relevant stakeholders, including media, regulators, customers and employees; • monitored through a reputational risk management framework that is integrated into the Group's broader risk management framework; and • managed by every member of staff, and covered by a number of policies and guidelines. There is a clear structure of committees and individuals charged with mitigating reputational risk.
Pension risk (see page 126)		
Pension risk is the risk of increased costs to HSBC from offering post-employment benefit plans to its employees.	Pension risk arises from investments delivering an inadequate return, adverse changes in interest rates or inflation, or members living longer than expected. Pension risk also includes operational and reputational risk of sponsoring pension plans.	Pension risk is: • measured in terms of the scheme's ability to generate sufficient funds to meet the cost of their accrued benefits; • monitored through the specific risk appetite that has been developed at both Group and regional levels; and • managed locally through the appropriate pension risk governance structure and globally through the Global Pensions Oversight Forum and ultimately the RMM.
Sustainability risk (see page 126)		
Sustainability risk is the risk that financial services provided to customers by the Group indirectly result in unacceptable impacts on people or the environment.	Sustainability risk arises from the provision of financial services to companies or projects that indirectly result in unacceptable impacts on people or on the environment.	Sustainability risk is: • measured by assessing the potential sustainability effect of a customer's activities and assigning a sustainability risk rating to all high-risk transactions; • monitored quarterly by the RMM and monthly by the Group's sustainability risk function; and • managed using sustainability risk policies covering project finance lending and sector-based sustainability policies for sectors and themes with potentially large environmental or social impacts.

Our insurance manufacturing subsidiaries are regulated separately from our banking operations. Risks in our insurance entities are managed using methodologies and processes that are subject to Group oversight. Our insurance operations are also subject to some of the same risks as our banking operations, which are covered by the Group's risk management processes.

Description of risks – insurance manufacturing operations

Risks	Arising from	Measurement, monitoring and management of risk
Financial risk (see page 190)		
Our ability to effectively match liabilities arising under insurance contracts with the asset portfolios that back them is contingent on the management of financial risks and the extent to which these are borne by policyholders.	Exposure to financial risk arises from: • market risk affecting the fair values of financial assets or their future cash flows; • credit risk; and • liquidity risk of entities being unable to make payments to policyholders as they fall due.	Financial risk is: • measured (i) for credit risk, in terms of economic capital and the amount that could be lost if a counterparty fails to make repayments; (ii) for market risk, in terms of economic capital, internal metrics and fluctuations in key financial variables; and (iii) for liquidity risk, in terms of internal metrics including stressed operational cash flow projections; • monitored through a framework of approved limits and delegated authorities; and • managed through a robust risk control framework, which outlines clear and consistent policies, principles and guidance. This includes using product design, asset liability matching and bonus rates.
Insurance risk (see page 191)		
Insurance risk is the risk that, over time, the cost of insurance policies written, including claims and benefits, may exceed the total amount of premiums and investment income received.	The cost of claims and benefits can be influenced by many factors, including mortality and morbidity experience, as well as lapse and surrender rates.	Insurance risk is: • measured in terms of life insurance liabilities and economic capital allocated to insurance underwriting risk; • monitored through a framework of approved limits and delegated authorities; and • managed through a robust risk control framework, which outlines clear and consistent policies, principles and guidance. This includes using product design, underwriting, reinsurance and claims-handling procedures.

Credit risk management

Details of changes in our credit risk profile in 2018 can be found on page 127, in 'Key developments and risk profile in 2018'.

There were no material changes to the policies and practices for the management of credit risk in 2018.

Adoption of IFRS 9 'Financial Instruments'

HSBC adopted the requirements of IFRS 9 'Financial Instruments' on 1 January 2018, with the exception of the provisions relating to the presentation of gains and losses on financial liabilities designated at fair value, which were adopted on 1 January 2017.

The adoption of IFRS 9 did not result in any significant change to HSBC's business model, or that of our four global businesses. This included our strategy, country presence, product offerings and target customer segments.

We have established credit risk management processes and we actively assess the impact of economic developments in key markets on specific customers, customer segments or portfolios. If we foresee changes in credit conditions, we take mitigating action, including the revision of risk appetites or limits and tenors, as appropriate. In addition, we continue to evaluate the terms under which we provide credit facilities within the context of individual customer requirements, the quality of the relationship, local regulatory requirements, market practices and our local market position.

As a result of IFRS 9 adoption, management has additional insight and measures not previously utilised which, over time, may influence our risk appetite and risk management processes.

IFRS 9 process

The IFRS 9 process comprises three main areas: modelling and data; implementation; and governance.

Modelling and data

Prior to the implementation of IFRS 9, the Risk function had pre-existing Basel and behavioural scorecards in most geographies. These were then enhanced or supplemented to address the IFRS 9 requirements, with the appropriate governance and independent review.

Implementation

A centralised impairment engine performs the expected credit loss ('ECL') calculation using data, which is subject to a number of validation checks and enhancements, from a variety of client, finance and risk systems. Where possible, these checks and processes are performed in a globally consistent and centralised manner.

Governance

A series of regional management review forums has been established in key sites and regions in order to review and approve the impairment results. Regional management review forums have representatives from Credit Risk and Finance. The key site and regional approvals are reported up to the global business impairment committee for final approval of the Group's ECL for the period. Required members of the committee are the global heads of Wholesale Credit, Market Risk, and Retail Banking and Wealth Management ('RBWM') Risk, as well as the global business CFOs and the Group Chief Accounting Officer.

Credit risk sub-function

(Audited)

Credit approval authorities are delegated by the Board to the Group Chief Executive together with the authority to sub-delegate them. The Credit Risk sub-function in Global Risk is responsible for the key policies and processes for managing credit risk, which include formulating Group credit policies and risk rating frameworks, guiding the Group's appetite for credit risk exposures, undertaking independent reviews and objective assessment of credit risk, and monitoring performance and management of portfolios.

The principal objectives of our credit risk management are:

- to maintain across HSBC a strong culture of responsible lending, and robust risk policies and control frameworks;
- to both partner and challenge our businesses in defining, implementing and continually re-evaluating our risk appetite under actual and scenario conditions; and
- to ensure there is independent, expert scrutiny of credit risks, their costs and their mitigation.

Concentration of exposure

(Audited)

Concentrations of credit risk arise when a number of counterparties or exposures have comparable economic characteristics, or such counterparties are engaged in similar activities or operate in the same geographical areas or industry sectors so that their collective ability to meet contractual obligations is uniformly affected by changes in economic, political or other conditions. We use a number of controls and measures to minimise undue concentration of exposure in our portfolios across industries, countries and global businesses. These include portfolio and counterparty limits, approval and review controls, and stress testing.

Credit quality of financial instruments

(Audited)

Our risk rating system facilitates the internal ratings-based approach under the Basel framework adopted by the Group to support the calculation of our minimum credit regulatory capital requirement.

The five credit quality classifications each encompass a range of granular internal credit rating grades assigned to wholesale and retail lending businesses, and the external ratings attributed by external agencies to debt securities.

For debt securities and certain other financial instruments, external ratings have been aligned to the five quality classifications based upon the mapping of related customer risk rating ('CRR') to external credit rating.

Wholesale lending

The CRR 10-grade scale summarises a more granular underlying 23-grade scale of obligor probability of default ('PD'). All corporate customers are rated using the 10- or 23-grade scale, depending on the degree of sophistication of the Basel approach adopted for the exposure.

Each CRR band is associated with an external rating grade by reference to long-run default rates for that grade, represented by the average of issuer-weighted historical default rates. This mapping between internal and external ratings is indicative and may vary over time.

Retail lending

Previously, we disclosed retail lending credit quality under IAS 39, which was based on expected-loss percentages. Now, retail lending credit quality is disclosed on an IFRS 9 basis, which is based on a 12-month point-in-time ('PIT') probability-weighted probability of default ('PD').

Credit quality classification

	Footnotes	Sovereign debt securities and bills	Other debt securities and bills	Wholesale lending and derivatives		Retail lending	
		External credit rating	External credit rating	Internal credit rating	12-month Basel probability of default %	Internal credit rating	12 month probability-weighted PD %
Quality classification							
Strong	1,2	BBB and above	A- and above	CRR 1 to CRR 2	0 – 0.169	Band 1 and 2	0.000 - 0.500
Good		BBB- to BB	BBB+ to BBB-	CRR 3	0.170 – 0.740	Band 3	0.501 - 1.500
Satisfactory		BB- to B and unrated	BB+ to B and unrated	CRR 4 to CRR 5	0.741 – 4.914	Band 4 and 5	1.501 - 20.000
Sub-standard		B- to C	B- to C	CRR 6 to CRR 8	4.915 – 99.999	Band 6	20.001 - 99.999
Credit impaired		Default	Default	CRR 9 to CRR 10	100	Band 7	100

For footnotes, see page 192.

Quality classification definitions

- 'Strong' exposures demonstrate a strong capacity to meet financial commitments, with negligible or low probability of default and/or low levels of expected loss.
- 'Good' exposures require closer monitoring and demonstrate a good capacity to meet financial commitments, with low default risk.
- 'Satisfactory' exposures require closer monitoring and demonstrate an average-to-fair capacity to meet financial commitments, with moderate default risk.
- 'Sub-standard' exposures require varying degrees of special attention and default risk is of greater concern.
- 'Credit-impaired' exposures have been assessed as described on Note 1.2(d) on the Financial Statements.

Renegotiated loans and forbearance

(Audited)

'Forbearance' describes concessions made on the contractual terms of a loan in response to an obligor's financial difficulties.

A loan is classed as 'renegotiated' when we modify the contractual payment terms on concessionary terms because we have significant concerns about the borrowers' ability to meet contractual payments when due.

Non-payment-related concessions (e.g. covenant waivers), while potential indicators of impairment, do not trigger identification as renegotiated loans.

Loans that have been identified as renegotiated retain this designation until maturity or derecognition.

For details of our policy on derecognised renegotiated loans, see Note 1.2(d) on the Financial Statements.

Credit quality of renegotiated loans

On execution of a renegotiation, the loan will also be classified as credit impaired if it is not already so classified. In wholesale lending, all facilities with a customer, including loans that have not been modified, are considered credit impaired following the identification of a renegotiated loan.

Those loans that are considered credit impaired retain this classification for a minimum of one year. Renegotiated loans will continue to be disclosed as credit impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows (the evidence typically comprises a history of payment performance against the original or revised terms), and there is no other objective evidence of credit impairments. For retail lending generally, renegotiated loans retain this classification until maturity or write-off.

Renegotiated loans and recognition of expected credit losses

(Audited)

For retail lending, unsecured renegotiated loans are generally segmented from other parts of the loan portfolio. Renegotiated expected credit loss assessments reflect the higher rates of losses typically encountered with renegotiated loans. For wholesale lending, renegotiated loans are typically assessed individually. Credit risk ratings are intrinsic to the impairment assessments. The individual impairment assessment takes into account the higher risk of the future non-payment inherent in renegotiated loans.

Impairment assessment

(Audited)

For details of our impairment policies on loans and advances and financial investments, see Note 1.2(d) on the Financial Statements.

Write-off of loans and advances

(Audited)

For details of our policy on the write-off of loans and advances, see Note 1.2(d) on the Financial Statements.

Unsecured personal facilities, including credit cards, are generally written off at between 150 and 210 days past due. The standard period runs until the end of the month in which the account becomes 180 days contractually delinquent. Write-off periods may be extended, generally to no more than 360 days past due. However, in exceptional circumstances, they may be extended further.

For secured facilities, write-off should occur upon repossession of collateral, receipt of proceeds via settlement, or determination that recovery of the collateral will not be pursued.

Any secured assets maintained on the balance sheet beyond 60 months of consecutive delinquency-driven default require additional monitoring and review to assess the prospect of recovery.

There are exceptions in a few countries where local regulation or legislation constrain earlier write-off, or where the realisation of collateral for secured real estate lending takes more time. In the event of bankruptcy or analogous proceedings, write-off may occur earlier than the maximum periods stated above. Collection procedures may continue after write-off.

Liquidity and funding risk management

Details of HSBC's liquidity and funding risk management framework ('LFRF') can be found in the Group's Pillar 3 Disclosures at 31 December 2018.

Liquidity and funding risk management framework

The LFRF aims to allow us to withstand very severe liquidity stresses. It is designed to be adaptable to changing business models, markets and regulations. The Group Treasurer, who reports to the Group Chief Financial Officer, has responsibility for the oversight of the LFRF. Asset, Liability and Capital Management ('ALCM') teams are responsible for the application of the LFRF at a local operating entity level. This comprises the following elements:

- stand-alone management of liquidity and funding by operating entity;
- minimum liquidity coverage ratio ('LCR') requirement;
- minimum net stable funding ratio ('NSFR') requirement;
- legal entity depositor concentration limit;
- three-month and 12-month cumulative rolling term contractual maturity limits covering deposits from banks, deposits from non-bank financial institutions and securities issued;
- annual individual liquidity adequacy assessment by principal operating entity;
- minimum LCR requirement by currency;
- management and monitoring of intra-day liquidity;
- liquidity funds transfer pricing; and
- forward-looking funding assessments.

Risk governance and oversight

The elements of the LFRF are underpinned by a robust governance framework, the two major elements of which are:

- Group, regional and entity level Asset and Liability Management Committees ('ALCOs').
- Annual internal liquidity adequacy assessment process ('ILAAP') for principal operating entities used to validate risk tolerance and set risk appetite.

Liquidity and funding are predominantly managed at an entity level. Where appropriate, management may be expanded to cover a consolidated group of legal entities or narrowed to a principal office (branch) of a wider legal entity to reflect the management under internal or regulatory definitions.

The RMM reviews and agrees annually the list of countries, legal entities or consolidated groups it directly oversees and the composition of these entities. This list forms the basis of liquidity and funding risk disclosures.

There were no material changes to the policies and practices for the management of liquidity and funding risk in 2018.

HSBC Holdings

HSBC Holdings' primary sources of liquidity are dividends received from subsidiaries, interest on and repayment of intra-Group loans and securities, and interest earned on its own liquid funds. HSBC Holdings also raises funds in the debt capital markets to meet the Group's minimum requirement for own funds and eligible liabilities. HSBC Holdings uses this liquidity to meet its obligations, including interest and principal repayments on external debt liabilities, operating expenses and collateral on derivative transactions.

HSBC Holdings is also subject to contingent liquidity risk by virtue of credit-related commitments and guarantees and similar contracts issued relating to its subsidiaries. Such commitments and guarantees are only issued after due consideration of HSBC Holdings' ability to finance the commitments and guarantees and the likelihood of the need arising.

HSBC Holdings actively manages the cash flows from its subsidiaries to optimise the amount of cash held at the holding company level. During 2018, consistent with the Group's capital plan, the Group's subsidiaries did not experience any significant restrictions on paying dividends or repaying loans and advances. Also, there are no foreseen restrictions envisaged with regard to planned dividends or payments. However, the ability of subsidiaries to pay dividends or advance monies to HSBC Holdings depends on, among other things, their respective local regulatory capital and banking requirements, exchange controls, statutory reserves, and financial and operating performance.

HSBC Holdings currently has sufficient liquidity to meet its present requirements.

Market risk management

Details of changes in our market risk profile in 2018 can be found on page 127, in 'Key developments and risk profile in 2018'.

There were no material changes to our policies and practices for the management of market risk in 2018.

Market risk in global businesses

The following diagram summarises the main business areas where trading and non-trading market risks reside, and the market risk measures used to monitor and limit exposures.

	Trading risk	Non-trading risk
Risk types	• Foreign exchange and commodities • Interest rates • Credit spreads • Equities	• Structural foreign exchange • Interest rates[3] • Credit spreads
Global business	GB&M and BSM[4]	GB&M, BSM[4], GPB, CMB and RBWM
Risk measure	VaR | Sensitivity | Stress testing	VaR | Sensitivity | Stress testing

For footnotes, see page 192.

Where appropriate, we apply similar risk management policies and measurement techniques to both trading and non-trading portfolios. Our objective is to manage and control market risk exposures to optimise return on risk while maintaining a market profile consistent with our established risk appetite.

The nature of the hedging and risk mitigation strategies performed across the Group corresponds to the market risk management instruments available within each operating jurisdiction. These strategies range from the use of traditional market instruments, such as interest rate swaps, to more sophisticated hedging strategies to address a combination of risk factors arising at the portfolio level.

Market risk governance

(Audited)

Market risk is managed and controlled through limits approved by the RMM for HSBC Holdings. These limits are allocated across business lines and to the Group's legal entities.

GB&M manages market risk, where the majority of HSBC's total VaR (excluding insurance) and almost all trading VaR resides, using risk limits approved by the RMM. VaR limits are set for portfolios, products and risk types, with market liquidity being a primary factor in determining the level of limits set. Global Risk is responsible for setting market risk management policies and measurement techniques.

Each major operating entity has an independent market risk management and control sub-function, which is responsible for measuring market risk exposures, monitoring and reporting these exposures against the prescribed limits on a daily basis. The market risk limits are governed according to the framework illustrated to the left.

Each operating entity is required to assess the market risks arising on each product in its business and to transfer them to either its local GB&M unit for management, or to separate books managed under the supervision of the local ALCO.

Model risk is governed through Model Oversight Committees ('MOCs') at the regional and global Wholesale Credit and Market Risk levels. They have direct oversight and approval responsibility for all traded risk models used for risk measurement and management and stress testing. We are committed to the ongoing development of our in-house risk models.

The Markets MOC reports into the Group MOC, which oversees all model risk types at Group level. The Group MOC informs the RMM about material issues at least twice a year. The RMM is the Group's 'Designated Committee', according to regulatory rules, and has delegated day-to-day governance of all traded risk models to the Markets MOC.

Global Risk enforces trading in permissible instruments approved for each site, new product approval procedures, restricting trading in the more complex derivative products (which are only allowed in offices with appropriate levels of product expertise), and robust control systems.

Market risk measures

Monitoring and limiting market risk exposures

Our objective is to manage and control market risk exposures while maintaining a market profile consistent with our risk appetite.

We use a range of tools to monitor and limit market risk exposures including sensitivity analysis, VaR and stress testing.

Sensitivity analysis

Sensitivity analysis measures the impact of individual market factor movements on specific instruments or portfolios, including interest rates, foreign exchange rates and equity prices, such as the effect of a one basis point change in yield. We use sensitivity measures to monitor the market risk positions within each risk type. Sensitivity limits are set for portfolios, products and risk types, with the depth of the market being a principal factor in determining the level.

Value at risk

(Audited)

Value at risk ('VaR') is a technique for estimating potential losses on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence. The use of VaR is integrated into market risk management and calculated for all trading positions regardless of how we capitalise them. Where there is not an approved internal model, we use the appropriate local rules to capitalise exposures. In addition, we calculate VaR for non-trading portfolios to have a complete picture of risk. Where we do not calculate VaR explicitly, we use alternative tools as summarised in the 'Stress testing' section below.

Our models are predominantly based on historical simulation that incorporates the following features:

- historical market rates and prices, which are calculated with reference to foreign exchange rates, commodity prices, interest rates, equity prices and the associated volatilities;
- potential market movements utilised for VaR, which are calculated with reference to data from the past two years; and
- VaR measures, which are calculated to a 99% confidence level and use a one-day holding period.

The models also incorporate the effect of option features on the underlying exposures. The nature of the VaR models means that an increase in observed market volatility will lead to an increase in VaR without any changes in the underlying positions.

VaR model limitations

Although a valuable guide to risk, VaR should always be viewed in the context of its limitations. For example:

- Use of historical data as a proxy for estimating future events may not encompass all potential events, particularly extreme ones.
- The use of a holding period assumes that all positions can be liquidated or the risks offset during that period, which may not fully reflect the market risk arising at times of severe illiquidity, when the holding period may be insufficient to liquidate or hedge all positions fully.
- The use of a 99% confidence level does not take into account losses that might occur beyond this level of confidence.
- VaR is calculated on the basis of exposures outstanding at the close of business and therefore does not necessarily reflect intra-day exposures.

Risk not in VaR framework

The risks not in VaR ('RNIV') framework aims to capture and capitalise material market risks that are not adequately covered in the VaR model.

Risk factors are reviewed on a regular basis and are either incorporated directly in the VaR models, where possible, or quantified through the VaR-based RNIV approach or a stress test approach within the RNIV framework. The outcome of the VaR-based RNIV approach is included in the overall VaR calculation but excluded from the VaR measure used for regulatory back-testing. In addition, a stressed VaR RNIV is computed for the risk factors considered in the VaR-based RNIV approach.

Stress-type RNIVs include a gap risk exposure measure, to capture risk on non-recourse margin loans, and a de-peg risk measure, to capture risk to pegged and heavily-managed currencies.

Stress testing

Stress testing is an important procedure that is integrated into our market risk management framework to evaluate the potential impact on portfolio values of more extreme, although plausible, events or movements in a set of financial variables. In such scenarios, losses can be much greater than those predicted by VaR modelling.

Stress testing is implemented at legal entity, regional and overall Group levels. A set of scenarios is used consistently across all regions within the Group. Scenarios are tailored to capture the relevant potential events or market movements at each level. The risk appetite around potential stress losses for the Group is set and monitored against referral limits.

Market risk reverse stress tests are designed to identify vulnerabilities in our portfolios by looking for scenarios that lead to loss levels considered severe for the relevant portfolio. These scenarios may be quite local or idiosyncratic in nature, and complement the systematic top-down stress testing.

Stressed VaR and stress testing, together with reverse stress testing and the management of gap risk, provide management with insights regarding the 'tail risk' beyond VaR, for which HSBC's appetite is limited.

Trading portfolios

Back-testing

We routinely validate the accuracy of our VaR models by back-testing them against both actual and hypothetical profit and loss against the corresponding VaR numbers. Hypothetical profit and loss excludes non-modelled items such as fees, commissions and revenue of intra-day transactions.

We would expect, on average, to see two or three profits and two or three losses in excess of VaR at the 99% confidence level over a one-year period. The actual number of profits or losses in excess of VaR over this period can therefore be used to gauge how well the models are performing.

We back-test our VaR at various levels of our Group entity hierarchy.

Structural foreign exchange exposures

Structural foreign exchange exposures represent net investments in subsidiaries, branches and associates, the functional currencies of which are currencies other than the US dollar. An entity's functional currency is normally that of the primary economic environment in which the entity operates.

Exchange differences on structural exposures are recognised in 'Other comprehensive income'. We use the US dollar as our presentation currency in our consolidated financial statements because the US dollar and currencies linked to it form the major currency bloc in which we transact and fund our business. Our consolidated balance sheet is, therefore, affected by exchange differences between the US dollar and all the non-US dollar functional currencies of underlying subsidiaries.

Our structural foreign exchange exposures are managed with the primary objective of ensuring, where practical, that our consolidated capital ratios and the capital ratios of individual banking subsidiaries are largely protected from the effect of changes in exchange rates. We hedge structural foreign exchange exposures only in limited circumstances.

For further details of our structural foreign exchange exposures, please see page 184.

Interest rate risk in the banking book

Overview

Interest rate risk in the banking book is the risk of an adverse impact to earnings or capital due to changes in market interest rates. It is generated by our non-traded assets and liabilities, specifically loans, deposits and financial instruments that are not held for trading intent or that are held in order to hedge positions held with trading intent. This risk is monitored and controlled by the ALCM function. Interest rate risk in the banking book is transferred to and managed by Balance Sheet Management ('BSM'), and also monitored by Wholesale Market Risk, Product Control and ALCM functions with reference to established risk appetites.

Governance and structure

The ALCM function monitors and controls non-traded interest rate risk. This includes reviewing and challenging the business prior to the release of new products and in respect of proposed behavioural assumptions used for hedging activities. The ALCM function is also responsible for maintaining and updating the transfer pricing framework, informing the ALCO of the Group's overall banking book interest rate risk exposure and managing the balance sheet in conjunction with BSM.

BSM manages the banking book interest rate positions transferred to it within the market risk limits approved by RMM. Effective governance of BSM is supported by the dual reporting lines it has to the Chief Executive Officer of GB&M and to the Group Treasurer, with Risk acting as a second line of defence. The global businesses can only transfer non-trading assets and liabilities to BSM provided BSM can economically hedge the risk it receives. Hedging is generally executed through interest rate derivatives or fixed-rate government bonds. Any interest rate risk that BSM cannot economically hedge is not transferred and will remain within the global business where the risks originate.

Measurement of interest rate risk in the banking book

The ALCM function uses a number of measures to monitor and control interest rate risk in the banking book, including:

- non-traded VaR;
- net interest income sensitivity; and
- economic value of equity ('EVE').

Non-traded VaR

Non-traded VaR uses the same models as those used in the trading book and excludes both HSBC Holdings and the elements of risk that are not transferred to BSM.

NII sensitivity

A principal part of our management of non-traded interest rate risk is to monitor the sensitivity of expected net interest income ('NII') under varying interest rate scenarios (i.e. simulation modelling), where all other economic variables are held constant. This monitoring is undertaken at an entity level by local ALCOs, where entities forecast both one-year and five-year net interest income sensitivities across a range of interest rate scenarios.

Projected net interest income sensitivity figures represent the effect of *pro forma* movements in projected yield curves based on a static balance sheet size and structure. The exception to this is where the size of the balances or repricing is deemed interest rate sensitive, for example, non-interest-bearing current account migration and fixed-rate loan early prepayment. These sensitivity calculations do not incorporate actions that would be taken by BSM or in the business units to mitigate the effect of interest rate movements.

The net interest income sensitivity calculations assume that interest rates of all maturities move by the same amount in the 'up-shock' scenario. Rates are not assumed to become negative in the 'down-shock' scenario unless the central bank rate is already negative. In these cases, rates are not assumed to go further negative, which may, in certain currencies, effectively result in non-parallel shock. In addition, the net interest income sensitivity calculations take account of the effect of anticipated differences in changes between interbank and internally determined interest rates, where the entity has discretion in terms of the timing and extent of rate changes.

Tables showing our calculations of net interest income sensitivity can be found on page 184.

Economic value of equity

Economic value of equity ('EVE') represents the present value of the future banking book cash flows that could be distributed to equity providers under a managed run-off scenario. This equates to the current book value of equity plus the present value of future net interest income in this scenario. EVE can be used to assess the economic capital required to support interest rate risk in the banking book ('IRRBB'). An EVE sensitivity is the extent to which the EVE value will change due to a pre-specified movements in interest rates, where all other economic variables are held constant. Operating entities are required to monitor EVE sensitivity as a percentage of capital resources.

HSBC Holdings

As a financial services holding company, HSBC Holdings has limited market risk activities. Its activities predominantly involve maintaining sufficient capital resources to support the Group's diverse activities; allocating these capital resources across the Group's businesses; earning dividend and interest income on its investments in the businesses; payment of operating expenses; providing dividend payments to its equity shareholders and interest payments to providers of debt capital; and maintaining a supply of short-term liquid assets for deployment under extraordinary circumstances.

The main market risks to which HSBC Holdings is exposed are banking book interest rate risk and foreign currency risk. Exposure to these risks arises from short-term cash balances, funding positions held, loans to subsidiaries, investments in long-term financial assets and financial liabilities including debt capital issued. The objective of HSBC Holdings' market risk management strategy is to reduce exposure to these risks and minimise volatility in capital resources, cash flows and distributable reserves. Market risk for HSBC Holdings is monitored by Holdings ALCO in accordance with its risk appetite statement.

HSBC Holdings uses interest rate swaps and cross-currency interest rate swaps to manage the interest rate risk and foreign currency risk arising from its long-term debt issues.

Operational risk management

Details of our operational risk profile in 2018 can be found on page 187, in 'Operational risk exposures in 2018'.

Overview

The objective of our operational risk management is to manage and control operational risk in a cost-effective manner within targeted levels of operational risk consistent with our risk appetite, as defined by the GMB.

Key developments in 2018

During 2018, we continued to strengthen our approach to managing operational risk, as set out in the operational risk management framework ('ORMF'). The approach sets out the governance, appetite and provides a single view of non-financial risks that matter the most and associated controls. It incorporates a risk management system to help active risk management. The enhancement and embedding of the risk appetite framework for non-financial risk and the improvement of the consistency of the adoption of the end-to-end risk and control assessment processes were a particular focus in 2018. While there remains more to do, we made progress in strengthening the control environment and the management of non-financial risk.

Activity to strengthen the three lines of defence model continued to be a key focus in 2018. It sets our roles and responsibilities for managing operational risk on a daily basis.

Further information on the three lines of defence model can be found in the 'Our risk management framework' section on page 112.

Governance and structure

The ORMF defines minimum standards and processes, and the governance structure for the management of operational risk and internal control in our geographical regions, global businesses and global functions. The ORMF has been codified in a high-level standards manual, supplemented with detailed policies, which describes our approach to identifying, assessing, monitoring and controlling operational risk and gives guidance on mitigating action to be taken when weaknesses are identified.

We have a dedicated Global Operational Risk sub-function within our Global Risk function. It is responsible for establishing and maintaining the ORMF, monitoring the level of operational losses and the internal control environment supported by their second line of defence functions. It supports the Group Chief Risk Officer and the Global Operational Risk Committee, which meets at least quarterly to discuss key risk issues and review implementation of the ORMF. The sub-function is also responsible for preparation of operational risk reporting at Group level, including reports for consideration by the RMM and Group Risk Committee. A formal governance structure provides oversight of the sub-function's management.

Key risk management processes

Business managers throughout the Group are responsible for maintaining an acceptable level of internal control commensurate with the scale and nature of operations, and for identifying and assessing risks, designing controls and monitoring the effectiveness of these controls. The ORMF helps managers to fulfil these responsibilities by defining a standard risk assessment methodology and providing a tool for the systematic reporting of operational loss data.

A Group-wide risk management system is used to record the results of the operational risk management process. Operational risk and control self-assessments, along with issue and action plans, are entered and maintained by business units. Business and functional management monitor the progress of documented action plans to address shortcomings. To help ensure that operational risk losses are consistently reported and monitored at Group level, all Group companies are required to report individual losses when the net loss is expected to exceed $10,000, and to aggregate all other operational risk losses under $10,000. Losses are entered into the Group-wide risk management system and reported to governance on a monthly basis.

Continuity of business operations

Every department within the organisation undertakes business continuity management, which incorporates the development of a plan including a business impact analysis assessing risk when business disruption occurs.

The Group maintains a number of dedicated work area recovery sites globally. Regular testing of these facilities is carried out with representation from each business and support function, to ensure business continuity plans remain accurate, relevant and fit for purpose. Where possible, the Group has ensured that its critical business systems are not co-located with business system users, thereby reducing concentration risk.

Regulatory compliance risk management

Overview

The Regulatory Compliance sub-function provides independent, objective oversight and challenge, and promotes a compliance-orientated culture that supports the business in delivering fair outcomes for customers, maintaining the integrity of financial markets and achieving HSBC's strategic objectives.

Key developments in 2018

There were no material changes to the policies and practices for the management of regulatory compliance risk in 2018, except for the following:

- The Board oversight of conduct matters was transitioned to the Group Risk Committee following the demise of the Conduct & Values Committee during the first half of 2018.
- We implemented a number of initiatives to raise our standards in relation to the conduct of our business, as described below under 'Conduct of business'.
- The reporting line of the Global Head of Regulatory Compliance was changed from reporting to the Group Chief Risk Officer to reporting to the Group Chief Compliance Officer from 1 November.

Governance and structure

Regulatory Compliance and Financial Crime Risk were integrated into a new Compliance function from 1 November, which is headed by the Group Chief Compliance Officer. Regulatory Compliance continues to be structured as a global function with regional and country Regulatory Compliance teams, which support and advise each global business and global function.

Key risk management processes

We regularly review our policies and procedures. Global policies and procedures require the prompt identification and escalation of any actual or potential regulatory breach to Regulatory Compliance. Reportable events are escalated to the RMM and the Group Risk Committee, as appropriate. Matters relating to the Group's regulatory conduct of business are reported to the Group Risk Committee.

Conduct of business

In 2018, we continued to highlight conduct requirements as a global principle and elsewhere within the risk management framework, reflecting the individual responsibility and accountability we have for the delivery of fair conduct outcomes for customers and market integrity. Other key activities in 2018 included:

- the inclusion of an annual conduct objective in performance management scorecards for executive Directors, Group Managing Directors, Group general managers and country CEOs across all regions, business lines, global functions and HSBC Operations Services and Technology. Executive Directors are also now subject to a new separate conduct-focused long-term incentive measure;
- further development of digital products and supporting processes to ensure our digital offerings deliver fair outcomes for customers. Governance and controls continue to be strengthened to ensure they remain fit for purpose as new technology is introduced;
- enhanced global policy requirements helping customers who are, or may become, vulnerable. Business line-led initiatives in specific markets have addressed support for appointed representatives of vulnerable customers, customers in financial distress, financial inclusion, and a pilot programme of training to help customers with or affected by cancer or dementia; and
- the delivery of our fourth annual global mandatory training course on conduct for all employees. This is complemented by an ongoing programme of newsletter, intranet and live-streamed communications, internal surveys of staff sentiment regarding progress in delivering good conduct, and conduct awareness campaigns.

The Board maintains oversight of conduct matters through the Group Risk Committee.

Further details can be found under the 'Our conduct' section of www.hsbc.com/our-approach/risk-and-responsibility. For conduct-related costs relating to significant items, see page 88.

Financial crime risk management

Overview

HSBC continued to embed a sustainable financial crime risk management capability across the Group. We are making good progress with enhancing our financial crime control framework, with the three-year programme that began in 2017 to further strengthen the management of anti-bribery and corruption risk. We continue to take further steps to refine and strengthen our defences against financial crime by applying advanced analytics and artificial intelligence.

Key developments in 2018

During 2018, HSBC continued to increase its efforts to strengthen its ability to combat financial crime. We integrated into our day-to-day operations the majority of the financial crime risk core capabilities delivered through the Global Standards programme, which we set up in 2013 to enhance our risk management policies, processes and systems. The programme infrastructure is expected to close in 2019.

We began several initiatives to define the next phase of financial crime risk management. We invested in the use of artificial intelligence and advanced analytics techniques to develop an intelligence-led financial crime risk management framework for the future.

Working in partnership with the public and private sector is vital to managing financial crime risk. HSBC is a strong proponent of public-private partnerships and information-sharing initiatives. During 2018, we created new alliances in Hong Kong and Singapore and continued to develop existing partnerships, which include UK Joint Money Laundering Intelligence Task Force, US AML Consortium, and partnerships in Australia and Canada in order to bring further benefit to the Group by enhancing the understanding of financial crime risks.

Key risk management processes

At a Group level, the Financial System Vulnerabilities Committee continues to report to the Board on matters relating to financial crime. Throughout 2018, the committee, which is attended by the Group Chief Compliance Officer, received regular reports on actions being taken to address issues and vulnerabilities. We established an anti-bribery and corruption transformation programme to further enhance the policies and controls around identifying and managing the risks of bribery and corruption across our business. We also introduced a transformation programme to strengthen the anti-fraud capabilities of the Group, and have deployed anti-tax-evasion controls. We continue to strengthen our governance and policy frameworks, and improve our management information on standardised financial crime controls. We are investing in the next generation of capabilities to fight financial crime by applying advanced analytics and artificial intelligence. Our commitment to enhance our risk assessment capabilities remains, aiming to deliver more proactive risk management and improve the customer experience.

Skilled Person/Independent Consultant

Following expiration in December 2017 of the anti-money laundering deferred prosecution agreement entered into with the with the DoJ, the then Monitor has continued to work in his capacity as a Skilled Person under Section 166 of the Financial Services and Markets Act under the Direction issued by the UK Financial Conduct Authority ('FCA') in 2012. He has also continued to work in his capacity as an Independent Consultant under the 2012 Cease and Desist Order issued by the US Federal Reserve Board ('FRB'). The Skilled Person and the Independent Consultant will continue working for a period of time at the FCA's and FRB's discretion.

The Skilled Person has assessed HSBC's progress towards being able to effectively manage its financial risk on a business-as-usual basis. The Skilled Person issued five country reports and two quarterly reports in 2018. The Skilled Person has noted that HSBC continues to make material progress towards its financial crime risk target end state in terms of key systems, processes and people. Nonetheless, the Skilled Person has identified some areas that require further work before HSBC reaches a business-as-usual state.

The Independent Consultant completed his fifth annual assessment. The Independent Consultant concluded that HSBC continues to make significant strides toward establishing an effective sanctions compliance programme, commending HSBC on a largely successful affiliates remediation exercise. He has, however, determined that certain areas within HSBC's sanctions compliance programme require further work. The Independent Consultant has commenced his sixth annual assessment, which is due to conclude in March 2019.

Throughout 2018, the FSVC received regular reports on HSBC's relationship with the Skilled Person and Independent Consultant. The FSVC received regular updates on the Skilled Person's and Independent Consultant's reviews and has received the Skilled Person's country and quarterly reports and the Independent Consultant's fifth annual assessment report.

Insurance manufacturing operations risk management

Details of changes in our insurance manufacturing operations risk profile in 2018 can be found on page 188, under 'Insurance manufacturing operations risk profile'.

There were no material changes to our policies and practices for the management of risks arising in our insurance manufacturing operations in 2018.

Governance

(Audited)

Insurance risks are managed to a defined risk appetite, which is aligned to the Group's risk appetite and risk management framework, including its three lines of defence model. For details of the Group's governance framework, see page 112. The Global Insurance Risk Management Meeting oversees the control framework globally and is accountable to the RBWM Risk Management Meeting on risk matters relating to the insurance business.

The monitoring of the risks within our insurance operations is carried out by insurance risk teams. Specific risk functions (including Wholesale Credit and Market Risk, Operational Risk, Information Security Risk, and Compliance) support Insurance Risk teams in their respective areas of expertise.

Stress and scenario testing

(Audited)

Stress testing forms a key part of the risk management framework for the insurance business. We participate in local and Group-wide regulatory stress tests, including the Bank of England stress test of the banking system, the Hong Kong Monetary Authority stress test, the European Insurance and Occupational Pensions Authority stress test, and individual country insurance regulatory stress tests.

These have highlighted that a key risk scenario for the insurance business is a prolonged low interest rate environment. In order to mitigate the impact of this scenario, the insurance operations have taken a number of actions, including repricing some products to reflect lower interest rates, launching less capital intensive products, investing in more capital efficient assets and developing investment strategies to optimise the expected returns against the cost of economic capital.

Management and mitigation of key risk types

Market risk

(Audited)

All our insurance manufacturing subsidiaries have market risk mandates that specify the investment instruments in which they are permitted to invest and the maximum quantum of market risk that they may retain. They manage market risk by using, among others, some or all of the techniques listed below, depending on the nature of the contracts written:

- We are able to adjust bonus rates to manage the liabilities to policyholders for products with discretionary participating features ('DPF'). The effect is that a significant portion of the market risk is borne by the policyholder.
- We use asset and liability matching where asset portfolios are structured to support projected liability cash flows. The Group manages its assets using an approach that considers asset quality, diversification, cash flow matching, liquidity, volatility and target investment return. It is not always possible to match asset and liability durations, due to uncertainty over the receipt of all future premiums, the timing of claims and because the forecast payment dates of liabilities may exceed the duration of the longest dated investments available. We use models to assess the effect of a range of future scenarios on the values of financial assets and associated liabilities, and ALCOs employ the outcomes in determining how best to structure asset holdings to support liabilities.
- We use derivatives to protect against adverse market movements to better match liability cash flows.
- For new products with investment guarantees, we consider the cost when determining the level of premiums or the price structure.
- We periodically review products identified as higher risk, such as those that contain investment guarantees and embedded optionality features linked to savings and investment products, for active management.
- We design new products to mitigate market risk, such as changing the investment return sharing portion between policyholders and the shareholder.
- We exit, to the extent possible, investment portfolios whose risk is considered unacceptable.
- We reprice premiums charged to policyholders.

Credit risk

(Audited)

Our insurance manufacturing subsidiaries are responsible for the credit risk, quality and performance of their investment portfolios. Our assessment of the creditworthiness of issuers and counterparties is based primarily upon internationally recognised credit ratings and other publicly available information.

Investment credit exposures are monitored against limits by our insurance manufacturing subsidiaries and are aggregated and reported to the Group Insurance Credit Risk and Group Credit Risk functions. Stress testing is performed on investment credit exposures using credit spread sensitivities and default probabilities.

We use a number of tools to manage and monitor credit risk. These include a credit report containing a watch-list of investments with current credit concerns, primarily investments that may be at risk of future impairment or where high concentrations to counterparties are present in the investment portfolio. Sensitivities to credit spread risk are assessed and monitored regularly.

Liquidity risk

(Audited)

Risk is managed by cash flow matching and maintaining sufficient cash resources, investing in high credit-quality investments with deep and liquid markets, monitoring investment concentrations and restricting them where appropriate, and establishing committed contingency borrowing facilities.

Insurance manufacturing subsidiaries complete quarterly liquidity risk reports and an annual review of the liquidity risks to which they are exposed.

Insurance risk

HSBC Insurance primarily uses the following techniques to manage and mitigate insurance risk:

- a formalised product approval process covering product design, pricing and overall proposition management (for example, management of lapses by introducing surrender charges);
- underwriting policy;
- claims management processes; and
- reinsurance which cedes risks above our acceptable thresholds to an external reinsurer thereby limiting our exposure.

Reputational risk management

Overview

Reputational risk is the risk of failing to meet stakeholder expectations as a result of any event, behaviour, action or inaction, either by HSBC, our employees or those with whom we are associated. Any material lapse in standards of integrity, compliance, customer service or operating efficiency may represent a potential reputational risk. Stakeholder expectations constantly evolve, and so reputational risk is dynamic and varies between geographical regions, groups and individuals. We have an unwavering commitment to operate at the high standards we set for ourselves in every jurisdiction.

Key developments in 2018

In the second half of 2018, as part of a revised enterprise risk management framework, it was agreed that reputational risk would be considered as a single risk type that spans both financial and non-financial risk categories. The oversight of reputational risk as a single risk type was transitioned to the Group Chief Risk Officer. He is supported by the Group Reputational Risk Committee and a new reputational risk framework, which will be embedded during 2019. The governance structure, however, remains unchanged.

Governance and structure

The development of policies and an effective control environment for the identification, assessment, management and mitigation of reputational risk, are considered by the Group Reputational Risk Committee, which is chaired by the Group Chief Risk Officer. The focus of the Group Reputational Risk Committee is to consider matters arising from clients or transactions that either present a serious potential reputational risk to the Group or merit a Group-led decision to ensure a consistent risk management approach across the regions, global businesses and global functions. The committee is responsible for keeping the RMM apprised of areas and activities presenting significant reputational risk and, where appropriate, for making recommendations to the RMM to mitigate such risk.

Key risk management processes

Our Reputational Risk and Client Selection team oversees the identification, management and control of significant reputational risks across the Group. It is responsible for setting policies to guide the Group's reputational risk management, devising strategies to protect against reputational risk, and advising the global businesses and global functions to help them identify, assess and mitigate such risks, where possible. It is led by a central team supported by teams in each of the global businesses and regions. Each global business has an established reputational risk management governance process. The global functions manage and escalate reputational risks within established operational risk frameworks.

Our policies set out our risk appetite and operational procedures for all areas of reputational risk, including financial crime prevention, regulatory compliance, conduct-related concerns, environmental impacts, human rights matters and employee relations.

For further details of our financial crime risk management and regulatory compliance risk management, see 'Financial crime risk management' on page 124 and 'Regulatory compliance risk management' on page 123 respectively.

Further details can be found under the 'Reputational risk' section of www.hsbc.com/our-approach/risk-and-responsibility.

Sustainability risk management

Overview

Assessing the environmental and social impacts of providing finance to our customers is integral to our overall risk management processes.

Key developments in 2018

We periodically review our Sustainability Risk policies. In 2018, we issued a revised energy policy to further support the transition to a low-carbon economy in line with the global ambition of the 2015 Paris Agreement of limiting climate change. We seek to ensure that our customers continue to have access to the capital required to develop their businesses, invest in more efficient technology and reduce their greenhouse gas emissions, although there are certain specific long-term assets that HSBC may choose not to finance.

Governance and structure

The Global Risk function is mandated to manage sustainability risk globally, working with the global businesses, global functions and local offices as appropriate. Sustainability risk managers have regional or national responsibilities for advising on and managing environmental and social risks.

Key risk management processes

The Global Risk function's responsibilities in relation to sustainability risk include:

- formulating sustainability risk policies. This includes work in several key areas: overseeing our sustainability risk standards; overseeing our application of the Equator Principles, which provide a framework for banks to assess and manage the social and environmental impact of large projects to which they provide financing; overseeing our application of our sustainability policies, covering agricultural commodities, chemicals, defence, energy, forestry, mining and metals, UNESCO World Heritage Sites and the Ramsar Convention on Wetlands; undertaking reviews of transactions where sustainability risks are assessed to be high; and supporting our operating companies to assess similar risks of a lesser magnitude;
- building and implementing systems-based processes to help ensure consistent application of policies, and improving the efficiency of the sustainability risk review process. We also aim to capture management information to measure and report on the effect of our lending and investment activities on sustainable development; and
- providing training and capacity building within our operating companies to ensure sustainability risks are identified and mitigated consistently to appropriate standards.

Pension risk management

There were no material changes to our policies and practices for the management of pension risk in 2018.

Governance and structure

A global pension risk framework and accompanying global policies on the management of risks related to defined benefit and defined contribution plans are in place. Pension risk is managed by a network of local and regional pension risk forums. The Global Pensions Oversight Forum is responsible for the governance and oversight of all pension plans sponsored by HSBC around the world.

Key risk management processes

Our global pensions strategy is to move from defined benefit to defined contribution plans, where local law allows and it is considered competitive to do so.

In defined contribution pension plans, the contributions that HSBC is required to make are known, while the ultimate pension benefit will vary, typically with investment returns achieved by investment choices made by the employee. While the market risk to HSBC of defined contribution plans is low, the Group is still exposed to operational and reputational risk.

In defined benefit pension plans, the level of pension benefit is known. Therefore, the level of contributions required by HSBC will vary due to a number of risks, including:

- investments delivering a return below that required to provide the projected plan benefits;
- the prevailing economic environment leading to corporate failures, thus triggering write-downs in asset values (both equity and debt);
- a change in either interest rates or inflation expectations, causing an increase in the value of plan liabilities; and
- plan members living longer than expected (known as longevity risk).

Pension risk is assessed using an economic capital model that takes into account potential variations in these factors.

The impact of these variations on both pension assets and pension liabilities is assessed using a one-in-200-year stress test. Scenario analysis and other stress tests are also used to support pension risk management.

To fund the benefits associated with defined benefit plans, sponsoring Group companies, and in some instances employees, make regular contributions in accordance with advice from actuaries and in consultation with the plan's trustees where relevant. These contributions are normally set to ensure that there are sufficient funds to meet the cost of the accruing benefits for the future service of active members. However, higher contributions are required when plan assets are considered insufficient to cover the existing pension liabilities. Contribution rates are typically revised annually or once every three years, depending on the plan.

The defined benefit plans invest contributions in a range of investments designed to limit the risk of assets failing to meet a plan's liabilities. Any changes in expected returns from the investments may also change future contribution requirements. In pursuit of these long-term objectives, an overall target allocation of the defined benefit plan assets between asset classes is established. In addition, each permitted asset class has its own benchmarks, such as stock-market or property valuation indices. The benchmarks are reviewed at least once every three to five years and more frequently if required by local legislation or circumstances. The process generally involves an extensive asset and liability review.

Key developments and risk profile in 2018

Key developments in 2018

In 2018, HSBC undertook a number of initiatives to enhance its approach to the management of risk. These included:

- We continued to strengthen the controls that manage our operational risks, as described on page 72 under 'Operational risk profile'.
- The Board oversight of conduct matters and whistleblowing arrangements were transitioned from the Conduct & Values Committee following its demise in the first half of 2018. The Group Risk Committee was given responsibility for the oversight of conduct matters and the Group Audit Committee has the overall responsibility for the Group's whistleblowing arrangements. For information on initiatives implemented in 2018 to raise our standards in relation to the conduct of our business, see page 123 under 'Conduct of business'. For further details on whistleblowing, see page 25.
- We integrated into our day-to-day operations the majority of the financial crime risk core capabilities delivered through the Global Standards programme, and expect to complete the transition to business and function management in the first half of 2019. We continue to take further steps to refine and strengthen our defences against financial crime by applying advanced analytics and artificial intelligence.
- We adopted IFRS 9, including the accounting for expected credit losses, which introduced new concepts and measures such as significant increase in credit risk and lifetime expected credit losses. Existing stress testing and regulatory models, skills and expertise were adapted in order to meet IFRS 9 requirements. Data from various client, finance and risk systems were integrated and validated. As a result of IFRS 9 adoption, management has additional insight and measures not previously utilised, which over time may influence our risk appetite and risk management processes.

Credit risk profile

Credit risk is the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract. Credit risk arises principally from direct lending, trade finance and leasing business, but also from other products such as guarantees and credit derivatives.

Comparative credit tables at 1 January 2018 reflecting the adoption of IFRS 9 as published in our *Report on transition to IFRS 9 'Financial Instruments' 1 January 2018* have been included where available. Comparative credit tables at 31 December 2017 from our *Annual Report and Accounts 2017,* which do not reflect the adoption of IFRS 9, have been disclosed separately on pages 161 to 176 as they are not directly comparable.

Refer to 'Standards adopted during the year ended 31 December 2018' on page 263 and Note 37 'Effect of reclassification upon adoption of IFRS 9' for further details.

There were no material changes to the policies and practices for the management of credit risk. A summary of our current policies and practices for the management of credit risk is set out in 'Credit risk management' on page 118 of the *Annual Report and Accounts 2018.*

Credit risk in 2018

Gross loans and advances to customers of $990.3bn, as defined by IFRS 9, increased from $959.1bn at 1 January 2018. This increase includes adverse foreign exchange movements of $34.1bn. Loans and advances to banks of $72.2bn decreased from $82.6bn at 1 January 2018. This included adverse foreign exchange movements of $2.7bn. Wholesale and personal lending movements are disclosed on pages 143 to 157.

The change in expected credit losses and other credit impairment charges, as it appears in the income statement, for the period was $1.8bn.

Income statement movements are analysed further on page 42.

Our maximum exposure to credit risk is presented on page 132 and credit quality on pages 139. While credit risk arises across most of our balance sheet, losses have typically been incurred on loans and advances and securitisation exposures and other structured products. As a result, our disclosures focus primarily on these two areas.

Summary of credit risk

The following disclosure presents the gross carrying/nominal amount of financial instruments to which the impairment requirements in IFRS 9 are applied and the associated allowance for ECL. Due to the forward-looking nature of IFRS 9, the scope of financial instruments on which ECL is recognised is greater than the scope of IAS 39.

The following tables analyse loans by industry sector and the extent to which they are exposed to credit risks.

The allowance for ECL, as defined by IFRS 9, decreased from $10.1bn at 1 January 2018 to $9.2bn at 31 December 2018. This decrease included favourable foreign exchange movements of $0.4bn.

The allowance for ECL at 31 December 2018 comprised of $8.7bn in respect of assets held at amortised cost, $0.4bn in respect of loan commitments and financial guarantees, and $0.1bn in respect of debt instruments measured at fair value through other comprehensive income ('FVOCI').

Summary of financial instruments to which the impairment requirements in IFRS 9 are applied

(Audited)

		31 Dec 2018		At 1 Jan 2018	
		Gross carrying/ nominal amount	**Allowance for ECL[5]**	Gross carrying/ nominal amount	Allowance for ECL[5]
	Footnotes	**$m**	**$m**	$m	$m
Loans and advances to customers at amortised cost		**990,321**	**(8,625)**	959,080	(9,343)
– personal		**394,337**	**(2,947)**	375,069	(3,047)
– corporate and commercial		**534,577**	**(5,552)**	520,137	(6,053)
– non-bank financial institutions		**61,407**	**(126)**	63,874	(243)
Loans and advances to banks at amortised cost		**72,180**	**(13)**	82,582	(23)
Other financial assets measured at amortised cost		**582,917**	**(55)**	557,864	(114)
– cash and balances at central banks		**162,845**	**(2)**	180,624	(3)
– items in the course of collection from other banks		**5,787**	**—**	6,628	—
– Hong Kong Government certificates of indebtedness		**35,859**	**—**	34,186	—
– reverse repurchase agreements – non-trading		**242,804**	**—**	201,553	—
– financial investments		**62,684**	**(18)**	59,539	(16)
– prepayments, accrued income and other assets	6	**72,938**	**(35)**	75,334	(95)
Total gross carrying amount on-balance sheet		**1,645,418**	**(8,693)**	1,599,526	(9,480)
Loans and other credit-related commitments		**592,008**	**(325)**	545,258	(376)
– personal		**207,351**	**(13)**	196,093	(14)
– corporate and commercial		**271,022**	**(305)**	262,391	(355)
– non-bank financial institutions	7	**113,635**	**(7)**	86,774	(7)
Financial guarantees	8	**23,518**	**(93)**	25,849	(97)
– personal		**927**	**(1)**	718	(4)
– corporate and commercial		**17,355**	**(85)**	19,965	(89)
– non-bank financial institutions		**5,236**	**(7)**	5,166	(4)
Total nominal amount off-balance sheet	9	**615,526**	**(418)**	571,107	(473)
		2,260,944	**(9,111)**	2,170,633	(9,953)

	Fair value	**Memorandum allowance for ECL[10]**	Fair value	Memorandum allowance for ECL[10]
	$m	**$m**	$m	$m
Debt instruments measured at fair value through other comprehensive income ('FVOCI')	**343,110**	**(84)**	322,163	(184)

For footnotes, see page 192.

The following table provides an overview of the Group's credit risk by stage and industry, and the associated ECL coverage. The financial assets recorded in each stage have the following characteristics:

- stage 1: unimpaired and without significant increase in credit risk on which a 12-month allowance for ECL is recognised;
- stage 2: a significant increase in credit risk has been experienced since initial recognition on which a lifetime ECL is recognised;
- stage 3: objective evidence of impairment, and are therefore considered to be in default or otherwise credit impaired on which a lifetime ECL is recognised; and
- purchased or originated credit impaired ('POCI'): purchased or originated at a deep discount that reflects the incurred credit losses on which a lifetime ECL is recognised.

Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage by industry sector at 31 December 2018

(Audited)

	Gross carrying/nominal amount[9]					Allowance for ECL					ECL coverage %				
	Stage 1	Stage 2	Stage 3	POCI[11]	Total	Stage 1	Stage 2	Stage 3	POCI[11]	Total	Stage 1	Stage 2	Stage 3	POCI[11]	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	%	%	%	%
Loans and advances to customers at amortised cost	915,188	61,786	13,023	324	990,321	(1,276)	(2,108)	(5,047)	(194)	(8,625)	0.1	3.4	38.8	59.9	0.9
– personal	374,681	15,075	4,581	–	394,337	(534)	(1,265)	(1,148)	–	(2,947)	0.1	8.4	25.1	–	0.7
– corporate and commercial	481,262	44,779	8,212	324	534,577	(698)	(812)	(3,848)	(194)	(5,552)	0.1	1.8	46.9	59.9	1.0
– non-bank financial institutions	59,245	1,932	230	–	61,407	(44)	(31)	(51)	–	(126)	0.1	1.6	22.2	–	0.2
Loans and advances to banks at amortised cost	71,873	307	–	–	72,180	(11)	(2)	–	–	(13)	–	0.7	–	–	–
Other financial assets measured at amortised cost	581,118	1,673	126	–	582,917	(27)	(6)	(22)	–	(55)	–	0.4	17.5	–	–
Loan and other credit-related commitments	569,250	21,839	912	7	592,008	(143)	(139)	(43)	–	(325)	–	0.6	4.7	–	0.1
– personal	205,183	1,760	408	–	207,351	(12)	(1)	–	–	(13)	–	0.1	–	–	–
– corporate and commercial	251,478	19,034	503	7	271,022	(126)	(136)	(43)	–	(305)	0.1	0.7	8.5	–	0.1
– financial[7]	112,589	1,045	1	–	113,635	(5)	(2)	–	–	(7)	–	0.2	–	–	–
Financial guarantees[8]	20,884	2,334	297	3	23,518	(19)	(29)	(45)	–	(93)	0.1	1.2	15.2	–	0.4
– personal	920	3	4	–	927	(1)	–	–	–	(1)	0.1	–	–	–	0.1
– corporate and commercial	15,011	2,053	288	3	17,355	(16)	(25)	(44)	–	(85)	0.1	1.2	15.3	–	0.5
– financial	4,953	278	5	–	5,236	(2)	(4)	(1)	–	(7)	–	1.4	20.0	–	0.1
At 31 Dec 2018	2,158,313	87,939	14,358	334	2,260,944	(1,476)	(2,284)	(5,157)	(194)	(9,111)	0.1	2.6	35.9	58.1	0.4

For footnotes, see page 192.

Unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when they are 30 days past due ('DPD') and are transferred from stage 1 to stage 2. The following disclosure presents the ageing of stage 2 financial assets. It distinguishes those assets that are classified as stage 2 when they are less than 30 days past due (1-29 DPD) from those that are more than 30 DPD (30 and >DPD). Past due financial instruments are those loans where customers have failed to make payments in accordance with the contractual terms of their facilities.

Stage 2 days past due analysis at 31 December 2018

(Audited)

	Gross carrying amount			Allowance for ECL			ECL coverage %		
		Of which:	Of which:		Of which:	Of which:		Of which:	Of which:
	Stage 2	1 to 29 DPD[12]	30 and > DPD[12]	Stage 2	1 to 29 DPD[12]	30 and > DPD[12]	Stage 2	1 to 29 DPD[12]	30 and > DPD[12]
	$m	*$m*	*$m*	$m	*$m*	*$m*	%	*%*	*%*
Loans and advances to customers at amortised cost	61,786	*2,554*	*1,914*	(2,108)	*(204)*	*(254)*	3.4	*8.0*	*13.3*
– personal	15,075	*1,807*	*1,383*	(1,265)	*(165)*	*(220)*	8.4	*9.1*	*15.9*
– corporate and commercial	44,779	*737*	*485*	(812)	*(39)*	*(34)*	1.8	*5.3*	*7.0*
– non-bank financial institutions	1,932	*10*	*46*	(31)	–	–	1.6	–	–
Loans and advances to banks at amortised cost	307	–	–	(2)	–	–	0.7	–	–
Other financial assets measured at amortised cost	1,673	*10*	*26*	(6)	–	–	0.4	–	–

For footnotes, see page 192.

Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage by industry sector at 1 January 2018 (continued)

	Gross carrying/nominal amount[9]					Allowance for ECL					ECL coverage %				
	Stage 1	Stage 2	Stage 3	POCI[11]	Total	Stage 1	Stage 2	Stage 3	POCI[11]	Total	Stage 1	Stage 2	Stage 3	POCI[11]	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	%	%	%	%
Loans and advances to customers at amortised cost	871,566	72,658	13,882	974	959,080	(1,309)	(2,201)	(5,591)	(242)	(9,343)	0.2	3.0	40.3	24.8	1.0
– personal	354,305	16,354	4,410	—	375,069	(581)	(1,156)	(1,310)	—	(3,047)	0.2	7.1	29.7	—	0.8
– corporate and commercial	456,837	53,262	9,064	974	520,137	(701)	(1,037)	(4,073)	(242)	(6,053)	0.2	1.9	44.9	24.8	1.2
– non-bank financial institutions	60,424	3,042	408	—	63,874	(27)	(8)	(208)	—	(243)	—	0.3	51.0	—	0.4
Loans and advances to banks at amortised cost	81,027	1,540	15	—	82,582	(17)	(4)	(2)	—	(23)	—	0.3	13.3	—	—
Other financial assets measured at amortised cost	556,185	1,517	155	7	557,864	(28)	(4)	(82)	—	(114)	—	0.3	52.9	—	—
Loan and other credit-related commitments	519,883	24,330	999	46	545,258	(126)	(183)	(67)	—	(376)	—	0.8	6.7	—	0.1
– personal	194,320	1,314	459	—	196,093	(13)	(1)	—	—	(14)	—	0.1	—	—	—
– corporate and commercial	240,854	20,951	540	46	262,391	(108)	(180)	(67)	—	(355)	—	0.9	12.4	—	0.1
– financial[7]	84,709	2,065	—	—	86,774	(5)	(2)	—	—	(7)	—	0.1	—	—	—
Financial guarantees[8]	22,021	3,619	187	22	25,849	(17)	(18)	(62)	—	(97)	0.1	0.5	33.2	—	0.4
– personal	703	10	5	—	718	(2)	—	(2)	—	(4)	0.3	—	40.0	—	0.6
– corporate and commercial	16,597	3,164	182	22	19,965	(14)	(17)	(58)	—	(89)	0.1	0.5	31.9	—	0.4
– financial	4,721	445	—	—	5,166	(1)	(1)	(2)	—	(4)	—	0.2	—	—	0.1
At 1 Jan 2018	2,050,682	103,664	15,238	1,049	2,170,633	(1,497)	(2,410)	(5,804)	(242)	(9,953)	0.1	2.3	38.1	23.1	0.5

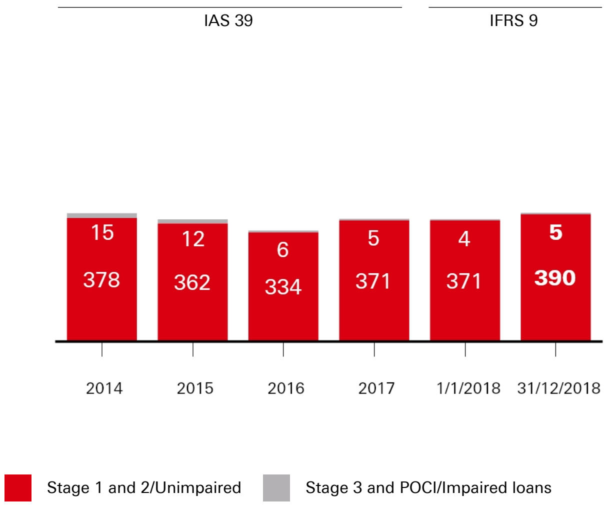
For footnotes, see page 192.

Stage 2 days past due analysis at 1 January 2018

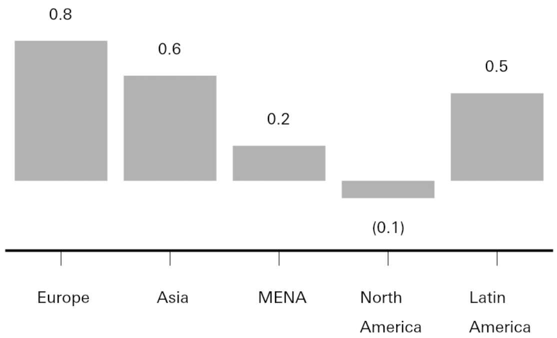
	Gross carrying amount			Allowance for ECL			ECL coverage %		
	Stage 2	*Of which:* *1 to 29 DPD*[12]	*Of which:* *30 and > DPD*[12]	Stage 2	*Of which:* *1 to 29 DPD*[12]	*Of which:* *30 and > DPD*[12]	Stage 2	*Of which:* *1 to 29 DPD*[12]	*Of which:* *30 and > DPD*[12]
	$m	*$m*	*$m*	$m	*$m*	*$m*	%	*%*	*%*
Loans and advances to customers at amortised cost	72,658	*2,393*	*2,447*	(2,201)	*(261)*	*(261)*	3.0	*10.9*	*10.7*
– personal	16,354	*1,683*	*1,428*	(1,156)	*(218)*	*(230)*	7.1	*13.0*	*16.1*
– corporate and commercial	53,262	*684*	*977*	(1,037)	*(42)*	*(31)*	1.9	*6.1*	*3.2*
– non-bank financial institutions	3,042	*26*	*42*	(8)	*(1)*	—	0.3	*3.8*	—
Loans and advances to banks at amortised cost	1,540	*7*	*66*	(4)	*(2)*	—	0.3	*28.6*	—
Other financial assets measured at amortised cost	1,517	*133*	*46*	(4)	—	*(1)*	0.3	—	*2.2*

For footnotes, see page 192.

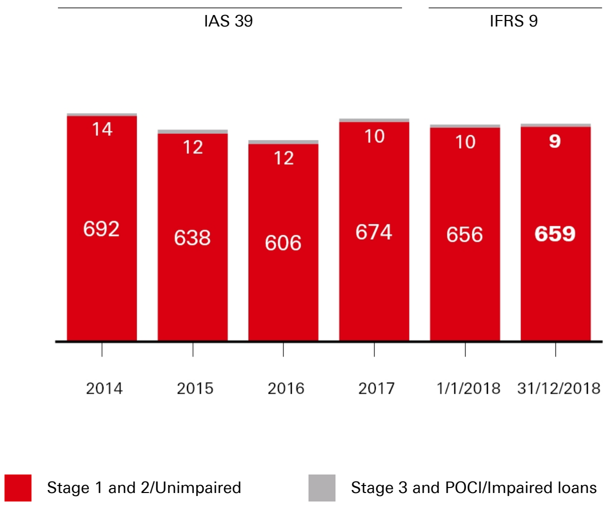
Personal gross loans to customers over five years ($bn)



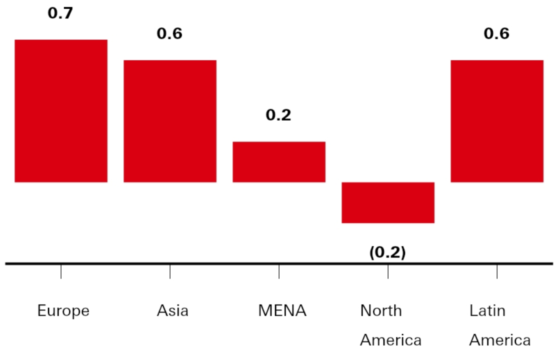
Loan impairment charges by geographical region in 2017 ($bn)



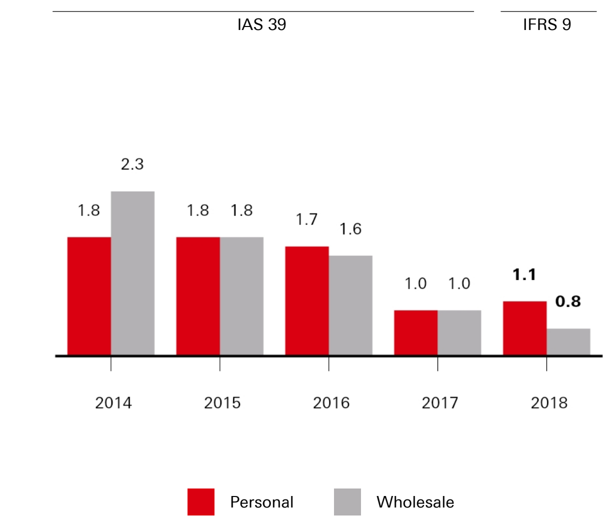
Wholesale gross loans to customers and banks over five years ($bn)



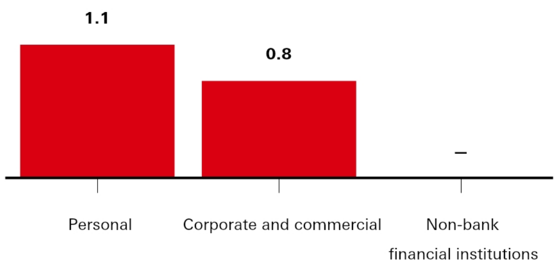
Loans and advances change in ECL by geographical region in 2018 ($bn)



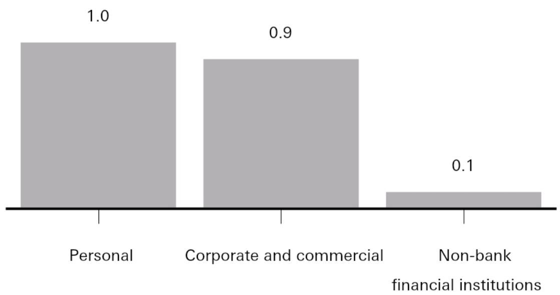
Loans and advances change in ECL/loan impairment charge ($bn)



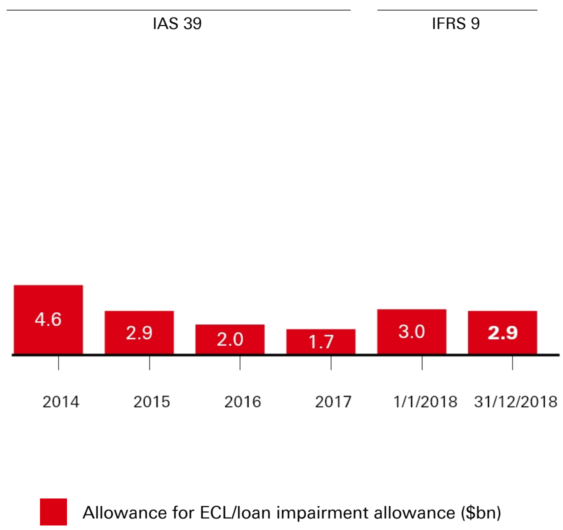
Loans and advances to customers change in ECL in 2018 ($bn)



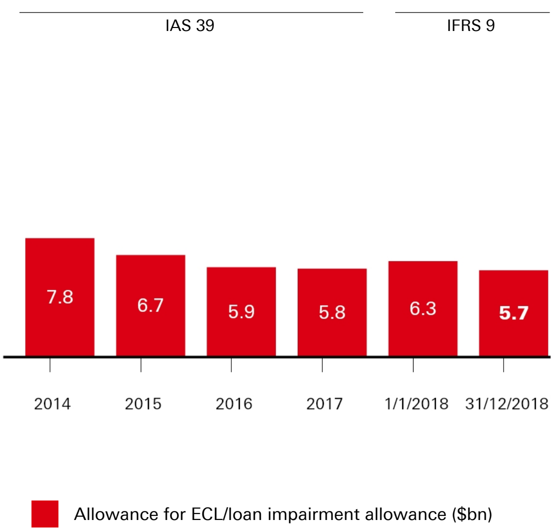
Loans and advances to customers loan impairment charges by industry in 2017 ($bn)



Personal allowance for ECL/loan impairment allowance over five years ($bn)



Wholesale allowance for ECL/loan impairment allowance over five years ($bn)



Credit exposure

Maximum exposure to credit risk

(Audited)

This section provides information on balance sheet items and their offsets as well as loan and other credit-related commitments. Commentary on consolidated balance sheet movements in 2018 is provided on page 48.

The offset on derivatives remains in line with the movements in maximum exposure amounts.

'Maximum exposure to credit risk' table

The following table presents our maximum exposure before taking account of any collateral held or other credit enhancements (unless such enhancements meet accounting offsetting requirements). The table excludes financial instruments whose carrying amount best represents the net exposure to credit risk, and it excludes equity securities as they are not subject to credit risk. For the financial assets recognised on the balance sheet, the maximum exposure to credit risk equals their carrying amount; for financial guarantees and other guarantees granted, it is the maximum amount that we would have to pay if the guarantees were called upon. For loan commitments and other credit-related commitments, it is generally the full amount of the committed facilities.

The offset in the table relates to amounts where there is a legally enforceable right of offset in the event of counterparty default and where, as a result, there is a net exposure for credit risk purposes. However, as there is no intention to settle these balances on a net basis under normal circumstances, they do not qualify for net presentation for accounting purposes. No offset has been applied to off-balance sheet collateral. In the case of derivatives, the offset column also includes collateral received in cash and other financial assets.

Other credit risk mitigants

While not disclosed as an offset in the following 'Maximum exposure to credit risk' table, other arrangements are in place that reduce our maximum exposure to credit risk. These include a charge over collateral on borrowers' specific assets, such as residential properties, collateral held in the form of financial instruments that are not held on the balance sheet and short positions in securities. In addition, for financial assets held as part of linked insurance/investment contracts the risk is predominantly borne by the policyholder. See Note 30 and page 269 on the Financial Statements for further details of collateral in respect of certain loans and advances and derivatives.

Collateral available to mitigate credit risk is disclosed in the Collateral section on page 148.

Maximum exposure to credit risk

(Audited)

	2018		
	Maximum exposure	Offset	Net
	$m	$m	$m
Loans and advances to customers held at amortised cost	981,696	(29,534)	952,162
– personal	391,390	(3,679)	387,711
– corporate and commercial	529,025	(23,421)	505,604
– non-bank financial institutions	61,281	(2,434)	58,847
Loans and advances to banks at amortised cost	72,167	–	72,167
Other financial assets held at amortised cost	585,600	(21,788)	563,812
– cash and balances at central banks	162,843	–	162,843
– items in the course of collection from other banks	5,787	–	5,787
– Hong Kong Government certificates of indebtedness	35,859	–	35,859
– reverse repurchase agreements – non-trading	242,804	(21,788)	221,016
– financial investments	62,666	–	62,666
– prepayments, accrued income and other assets	75,641	–	75,641
Derivatives	207,825	(194,306)	13,519
Total on-balance sheet exposure to credit risk	**1,847,288**	**(245,628)**	**1,601,660**
Total off-balance sheet	874,751	–	874,751
– financial and other guarantees	94,810	–	94,810
– loan and other credit-related commitments	779,941	–	779,941
At 31 Dec 2018	**2,722,039**	**(245,628)**	**2,476,411**

Concentration of exposure

The geographical diversification of our lending portfolio, and our broad range of global businesses and products, ensured that we did not overly depend on a few markets or businesses to generate growth in 2018.

For an analysis of:

- financial investments, see Note 16 on the Financial Statements;
- trading assets, see Note 11 on the Financial Statements;
- derivatives, see page 152 and Note 15 on the Financial Statements; and
- loans and advances by industry sector and by the location of the principal operations of the lending subsidiary (or, in the case of the operations of The Hongkong and Shanghai Banking Corporation, HSBC Bank plc, HSBC Bank Middle East Limited and HSBC Bank USA, by the location of the lending branch), see page 143 for wholesale lending and page 153 for personal lending.

Credit deterioration of financial instruments

(Audited)

A summary of our current policies and practices regarding the identification, treatment and measurement of stage 1, stage 2, stage 3 (credit impaired) and POCI financial instruments can be found in Note 1.2 on the Financial Statements.

Measurement uncertainty and sensitivity analysis of ECL estimates

(Audited)

Expected credit loss impairment allowances recognised in the financial statements reflect the effect of a range of possible economic outcomes, calculated on a probability-weighted basis, based on the economic scenarios described below. The recognition and measurement of expected credit losses ('ECL') involves the use of significant judgement and estimation. It is necessary to formulate multiple forward-looking economic forecasts and incorporate them into the ECL estimates. HSBC uses a standard framework to form economic scenarios to reflect assumptions about future economic conditions, supplemented with the use of management judgement, which may result in using alternative or additional economic scenarios and/or management adjustments.

Methodology

HSBC has adopted the use of three scenarios, representative of our view of forecast economic conditions, sufficient to calculate unbiased expected loss in most economic environments. They represent a 'most likely outcome' (the Central scenario), and two, less likely 'outer' scenarios, referred to as the Upside and Downside scenarios. Each outer scenario is consistent with a probability of 10%, while the Central scenario is assigned the remaining 80%, according to the decision of HSBC's senior management. This weighting scheme is deemed appropriate for the unbiased estimation of ECL in most circumstances. Key scenario assumptions are set using the average of forecasts of external economists, helping to ensure that the IFRS 9 scenarios are unbiased and maximise the use of independent information. The Central, Upside and Downside scenarios selected with reference to external forecast distributions using the above approach are termed the 'consensus economic scenarios'.

For the Central scenario, HSBC sets key assumptions such as GDP growth, inflation, unemployment and policy interest rates, using either the average of external forecasts (commonly referred to as consensus forecasts) for most economies, or market prices. An external provider's global macro model, conditioned to follow the consensus forecasts, projects the other paths required as inputs to credit models. This external provider is subject to HSBC's risk governance framework, with oversight by a specialist internal unit.

The Upside and Downside scenarios are designed to be cyclical, in that GDP growth, inflation and unemployment usually revert back to the Central scenario after the first three years for major economies. We determine the maximum divergence of GDP growth from the Central scenario using the 10th and the 90th percentile of the entire distribution of forecast outcomes for major economies. While key economic variables are set with reference to external distributional forecasts, we also align the overall narrative of the scenarios to the macroeconomic risks described in HSBC's 'Top and emerging risks' on page 100. This ensures that scenarios remain consistent with the more qualitative assessment of these risks. We project additional variable paths using the external provider's global macro model.

We apply the following to generate the three economic scenarios:

- Economic risk assessment: We develop a shortlist of the upside and downside economic and political risks, most relevant to HSBC and the IFRS 9 measurement objective. These include local and global economic and political risks, which together affect economies that have a material effect on credit risk for HSBC, namely the UK, countries in the eurozone, Hong Kong, mainland China and the US. We compile this shortlist by monitoring developments in the global economy, by reference to our top and emerging risks, and by consulting external and internal subject matter experts.

- Scenario generation: For the Central scenario, we obtain a pre-defined set of economic paths from the average taken from the consensus survey of professional forecasters. Paths for the two outer scenarios are benchmarked to the Central scenario and reflect the economic risk assessment. We select scenarios that in management's judgement are representative of the probability weighting scheme, informed by the current economic outlook, data analysis of past recessions, and transitions in and out of recession. The key assumptions made, and the accompanying paths, represent our 'best estimate' of a scenario at a specified probability. Suitable narratives are developed for the Central scenario and the paths of the two outer scenarios.
- Variable enrichment: We expand each scenario through enrichment of variables. This includes the production of more than 400 variables that are required to calculate ECL. The external provider expands these scenarios by using as inputs the agreed scenario narratives and the variables aligned to these narratives. Scenarios, once expanded, continue to be benchmarked to latest events and information. Late breaking events could lead to revision of scenarios to reflect management judgement.

The Upside and Downside scenarios are generated at the year-end and are only updated during the year if economic conditions change significantly. The Central scenario is generated every quarter. In quarters where only the Central scenario is updated, outer scenarios for use in wholesale are adjusted such that the relationship between the Central scenario and outer scenarios in the quarter is consistent with that observed at the last full scenario generation. In retail, three scenarios are run annually to establish the effect of multiple scenarios for each portfolio. This effect is then applied in each quarter with the understanding that the non-linearity of response to economic conditions should not change, unless a significant change in economic conditions occurs.

HSBC recognises that the consensus economic scenario approach, using three scenarios, will be insufficient in certain economic environments. Additional analysis may be requested at management's discretion. This may result in a change in the weighting scheme assigned to the three scenarios or the inclusion of extra scenarios. We anticipate that there will be only limited instances when the standard approach will not apply. We invoked this additional step on 1 January 2018, due to the specific uncertainties facing the UK economy at that time, resulting in the recognition of additional ECL through a management adjustment for economic uncertainty (termed a 'management overlay' in the transitional disclosures). During 2018, we maintained additional ECL impairment allowances for the UK and made a further adjustment in respect of trade and tariff-related tensions. See 'Impact of UK economic uncertainty on ECL' below.

Description of consensus economic scenarios

The economic assumptions presented in this section have been formed internally by HSBC specifically for the purpose of calculating expected credit loss.

The consensus Central scenario

Consensus forecasts were stable over the course of 2018 and HSBC's Central scenario is one of moderate growth over the projection period 2019–2023. Global GDP growth is expected to be 2.9% on average over the period, which is marginally higher than the average growth rate over the period 2013–2017. Across the key markets, we note:

- Expected average rates of GDP growth over the 2019–2023 period are lower than average growth rates achieved over the 2013–2017 period for the US, UK, mainland China, Hong Kong, Canada, Mexico and the UAE. For the UK, this reflects expectations that the long-term impact of current economic uncertainty will be moderately adverse, while for China, it is consistent with the theme of ongoing rebalancing from an export-oriented economy to deeper domestic consumption.
- The average unemployment rate over the projection horizon is expected to remain at or below the averages observed in the 2013–2017 period across all of our major markets.
- Inflation is expected to be stable despite steady GDP growth and strong labour markets and will remain close to central bank targets in our core markets over the forecast period.
- Major central banks are expected to gradually raise their main policy interest rate. The US Federal Reserve Board ('FRB') will continue to reduce the size of its balance sheet and the European Central Bank is expected to raise interest rates from the second half of 2019. The Chinese Central Bank is expected to continue to rely on its toolkit of measures to control capital flows and manage domestic credit growth.
- The West Texas Intermediate oil price is forecast to average $63 per barrel over the projection period.

The following table describes key macroeconomic variables and the probabilities assigned in the consensus Central scenario.

Central scenario (average 2019–2023)

	UK	France	Hong Kong	Mainland China	UAE	US	Canada	Mexico
GDP growth rate (%)	**1.7**	**1.5**	**2.6**	**5.9**	**3.4**	**2.0**	**1.8**	**2.4**
Inflation (%)	**2.1**	**1.7**	**2.3**	**2.5**	**2.5**	**2.1**	**2.0**	**3.6**
Unemployment (%)	**4.5**	**7.8**	**3.1**	**4.0**	**2.1**	**4.0**	**6.1**	**3.7**
Short-term interest rate (%)	**1.2**	**0.2**	**2.6**	**4.0**	**3.2**	**2.8**	**2.5**	**8.0**
10-year Treasury bond yields (%)	**2.6**	**2.0**	**3.1**	**N/A**	**N/A**	**3.5**	**3.3**	**7.2**
House price growth (%)	**2.9**	**1.7**	**1.0**	**5.8**	**3.0**	**3.4**	**2.7**	**5.1**
Equity price growth (%)	**3.2**	**3.1**	**3.8**	**9.6**	**N/A**	**4.5**	**3.5**	**7.1**
Probability (%)	**50.0**	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**

Note: N/A – not required in credit models.

The consensus Upside scenario

The economic forecast distribution of risks (as captured by consensus probability distributions of GDP growth) has shown a marginal increase in upside risks for the US and the eurozone, but a decrease of the same for the UK over the course of 2018. Globally, real GDP growth rises in the first two years of the Upside scenario before converging to the Central scenario. Increased confidence, de-escalation of trade tensions and removal of trade barriers, expansionary fiscal policy, positive resolution of economic uncertainty in the UK, stronger oil prices as well as calming of geopolitical tensions are the risk themes that support the 2018 year-end Upside scenario.

The following table describes key macroeconomic variables and the probabilities assigned in the consensus Upside scenario.

Upside scenario (average 2019–2023)

	UK	France	Hong Kong	Mainland China	UAE	US	Canada	Mexico
GDP growth rate (%)	2.2	1.9	2.9	6.1	3.9	2.7	2.1	2.9
Inflation (%)	2.3	2.0	2.6	2.7	2.9	2.4	2.2	4.0
Unemployment (%)	4.2	7.4	2.9	3.7	1.7	3.6	5.9	3.3
Short-term interest rate (%)	1.3	0.2	2.6	4.1	3.3	3.0	2.5	8.2
10-year Treasury bond yields (%)	2.7	2.0	3.3	N/A	N/A	3.7	3.3	7.5
House price growth (%)	4.1	2.3	1.4	7.3	4.4	4.7	3.9	5.8
Equity price growth (%)	6.0	7.3	7.1	13.6	N/A	8.7	9.2	10.9
Probability (%)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Note: N/A – not required in credit models.

The Downside scenarios

The consensus Downside scenario

The distribution of risks (as captured by consensus probability distributions of GDP growth) have shown a marginal increase in downside risks over the course of 2018 for the US, while they were broadly stable for the eurozone and the UK (but see discussion on UK economic uncertainty below). Globally, real GDP growth declines for two years in the Downside scenario before recovering to the Central scenario. House price growth either stalls or contracts and equity markets correct abruptly in our major markets. The global slowdown in demand drives commodity prices lower and results in an accompanying fall in inflation. Central banks remain accommodative. This is consistent with the key risk themes of the downside, such as an intensification of global protectionism and trade barriers, faster than expected tightening of the Fed policy rate, a worsening of economic uncertainty in the UK, China choosing to rebalance with stringent measures, and weaker commodity prices.

The following table describes key macroeconomic variables and the probabilities assigned in the consensus Downside scenario.

Downside scenario (average 2019–2023)

	UK	France	Hong Kong	Mainland China	UAE	US	Canada	Mexico
GDP growth rate (%)	1.1	1.1	2.2	5.8	2.9	1.2	1.5	1.8
Inflation (%)	1.7	1.3	1.9	2.2	2.2	1.8	1.7	3.2
Unemployment (%)	4.8	8.2	3.5	4.2	2.5	4.6	6.5	4.2
Short-term interest rate (%)	0.3	(0.3)	0.6	3.6	1.2	0.8	0.9	6.8
10-year Treasury bond yields (%)	1.6	0.9	1.6	N/A	N/A	1.6	1.4	5.6
House price growth (%)	1.0	(1.3)	(0.8)	3.3	1.4	1.0	0.3	4.4
Equity price growth (%)	(0.2)	(2.4)	(1.6)	2.0	N/A	–	0.3	(0.4)
Probability (%)	–	10.0	5.0	5.0	10.0	10.0	10.0	10.0

Note: N/A – not required in credit models.

Alternative Downside scenarios for the UK

A number of events occurred over the course of 2018 that led management to re-evaluate the shape of the consensus distribution for the UK. Given the challenges facing economic forecasters in this environment, management was concerned that this distribution did not adequately represent downside risks for the UK. The high level of economic uncertainty that prevailed at the end of 2018, including the lack of progress in agreeing a clear plan for an exit from the EU and the uncertain performance of the UK economy after an exit, was a key factor in this consideration. In management's view, the extent of this uncertainty justifies the use of the following Alternative Downside scenarios, used in place of the consensus Downside, with the assigned probabilities:

Alternative Downside scenario 1 ('AD1'): Economic uncertainty could have a large impact on the UK economy resulting in a long lasting recession with a weak recovery. This scenario reflects the consequences of such a recession with an initial risk-premium shock and weaker long-run productivity growth. This scenario has been used with a 30% weighting.

Alternative Downside scenario 2 ('AD2'): This scenario reflects the possibility that economic uncertainty could result in a deep cyclical shock triggering a steep depreciation in sterling, a sharp increase in inflation and an associated monetary policy response. This represents a tail risk and has been assigned a 5% weighting.

Alternative Downside scenario 3 ('AD3'): This scenario reflects the possibility that the adverse impact associated with economic uncertainty currently in the UK could manifest over a far longer period of time with the worst effects occurring later than in the above two scenarios. This scenario is also considered a tail risk and has been assigned a 5% weighting.

The table below describes key macroeconomic variables and the probabilities for each of the Alternative Downside scenarios:

Average 2019–2023

	Alternative Downside scenario 1	Alternative Downside scenario 2	Alternative Downside scenario 3
	%	%	%
GDP growth rate	0.5	(0.1)	(0.7)
Inflation	2.2	2.4	2.7
Unemployment	6.5	8.0	7.7
Short-term interest rate	0.4	2.5	2.5
10-year Treasury bond yields	1.8	4.0	4.0
House price growth	(1.5)	(3.3)	(4.8)
Equity price growth	(0.9)	(2.3)	(7.5)
Probability	30	5	5

Global trade Downside scenario

Continued escalation of trade- and tariff-related tensions throughout 2018 resulted in management modelling an additional Downside scenario for key Asia-Pacific economies. This additional scenario models the effects of a significant escalation in global tensions, stemming from trade disputes but going beyond increases in tariffs to affect non-tariff barriers, cross-border investment flows and threats to the international trade architecture. This scenario assumes actions that lie beyond currently enacted and proposed tariffs and has been modelled as an addition to the three consensus-driven scenarios for these economies. This scenario has been assigned a 5% weight, leaving 5% assigned to the consensus Downside scenario, and has been used in addition to the consensus economic scenarios for eight Asia-Pacific markets, including HSBC's major markets of Hong Kong and mainland China. In management's judgement, the impact on the US and other countries is largely captured by the consensus Downside scenario.

Key macroeconomic variables are shown in the table below:

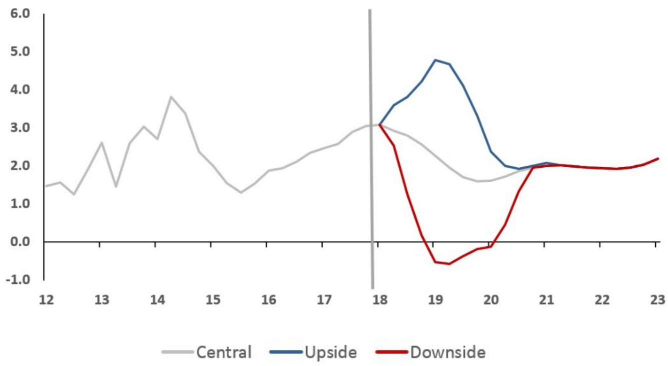
Average 2019–2023

	Hong Kong	Mainland China
GDP growth rate (%)	1.5	5.4
Inflation (%)	1.6	2.1
Unemployment (%)	4.7	4.3
Short-term interest rate (%)	1.0	3.1
10-year Treasury bond yields (%)	2.0	N/A
House price growth (%)	(2.0)	2.9
Equity price growth (%)	(3.5)	1.1
Probability (%)	5	5

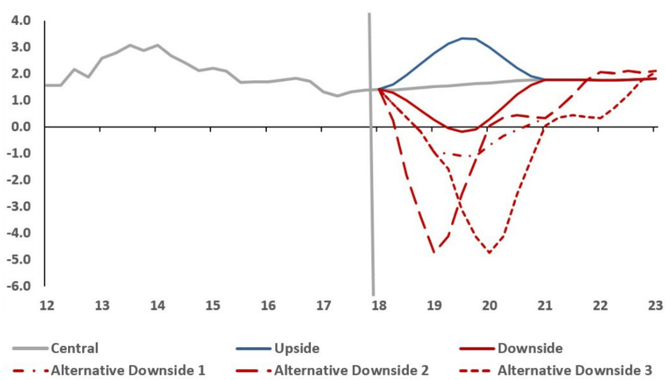
The conditions that resulted in departure from the consensus economic forecasts will be reviewed regularly as economic conditions change in future to determine whether these adjustments continue to be necessary.

The tables above show the five-year average of GDP growth rate. The following graphs show the historical and forecasted GDP growth rate for the various economic scenarios in HSBC's four largest markets.

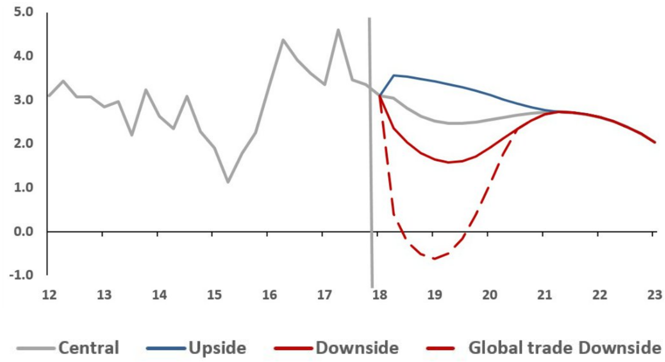
US



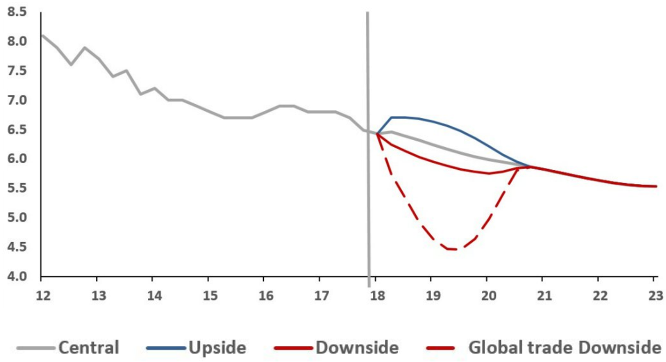
UK



Hong Kong



Mainland China



How economic scenarios are reflected in the wholesale calculation of ECL

HSBC has developed a globally consistent methodology for the application of forward economic guidance into the calculation of ECL by incorporating forward economic guidance into the estimation of the term structure of probability of default ('PD') and loss given default ('LGD'). For PDs, we consider the correlation of forward economic guidance to default rates for a particular industry in a country. For LGD calculations we consider the correlation of forward economic guidance to collateral values and realisation rates for a particular country and industry. PDs and LGDs are estimated for the entire term structure of each instrument.

For impaired loans, LGD estimates take into account independent recovery valuations provided by external consultants where available, or internal forecasts corresponding to anticipated economic conditions and individual company conditions. In estimating the ECL on impaired loans that are individually considered not to be significant, HSBC incorporates forward economic guidance proportionate to the probability-weighted outcome and the Central scenario outcome for non-stage 3 populations.

How economic scenarios are reflected in the retail calculation of ECL

HSBC has developed and implemented a globally consistent methodology for incorporating forecasts of economic conditions into ECL estimates. The impact of economic scenarios on PD is modelled at a portfolio level. Historical relationships between observed default rates and macroeconomic variables are integrated into IFRS 9 ECL estimates by leveraging economic response models. The impact of these scenarios on PD is modelled over a period equal to the remaining maturity of underlying asset or assets. The impact on LGD is modelled for mortgage portfolios by forecasting future loan-to-value ('LTV') profiles for the remaining maturity of the asset by leveraging national level forecasts of the house price index and applying the corresponding LGD expectation.

Impact of UK economic uncertainty on ECL

On initial adoption of IFRS 9 on 1 January 2018, additional ECL impairment allowances of $245m were recognised compared with those implied by consensus forecasts, due to the specific uncertainties facing the UK economy at that time. This adjustment was described as a 'management overlay for economic uncertainty' in the transitional disclosures. While consensus forecasts for the UK remained broadly stable during 2018, management remained concerned that the consensus distribution did not adequately reflect downside risks, particularly towards the end of 2018 as the level of risk increased. At 31 December 2018, management determined that its view of the distribution of possible economic outcomes in the UK was better reflected by using three additional Downside scenarios in place of the UK consensus Downside scenarios. This resulted in the recognition of additional impairment allowances of $410m compared with those implied by consensus forecasts, an increase of $165m in the adjustment to the consensus position compared with 1 January 2018, to reflect the increased level of economic uncertainty in the UK.

We also considered developments after the balance sheet date and concluded that they did not necessitate any adjustment to the approach or judgements taken on 31 December 2018.

Economic scenarios sensitivity analysis of ECL estimates

The ECL outcome is sensitive to judgement and estimations made with regards to the formulation and incorporation of multiple forward-looking economic conditions described above. As a result, management assessed and considered the sensitivity of the ECL outcome against the forward-looking economic conditions as part of the ECL governance process by recalculating the ECL under each scenario described above for selected portfolios, applying a 100% weighting to each scenario in turn. The weighting is reflected in both the determination of significant increase in credit risk as well as the measurement of the resulting ECL. For wholesale credit risk exposures, the sensitivity analysis excludes ECL and financial instruments related to defaulted obligors because the measurement of ECL is relatively more sensitive to credit factors specific to the obligor than future economic scenarios.

The economic scenarios are generated to capture HSBC's view of a range of possible forecast economic conditions that is sufficient for the calculation of unbiased and probability-weighted ECL. Therefore, the ECL calculated for each of the scenarios represent a range of possible outcomes that have been evaluated to estimate ECL. As a result, the ECL calculated for the Upside and Downside scenarios should not be taken to represent the upper and lower limits of possible actual ECL outcomes. There is a high degree of estimation uncertainty in numbers representing tail risk scenarios when assigned a 100% weighting, and an indicative range is provided for the UK tail risk sensitivity analysis. A wider range of possible ECL outcomes reflects uncertainty about the distribution of economic conditions and does not necessarily mean that credit risk on the associated loans is higher than for loans where the distribution of possible future economic conditions is narrower. The recalculated ECL for each of the scenarios should be read in the context of the sensitivity analysis as a whole and in conjunction with the narrative disclosures provided below.

ECL under each scenario is given in dollar terms and as a percentage of the the gross carrying amount (and, for wholesale lending, the nominal amount for related-loan commitments and financial guarantees).

Wholesale analysis

IFRS 9 ECL sensitivity to future economic conditions[13]

	UK	US	Hong Kong	Mainland China	Canada	Mexico	UAE	France
ECL coverage of financial instruments subject to significant measurement uncertainty at 31 December 2018[14]	$m	$m	$m	$m	$m	$m	$m	$m
Reported ECL	**906**	**163**	**162**	**83**	**81**	**76**	**74**	**46**
Gross carrying value/nominal amount[15]	**360,637**	**211,318**	**407,402**	**99,379**	**72,759**	**31,798**	**37,546**	**105,416**
	%	%	%	%	%	%	%	%
Reported ECL coverage	**0.25**	**0.08**	**0.04**	**0.08**	**0.11**	**0.24**	**0.20**	**0.04**
Coverage ratios by scenario								
Consensus Central scenario	**0.18**	**0.08**	**0.04**	**0.08**	**0.11**	**0.24**	**0.20**	**0.04**
Consensus Upside scenario	**0.17**	**0.07**	**0.04**	**0.08**	**0.10**	**0.19**	**0.18**	**0.04**
Consensus Downside scenario	**0.21**	**0.09**	**0.04**	**0.09**	**0.12**	**0.30**	**0.21**	**0.06**
Coverage ratios for alternative scenarios								
UK AD 1	**0.28**							
Tail risk scenarios (UK AD 2–3)	**0.46 – 0.52**							
Trade Downside scenario			**0.13**	**0.15**				
ECL amounts for alternative scenarios	$m	$m	$m	$m	$m	$m	$m	$m
UK AD 1	**1,000**							
Tail risk scenarios (UK AD 2–3)	**1,700 – 1,900**							
Trade Downside scenario			**500**	**150**				

For footnotes see page 192.

ECL coverage rates reflect the underlying observed credit defaults, the sensitivity to economic environment, extent of security and the effective maturity of the book. In certain economies such as the UK, the book is longer-dated relative to other economies such as Hong Kong.

The additional scenarios for UK economic uncertainty could, if they occurred, increase ECL by three to 27 basis points compared with reported ECL for all wholesale financial instruments, and four to 42 basis points for loans and advances to customers including loan commitments and financial guarantees. The additional scenarios represent the elasticity between macroeconomic factors such as GDP and the risk of default. Hong Kong is typically a short-dated book with low defaults, which is reflected in the low ECL coverage ratio.

Retail analysis

The geographies below were selected based on a 76% contribution to overall ECL within our retail lending business.

IFRS 9 ECL sensitivity to future economic conditions[16]

ECL coverage of loans and advances to customers at 31 December 2018[17]	UK	Mexico	Hong Kong	UAE	France	US	Malaysia	Singapore	Australia	Canada
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Reported ECL	705	520	341	204	150	102	93	68	58	29
Gross carrying amount	138,026	6,098	92,356	3,453	21,622	15,262	5,906	7,378	14,156	19,992
	%	%	%	%	%	%	%	%	%	%
Reported ECL coverage	0.51	8.53	0.37	5.90	0.69	0.67	1.58	0.92	0.41	0.15
Coverage ratios by scenario										
Consensus Central scenario	0.39	8.49	0.37	5.89	0.69	0.66	1.56	0.89	0.41	0.15
Consensus Upside scenario	0.35	7.79	0.35	5.66	0.69	0.61	1.39	0.82	0.38	0.14
Consensus Downside scenario	0.46	9.25	0.37	6.06	0.70	0.75	1.75	0.91	0.44	0.16
Coverage ratios for alternative scenarios										
UK AD1	0.65									
Tail risk scenarios (UK AD 2–3)	0.83–0.96									
Trade Downside scenario			0.43				1.90	0.98	0.50	
ECL for alternative scenarios	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
UK AD1	900									
Tail risk scenarios (UK AD 2–3)	1100–1300									
Trade Downside scenario			400				110	70	70	

For footnotes see page 192.

The most significant level of retail ECL sensitivity is in the UK and reflects management's view on the level of economic uncertainty. Other key markets show similar relative levels of sensitivity regardless of differences in underlying levels of credit quality. Under certain economic conditions, economic factors can influence ECL in counter-intuitive ways (for example an increase in GDP growth accompanied by rising interest rates resulting in an increase in PDs) and it may be necessary to apply management judgement to the output, which following management review of the calculated ECL sensitivities, may require modelled output adjustments.

An example of this is in France, where the ECL sensitivity results have been adjusted to more accurately reflect management's views of ECL sensitivity under an upside and downside scenario by inverting the Upside and Downside ECL sensitivity.

For all the above sensitivity analyses, as the level of uncertainty, economic forecasts, historical economic variable correlations or credit quality changes, corresponding changes in the ECL sensitivity would occur.

Reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees

The following disclosure provides a reconciliation by stage of the Group's gross carrying/nominal amount and allowances for loans and advances to banks and customers, including loan commitments and financial guarantees.

The transfers of financial instruments represents the impact of stage transfers upon the gross carrying/nominal amount and associated allowance for ECL. The net remeasurement of ECL arising from stage transfers represents the increase or decrease due to these transfers, for example, moving from a 12-month (stage 1) to a lifetime (stage 2) ECL measurement basis. Net remeasurement excludes the underlying CRR/PD movements of the financial instruments transferring stage. This is captured, along with other credit quality movements in the 'changes in risk parameters – credit quality' line item.

The 'Net new and further lending/repayments' represent the gross carrying/nominal amount and associated allowance ECL impact from volume movements within the Group's lending portfolio.

Reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees[8]

(Audited)

	Non-credit impaired				Credit impaired					
	Stage 1		Stage 2		Stage 3		POCI		Total	
	Gross carrying/ nominal amount	Allow-ance for ECL	Gross carrying/ nominal amount	Allow-ance for ECL	Gross carrying/ nominal amount	Allow-ance for ECL	Gross carrying/ nominal amount	Allow-ance for ECL	Gross carrying/ nominal amount	Allow-ance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018	**1,446,857**	**(1,469)**	**102,032**	**(2,406)**	**15,083**	**(5,722)**	**1,042**	**(242)**	**1,565,014**	**(9,839)**
Transfers of financial instruments:	(8,747)	(685)	3,582	1,185	5,165	(500)	–	–	–	–
– transfers from stage 1 to stage 2	(84,181)	319	84,181	(319)	–	–	–	–	–	–
– transfers from stage 2 to stage 1	77,325	(999)	(77,325)	999	–	–	–	–	–	–
– transfers to stage 3	(2,250)	35	(4,439)	607	6,689	(642)	–	–	–	–
– transfers from stage 3	359	(40)	1,165	(102)	(1,524)	142	–	–	–	–
Net remeasurement of ECL arising from transfer of stage	–	620	–	(605)	–	(103)	–	–	–	(88)
Net new and further lending/repayments	126,868	(512)	(16,162)	564	(2,902)	733	(587)	42	107,217	827
Changes in risk parameters – credit quality	–	423	–	(1,087)	–	(2,238)	–	(51)	–	(2,953)
Changes to model used for ECL calculation	–	–	–	–	–	–	–	–	–	–
Assets written off	–	–	–	–	(2,568)	2,552	(1)	1	(2,569)	2,553
Foreign exchange	(52,983)	76	(2,863)	99	(636)	232	(26)	6	(56,508)	413
Others	(156)	98	(348)	(28)	90	(89)	(94)	50	(508)	31
At 31 Dec 2018	**1,511,839**	**(1,449)**	**86,241**	**(2,278)**	**14,232**	**(5,135)**	**334**	**(194)**	**1,612,646**	**(9,056)**
ECL release/(charge) for the period		531		(1,128)		(1,608)		(9)		(2,214)
Recoveries										408
Others										(87)
Total change in ECL for the period										**(1,893)**

For footnotes, see page 192.

	At 31 Dec 2018		12 months ended 31 Dec 2018
	Gross carrying/nominal amount	Allowance for ECL	ECL charge
	$m	$m	$m
As above	**1,612,646**	**(9,056)**	**(1,893)**
Other financial assets measured at amortised cost	582,917	(55)	21
Non-trading reverse purchase agreement commitments	65,381	–	–
Summary of financial instruments to which the impairment requirements in IFRS 9 are applied/Summary consolidated income statement	2,260,944	(9,111)	(1,872)
Debt instruments measured at FVOCI	343,110	(84)	105
Total allowance for ECL/total income statement ECL charge for the period	n/a	(9,195)	(1,767)

As shown in the above table, the allowance for ECL for loans and advances to customers and banks and relevant loan commitments and financial guarantees decreased $783m during the period from $9,839m at 1 January 2018 to $9,056m at 31 December 2018.

This decrease was primarily driven by:

- $827m relating to underlying net book volume movements, which included the ECL allowance associated with new originations, assets derecognised and net further lending;
- $2,553m of assets written off; and
- foreign exchange and other movements of $444m.

These decreases were partially offset by increases of:

- $2,953m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stages; and
- $88m relating to the net remeasurement impact of stage transfers.

The ECL charge for the period of $2,214m presented in the above table comprises $2,953m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stage, $88m relating to the net remeasurement impact of stage transfers, partly offset by $827m relating to underlying net book volume movements. Summary views of the movement in wholesale and personal lending are presented on pages 145 and 116.

Credit quality

Credit quality of financial instruments

(Audited)

We assess the credit quality of all financial instruments that are subject to credit risk. The credit quality of financial instruments is a point-in-time assessment of the probability of default of financial instruments, whereas IFRS 9 stages 1 and 2 are determined based on relative deterioration of credit quality since initial recognition. Accordingly, for non-credit-impaired financial instruments, there is no direct relationship between the credit quality assessment and IFRS 9 stages 1 and 2, though typically the lower credit quality bands exhibit a higher proportion in stage 2.

The five credit quality classifications each encompass a range of granular internal credit rating grades assigned to wholesale and personal lending businesses and the external ratings attributed by external agencies to debt securities, as shown in the table on page 119. Under IAS 39, personal lending credit quality was disclosed based on expected-loss percentages. Under IFRS 9, personal lending credit quality is now disclosed based on a 12-month point-in-time PD adjusted for multiple economic scenarios. The credit quality classifications for wholesale lending are unchanged and are based on internal credit risk ratings.

Distribution of financial instruments by credit quality

(Audited)

	Gross carrying/notional amount						Allowance for ECL/ other credit provisions	Net
	Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total		
	$m	$m	$m	$m	$m	$m	$m	$m
In-scope for IFRS 9								
Loans and advances to customers held at amortised cost	485,451	244,199	230,357	16,993	13,321	990,321	(8,625)	981,696
– personal	316,616	43,764	27,194	2,182	4,581	394,337	(2,947)	391,390
– corporate and commercial	140,387	181,984	189,357	14,339	8,510	534,577	(5,552)	529,025
– non-bank financial institutions	28,448	18,451	13,806	472	230	61,407	(126)	61,281
Loans and advances to banks held at amortised cost	60,249	7,371	4,549	11	—	72,180	(13)	72,167
Cash and balances at central banks	160,995	1,508	324	18	—	162,845	(2)	162,843
Items in the course of collection from other banks	5,765	21	1	—	—	5,787	—	5,787
Hong Kong Government certificates of indebtedness	35,859	—	—	—	—	35,859	—	35,859
Reverse repurchase agreements – non-trading	200,774	29,423	12,607	—	—	242,804	—	242,804
Financial investments	56,031	5,703	949	1	—	62,684	(18)	62,666
Prepayments, accrued income and other assets	55,424	8,069	9,138	181	126	72,938	(35)	72,903
– endorsements and acceptances	1,514	4,358	3,604	155	3	9,634	(11)	9,623
– accrued income and other	53,910	3,711	5,534	26	123	63,304	(24)	63,280
Debt instruments measured at fair value through other comprehensive income[18]	319,632	12,454	7,210	2,558	12	341,866	(84)	341,782
Out-of-scope for IFRS 9								
Trading assets	139,484	18,888	16,991	1,871	—	177,234	—	177,234
Other financial assets designated and otherwise mandatorily measured at fair value through profit or loss	6,079	2,163	6,683	9	—	14,934	—	14,934
Derivatives	169,121	31,225	6,813	625	41	207,825	—	207,825
Assets held for sale	—	—	—	—	—	—	—	—
Total gross carrying amount on balance sheet	1,694,864	361,024	295,622	22,267	13,500	2,387,277	(8,777)	2,378,500
Percentage of total credit quality	71.0%	15.1%	12.4%	0.9%	0.6%	100%		
Loan and other credit-related commitments	373,302	137,076	75,478	5,233	919	592,008	(325)	591,683
Financial guarantees	9,716	7,400	5,505	597	300	23,518	(93)	23,425
In-scope: Irrevocable loan commitments and financial guarantees	383,018	144,476	80,983	5,830	1,219	615,526	(418)	615,108
Loan and other credit-related commitments[19]	188,258	—	—	—	—	188,258	—	188,258
Performance and other guarantees	26,679	25,743	16,790	1,869	403	71,484	(99)	71,385
Out-of-scope: Revocable loan commitments and non-financial guarantees	214,937	25,743	16,790	1,869	403	259,742	(99)	259,643

For footnotes, see page 192.

Distribution of financial instruments to which the impairment requirements in IFRS 9 are applied, by credit quality and stage allocation

(Audited)

		Gross carrying/notional amount							
		Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total	Allowance for ECL	Net
	Footnotes	$m	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers at amortised cost		485,451	244,199	230,357	16,993	13,321	990,321	(8,625)	981,696
– stage 1		483,907	233,843	191,851	5,587	–	915,188	(1,276)	913,912
– stage 2		1,544	10,356	38,506	11,380	–	61,786	(2,108)	59,678
– stage 3		–	–	–	–	13,023	13,023	(5,047)	7,976
– POCI		–	–	–	26	298	324	(194)	130
Loans and advances to banks at amortised cost		60,249	7,371	4,549	11	–	72,180	(13)	72,167
– stage 1		60,199	7,250	4,413	11	–	71,873	(11)	71,862
– stage 2		50	121	136	–	–	307	(2)	305
– stage 3		–	–	–	–	–	–	–	–
– POCI		–	–	–	–	–	–	–	–
Other financial assets measured at amortised cost		514,848	44,724	23,019	200	126	582,917	(55)	582,862
– stage 1		514,525	44,339	22,184	70	–	581,118	(27)	581,091
– stage 2		323	385	835	130	–	1,673	(6)	1,667
– stage 3		–	–	–	–	126	126	(22)	104
– POCI		–	–	–	–	–	–	–	–
Loan and other credit-related commitments		373,302	137,076	75,478	5,233	919	592,008	(325)	591,683
– stage 1		372,597	132,220	63,457	976	–	569,250	(143)	569,107
– stage 2		705	4,856	12,021	4,257	–	21,839	(139)	21,700
– stage 3		–	–	–	–	912	912	(43)	869
– POCI		–	–	–	–	7	7	–	7
Financial guarantees	8	9,716	7,400	5,505	597	300	23,518	(93)	23,425
– stage 1		9,582	6,879	4,264	159	–	20,884	(19)	20,865
– stage 2		134	521	1,241	438	–	2,334	(29)	2,305
– stage 3		–	–	–	–	297	297	(45)	252
– POCI		–	–	–	–	3	3	–	3
At 31 Dec 2018		1,443,566	440,770	338,908	23,034	14,666	2,260,944	(9,111)	2,251,833
Debt instruments at FVOCI	18								
– stage 1		319,623	12,358	6,856	2,218	–	341,055	(33)	341,022
– stage 2		9	96	354	340	–	799	(50)	749
– stage 3		–	–	–	–	8	8	(1)	7
– POCI		–	–	–	–	4	4	–	4
At 31 Dec 2018		319,632	12,454	7,210	2,558	12	341,866	(84)	341,782

For footnotes, see page 192.

Distribution of financial instruments to which the impairment requirements in IFRS 9 are applied, by credit quality and stage allocation (continued)

		Gross carrying/notional amount							
		Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total	Allowance for ECL	Net
	Footnotes	$m	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers at amortised cost		479,067	227,146	220,089	17,922	14,856	959,080	(9,343)	949,737
– stage 1		475,881	211,084	180,002	4,599	—	871,566	(1,309)	870,257
– stage 2		3,186	16,062	40,087	13,323	—	72,658	(2,201)	70,457
– stage 3		—	—	—	—	13,882	13,882	(5,591)	8,291
– POCI		—	—	—	—	974	974	(242)	732
Loans and advances to banks at amortised cost		70,959	7,692	3,890	26	15	82,582	(23)	82,559
– stage 1		70,024	7,351	3,642	10	—	81,027	(17)	81,010
– stage 2		935	341	248	16	—	1,540	(4)	1,536
– stage 3		—	—	—	—	15	15	(2)	13
– POCI		—	—	—	—	—	—	—	—
Other financial assets measured at amortised cost		469,898	47,347	39,595	862	162	557,864	(114)	557,750
– stage 1		469,691	47,019	38,929	546	—	556,185	(28)	556,157
– stage 2		207	328	666	316	—	1,517	(4)	1,513
– stage 3		—	—	—	—	155	155	(82)	73
– POCI		—	—	—	—	7	7	—	7
Loan and other credit-related commitments	7	341,580	121,508	74,694	6,431	1,045	545,258	(376)	544,882
– stage 1		338,855	115,008	64,429	1,591	—	519,883	(126)	519,757
– stage 2		2,725	6,500	10,265	4,840	—	24,330	(183)	24,147
– stage 3		—	—	—	—	999	999	(67)	932
– POCI		—	—	—	—	46	46	—	46
Financial guarantees	8	10,339	7,086	7,408	807	209	25,849	(97)	25,752
– stage 1		9,608	6,590	5,500	323	—	22,021	(17)	22,004
– stage 2		731	496	1,908	484	—	3,619	(18)	3,601
– stage 3		—	—	—	—	187	187	(62)	125
– POCI		—	—	—	—	22	22	—	22
At 1 Jan 2018		1,371,843	410,779	345,676	26,048	16,287	2,170,633	(9,953)	2,160,680
Debt instruments at FVOCI	18								
– stage 1		297,753	6,678	12,941	2,450	—	319,822	(28)	319,794
– stage 2		208	108	147	1,826	—	2,289	(142)	2,147
– stage 3		—	—	—	—	584	584	(14)	570
– POCI		—	—	—	—	—	—	—	—
At 1 Jan 2018		297,961	6,786	13,088	4,276	584	322,695	(184)	322,511

For footnotes, see page 192.

Credit-impaired loans

(Audited)

HSBC determines that a financial instrument is credit impaired and in stage 3 by considering relevant objective evidence, primarily whether:

- contractual payments of either principal or interest are past due for more than 90 days;
- there are other indications that the borrower is unlikely to pay, such as when a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition; and
- the loan is otherwise considered to be in default. If such unlikeliness to pay is not identified at an earlier stage, it is deemed to occur when an exposure is 90 days past due, even where regulatory rules permit default to be defined based on 180 days past due. Therefore, the definitions of credit impaired and default are aligned as far as possible so that stage 3 represents all loans that are considered defaulted or otherwise credit impaired.

Renegotiated loans and forbearance

The following table shows the gross carrying amounts of the Group's holdings of renegotiated loans and advances to customers by industry sector and by stages. Wholesale renegotiated loans are classified as stage 3 until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, observed over a minimum one-year period, and there are no other indicators of impairment. Personal renegotiated loans are deemed to remain credit impaired until repayment or derecognition.

Renegotiated loans and advances to customers at amortised cost by stage allocation

	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m
Gross carrying amount					
Personal	–	–	2,248	–	2,248
– first lien residential mortgages	–	–	1,641	–	1,641
– other personal lending	–	–	607	–	607
Wholesale	1,532	1,193	3,845	270	6,840
– corporate and commercial	1,517	1,193	3,789	270	6,769
– non-bank financial institutions	15	–	56	–	71
At 31 Dec 2018	1,532	1,193	6,093	270	9,088
Allowance for ECL					
Personal	–	–	(381)	–	(381)
– first lien residential mortgages	–	–	(186)	–	(186)
– other personal lending	–	–	(195)	–	(195)
Wholesale	(29)	(49)	(1,461)	(146)	(1,685)
– corporate and commercial	(29)	(49)	(1,438)	(146)	(1,662)
– non-bank financial institutions	–	–	(23)	–	(23)
At 31 Dec 2018	(29)	(49)	(1,842)	(146)	(2,066)

Renegotiated loans and advances to customers by geographical region

	Europe	Asia	MENA	North America	Latin America	Total	UK	Hong Kong
	$m	$m	$m	$m	$m	$m	$m	$m
At 31 Dec 2018	4,533	864	1,973	1,352	366	9,088	3,609	305

Wholesale lending

This section provides further detail on the regions, countries and products driving the movement in wholesale loans and advances to customers and banks, with the impact of foreign exchange separately identified. Product granularity is also provided by stage with geographical data presented for loans and advances to customers, banks, other credit commitments, financial guarantees and similar contracts. Additionally, this section provides a reconciliation of the opening 1 January 2018 to 31 December 2018 closing gross carrying/nominal amounts and the associated allowance for ECL.

Wholesale lending of $668bn increased by $1bn from $667bn since the Group transitioned to IFRS 9 on 1 January 2018. This increase included adverse foreign exchange movements of $23bn.

Excluding foreign exchange movements, the total wholesale lending growth was driven by a $32bn increase in corporate and commercial balances. The primary driver of this increase was Asia ($18.6bn), most notably in Hong Kong ($14bn), India ($1.5bn) and Australia ($1.1bn). Other notable increases were observed in the UK ($5.2bn), the UAE ($2.3bn) and Canada ($3.6bn). This growth was partly offset by a $7.7bn decrease in loans and advances to banks.

The allowance for ECL attributable to wholesale lending, excluding off-balance sheet commitments and financial guarantees, of $5.7bn, decreased from $6.3bn on 1 January 2018. This was primarily driven by releases related to the Group's oil and gas sector and by favourable foreign exchange movements.

Total wholesale lending for loans and advances to banks and customers by stage distribution

	Gross carrying amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Corporate and commercial	481,262	44,779	8,212	324	534,577	(698)	(812)	(3,848)	(194)	(5,552)
– agriculture, forestry and fishing	5,361	1,102	236	2	6,701	(15)	(34)	(117)	(1)	(167)
– mining and quarrying	12,094	1,717	359	2	14,172	(29)	(51)	(94)	(2)	(176)
– manufacturing	92,606	11,404	1,569	125	105,704	(132)	(156)	(791)	(83)	(1,162)
– electricity, gas, steam and air-conditioning supply	14,522	1,422	40	60	16,044	(18)	(60)	(15)	(54)	(147)
– water supply, sewerage, waste management and remediation	3,335	164	24	–	3,523	(5)	(2)	(17)	–	(24)
– construction	12,919	1,116	1,168	51	15,254	(27)	(41)	(524)	(44)	(636)
– wholesale and retail trade, repair of motor vehicles and motorcycles	83,751	12,225	1,652	37	97,665	(115)	(128)	(968)	(7)	(1,218)
– transportation and storage	23,327	1,825	351	38	25,541	(37)	(46)	(82)	(1)	(166)
– accommodation and food	19,385	1,889	270	3	21,547	(43)	(41)	(83)	(1)	(168)
– publishing, audiovisual and broadcasting	19,758	1,224	189	1	21,172	(42)	(16)	(84)	–	(142)
– real estate	116,132	5,985	1,115	1	123,233	(97)	(80)	(594)	–	(771)
– professional, scientific and technical activities	21,282	941	350	–	22,573	(29)	(29)	(113)	–	(171)
– administrative and support services	22,820	1,843	437	3	25,103	(41)	(48)	(166)	(1)	(256)
– public administration and defence, compulsory social security	1,425	30	8	–	1,463	(1)	(3)	(5)	–	(9)
– education	1,713	102	14	–	1,829	(11)	(7)	(6)	–	(24)
– health and care	3,710	457	141	–	4,308	(10)	(16)	(33)	–	(59)
– arts, entertainment and recreation	4,326	676	39	–	5,041	(9)	(9)	(15)	–	(33)
– other services	13,259	411	242	1	13,913	(31)	(31)	(140)	–	(202)
– activities of households	770	59	1	–	830	–	–	–	–	–
– extra-territorial organisations and bodies activities	49	3	7	–	59	–	–	(1)	–	(1)
– government	7,905	168	–	–	8,073	(6)	(1)	–	–	(7)
– asset-backed securities	813	16	–	–	829	–	(13)	–	–	(13)
Non-bank financial institutions	59,245	1,932	230	–	61,407	(44)	(31)	(51)	–	(126)
Loans and advances to banks	71,873	307	–	–	72,180	(11)	(2)	–	–	(13)
At 31 Dec 2018	**612,380**	**47,018**	**8,442**	**324**	**668,164**	**(753)**	**(845)**	**(3,899)**	**(194)**	**(5,691)**
By geography										
Europe	190,387	19,073	4,233	150	213,843	(366)	(529)	(1,598)	(102)	(2,595)
– of which: UK	*133,004*	*15,370*	*2,928*	*8*	*151,310*	*(313)*	*(471)*	*(998)*	–	*(1,782)*
Asia	314,591	17,729	1,736	92	334,148	(179)	(121)	(1,040)	(36)	(1,376)
– of which: Hong Kong	*194,186*	*8,425*	*729*	*69*	*203,409*	*(99)*	*(54)*	*(413)*	*(35)*	*(601)*
MENA	25,684	2,974	1,769	53	30,480	(73)	(77)	(974)	(46)	(1,170)
North America	62,631	6,928	314	–	69,873	(37)	(107)	(101)	–	(245)
Latin America	19,087	314	390	29	19,820	(98)	(11)	(186)	(10)	(305)
At 31 Dec 2018	**612,380**	**47,018**	**8,442**	**324**	**668,164**	**(753)**	**(845)**	**(3,899)**	**(194)**	**(5,691)**

Total wholesale lending for loans and other credit-related commitments and financial guarantees[8] by stage distribution

	Nominal amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Corporate and commercial	266,489	21,087	791	10	288,377	(142)	(161)	(87)	–	(390)
Financial	117,542	1,323	6	–	118,871	(7)	(6)	(1)	–	(14)
At 31 Dec 2018	**384,031**	**22,410**	**797**	**10**	**407,248**	**(149)**	**(167)**	**(88)**	–	**(404)**
By geography										
Europe	203,092	9,726	614	10	213,442	(82)	(66)	(53)	–	(201)
– of which: UK	*82,572*	*6,378*	*442*	–	*89,392*	*(69)*	*(57)*	*(39)*	–	*(165)*
Asia	61,206	3,076	102	–	64,384	(39)	(16)	(28)	–	(83)
– of which: Hong Kong	*27,022*	*1,115*	*89*	–	*28,226*	*(12)*	*(2)*	*(27)*	–	*(41)*
MENA	5,304	732	18	–	6,054	(8)	(10)	(2)	–	(20)
North America	111,494	8,850	62	–	120,406	(17)	(75)	(4)	–	(96)
Latin America	2,935	26	1	–	2,962	(3)	–	(1)	–	(4)
At 31 Dec 2018	**384,031**	**22,410**	**797**	**10**	**407,248**	**(149)**	**(167)**	**(88)**	–	**(404)**

For footnotes, see page 192.

Wholesale lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees[8]

(Audited)

	Non-credit impaired				Credit impaired					
	Stage 1		Stage 2		Stage 3		POCI		Total	
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018	**897,529**	**(873)**	**84,354**	**(1,249)**	**10,209**	**(4,410)**	**1,042**	**(242)**	**993,134**	**(6,774)**
Transfers of financial instruments	(4,477)	(274)	1,535	386	2,942	(112)	–	–	–	–
Net remeasurement of ECL arising from transfer of stage	–	262	–	(231)	–	(92)	–	–	–	(61)
Net new and further lending/ repayments	74,107	(271)	(13,709)	342	(2,414)	406	(587)	42	57,397	519
Changes to risk parameters – credit quality	–	157	–	(301)	–	(1,041)	–	(51)	–	(1,236)
Assets written off	–	–	–	–	(1,182)	1,172	(1)	1	(1,183)	1,173
Foreign exchange and other	(36,104)	97	(2,777)	41	(316)	90	(120)	56	(39,317)	284
At 31 Dec 2018	**931,055**	**(902)**	**69,403**	**(1,012)**	**9,239**	**(3,987)**	**334**	**(194)**	**1,010,031**	**(6,095)**
ECL release/(charge) for the period		148		(190)		(727)		(9)		(778)
Recoveries										118
Others										(69)
Total change in ECL for the period										**(729)**

For footnotes, see page 192.

As shown in the above table, the allowance for ECL for loans and advances to customers and banks and relevant loan commitments and financial guarantees decreased $679m during the period from $6,774m at 1 January 2018 to $6,095m at 31 December 2018.

This overall decrease was primarily driven by:

- $1,173m of assets written off;
- $519m relating to underlying net book volume movements, which included the ECL allowance associated with new originations, assets derecognised and net further lending; and
- foreign exchange and other movements of $284m.

These decreases were partially offset by increases of:

- $1,236m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stages; and
- $61m relating to the net remeasurement impact of stage transfers.

Wholesale lending – distribution of financial instruments by credit quality

	Gross carrying/nominal amount							
	Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total	Allowance for ECL	Net
	$m	$m	$m	$m	$m	$m	$m	$m
By geography								
Europe	60,145	62,098	79,466	7,752	4,382	213,843	(2,595)	211,248
of which: UK	*39,840*	*46,396*	*56,974*	*5,164*	*2,936*	*151,310*	*(1,782)*	*149,528*
Asia	143,864	100,437	86,065	1,977	1,805	334,148	(1,376)	332,772
of which: Hong Kong	*82,854*	*63,564*	*55,357*	*837*	*797*	*203,409*	*(601)*	*202,808*
MENA	10,393	7,905	9,173	1,186	1,823	30,480	(1,170)	29,310
North America	10,952	31,278	24,708	2,621	314	69,873	(245)	69,628
Latin America	3,730	6,088	8,300	1,286	416	19,820	(305)	19,515
At 31 Dec 2018	**229,084**	**207,806**	**207,712**	**14,822**	**8,740**	**668,164**	**(5,691)**	**662,473**
Percentage of total credit quality	34.3%	31.1%	31.1%	2.2%	1.3%	100.0%		

Our risk rating system facilitates the internal ratings-based approach under the Basel framework adopted by the Group to support calculation of our minimum credit regulatory capital requirement. The customer risk rating ('CRR') 10-grade scale summarises a more granular underlying 23-grade scale of obligor probability of default ('PD'). All corporate customers are rated using the 10- or 23-grade scale, depending on the degree of sophistication of the Basel approach adopted for the exposure.

Each CRR band is associated with an external rating grade by reference to long-run default rates for that grade, represented by the average of issuer-weighted historical default rates. This mapping between internal and external ratings is indicative and may vary over time. The PD ranges above are the Basel one-year PD ranges. The credit quality classifications can be found on page 118.

Wholesale lending – credit risk profile by obligor grade for loans and advances at amortised cost

	Basel one-year PD range	Gross carrying amount					Allowance for ECL					ECL coverage	Mapped external rating
		Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total		
	%	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	
Corporate & commercial		481,262	44,779	8,212	324	534,577	(698)	(812)	(3,848)	(194)	(5,552)	1.0	
– CRR 1	0.000 to 0.053	45,401	67	–	–	45,468	(4)	(2)	–	–	(6)	–	AA- and above
– CRR 2	0.054 to 0.169	94,002	917	–	–	94,919	(17)	(4)	–	–	(21)	–	A+ to A-
– CRR 3	0.170 to 0.740	174,260	7,723	–	–	181,983	(162)	(85)	–	–	(247)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	114,007	12,294	–	–	126,301	(231)	(114)	–	–	(345)	0.3	BB+ to BB-
– CRR 5	1.928 to 4.914	48,258	14,799	–	–	63,057	(209)	(252)	–	–	(461)	0.7	BB- to B
– CRR 6	4.915 to 8.860	3,787	4,419	–	22	8,228	(41)	(103)	–	–	(144)	1.8	B-
– CRR 7	8.861 to 15.000	1,235	2,875	–	4	4,114	(22)	(147)	–	–	(169)	4.1	CCC+
– CRR 8	15.001 to 99.999	312	1,685	–	–	1,997	(12)	(105)	–	–	(117)	5.9	CCC to C
– CRR 9/10	100.000	–	–	8,212	298	8,510	–	–	(3,848)	(194)	(4,042)	47.5	D
Non-bank financial institutions		59,245	1,932	230	–	61,407	(44)	(31)	(51)	–	(126)	0.2	
– CRR 1	0.000 to 0.053	13,256	–	–	–	13,256	(1)	–	–	–	(1)	–	AA- and above
– CRR 2	0.054 to 0.169	15,172	20	–	–	15,192	(2)	–	–	–	(2)	–	A+ to A-
– CRR 3	0.170 to 0.740	18,024	427	–	–	18,451	(13)	(1)	–	–	(14)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	7,530	789	–	–	8,319	(10)	(2)	–	–	(12)	0.1	BB+ to BB-
– CRR 5	1.928 to 4.914	5,032	456	–	–	5,488	(14)	(5)	–	–	(19)	0.3	BB- to B
– CRR 6	4.915 to 8.860	61	133	–	–	194	–	(2)	–	–	(2)	1.0	B-
– CRR 7	8.861 to 15.000	169	23	–	–	192	(4)	(1)	–	–	(5)	2.6	CCC+
– CRR 8	15.001 to 99.999	1	84	–	–	85	–	(20)	–	–	(20)	23.5	CCC to C
– CRR 9/10	100.000	–	–	230	–	230	–	–	(51)	–	(51)	22.2	D
Banks		71,873	307	–	–	72,180	(11)	(2)	–	–	(13)	–	
– CRR 1	0.000 to 0.053	47,680	32	–	–	47,712	(3)	–	–	–	(3)	–	AA- and above
– CRR 2	0.054 to 0.169	12,519	18	–	–	12,537	(2)	–	–	–	(2)	–	A+ to A-
– CRR 3	0.170 to 0.740	7,250	121	–	–	7,371	(3)	(1)	–	–	(4)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	4,032	118	–	–	4,150	(3)	(1)	–	–	(4)	0.1	BB+ to BB-
– CRR 5	1.928 to 4.914	381	18	–	–	399	–	–	–	–	–	–	BB- to B
– CRR 6	4.915 to 8.860	8	–	–	–	8	–	–	–	–	–	–	B-
– CRR 7	8.861 to 15.000	1	–	–	–	1	–	–	–	–	–	–	CCC+
– CRR 8	15.001 to 99.999	2	–	–	–	2	–	–	–	–	–	–	CCC to C
– CRR 9/10	100.000	–	–	–	–	–	–	–	–	–	–	–	D
At 31 Dec 2018		612,380	47,018	8,442	324	668,164	(753)	(845)	(3,899)	(194)	(5,691)	0.9	

Wholesale lending – credit risk profile by obligor grade for loans and advances at amortised cost (continued)

	Basel one-year PD range	Gross carrying amount					Allowance for ECL					ECL coverage	Mapped external rating
		Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total		
	%	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	
Corporate and commercial		456,837	53,262	9,064	974	520,137	(701)	(1,037)	(4,073)	(242)	(6,053)	1.2	
– CRR 1	0.000 to 0.053	43,578	440	–	–	44,018	(7)	(3)	–	–	(10)	–	AA- and above
– CRR 2	0.054 to 0.169	96,876	1,016	–	–	97,892	(25)	(1)	–	–	(26)	–	A+ to A-
– CRR 3	0.170 to 0.740	163,453	10,373	–	–	173,826	(173)	(86)	–	–	(259)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	107,755	16,368	–	20	124,143	(256)	(232)	–	–	(488)	0.4	BB+ to BB-
– CRR 5	1.928 to 4.914	41,042	14,337	–	–	55,379	(190)	(192)	–	–	(382)	0.7	BB- to B
– CRR 6	4.915 to 8.860	2,641	6,363	–	27	9,031	(35)	(272)	–	(1)	(308)	3.4	B-
– CRR 7	8.861 to 15.000	881	2,528	–	–	3,409	(6)	(107)	–	–	(113)	3.3	CCC+
– CRR 8	15.001 to 99.999	611	1,837	–	–	2,448	(9)	(144)	–	–	(153)	6.3	CCC to C
– CRR 9/10	100.000	–	–	9,064	927	9,991	–	–	(4,073)	(241)	(4,314)	43.2	D
Non-bank financial institutions		60,424	3,042	408	–	63,874	(27)	(8)	(208)	–	(243)	0.4	
– CRR 1	0.000 to 0.053	14,210	1	–	–	14,211	(1)	–	–	–	(1)	–	AA- and above
– CRR 2	0.054 to 0.169	17,831	144	–	–	17,975	(2)	–	–	–	(2)	–	A+ to A-
– CRR 3	0.170 to 0.740	17,344	1,057	–	–	18,401	(7)	–	–	–	(7)	–	BBB+ to BBB-
– CRR 4	0.741 to 1.927	6,167	1,102	–	–	7,269	(4)	(2)	–	–	(6)	0.1	BB+ to BB-
– CRR 5	1.928 to 4.914	4,451	373	–	–	4,824	(4)	(3)	–	–	(7)	0.1	BB- to B
– CRR 6	4.915 to 8.860	417	345	–	–	762	(9)	(2)	–	–	(11)	1.4	B-
– CRR 7	8.861 to 15.000	4	8	–	–	12	–	–	–	–	–	–	CCC+
– CRR 8	15.001 to 99.999	–	12	–	–	12	–	(1)	–	–	(1)	8.3	CCC to C
– CRR 9/10	100.000	–	–	408	–	408	–	–	(208)	–	(208)	51.0	D
Banks		81,027	1,540	15	–	82,582	(17)	(4)	(2)	–	(23)	–	
– CRR 1	0.000 to 0.053	55,343	529	–	–	55,872	(4)	–	–	–	(4)	–	AA- and above
– CRR 2	0.054 to 0.169	14,681	406	–	–	15,087	(5)	(2)	–	–	(7)	–	A+ to A-
– CRR 3	0.170 to 0.740	7,351	341	–	–	7,692	(5)	(1)	–	–	(6)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	3,072	47	–	–	3,119	(3)	–	–	–	(3)	0.1	BB+ to BB-
– CRR 5	1.928 to 4.914	570	201	–	–	771	–	(1)	–	–	(1)	0.1	BB- to B
– CRR 6	4.915 to 8.860	4	13	–	–	17	–	–	–	–	–	–	B-
– CRR 7	8.861 to 15.000	2	1	–	–	3	–	–	–	–	–	–	CCC+
– CRR 8	15.001 to 99.999	4	2	–	–	6	–	–	–	–	–	–	CCC to C
– CRR 9/10	100.000	–	–	15	–	15	–	–	(2)	–	(2)	13.3	D
At 1 Jan 2018		598,288	57,844	9,487	974	666,593	(745)	(1,049)	(4,283)	(242)	(6,319)	0.9	

Commercial real estate

Commercial real estate lending

	Europe	Asia	MENA	North America	Latin America	Total	UK	Hong Kong
	$m	$m	$m	$m	$m	$m	$m	$m
Gross loans and advances								
Stage 1	**27,084**	**70,769**	**1,607**	**9,129**	**1,796**	**110,385**	**20,443**	**55,872**
Stage 2	**1,587**	**3,176**	**120**	**677**	**13**	**5,573**	**990**	**2,032**
Stage 3	**1,022**	**16**	**209**	**43**	**118**	**1,408**	**673**	**12**
POCI	**–**	**–**	**–**	**–**	**14**	**14**	**–**	**–**
At 31 Dec 2018	**29,693**	**73,961**	**1,936**	**9,849**	**1,941**	**117,380**	**22,106**	**57,916**
– of which: renegotiated loans	***944***	***1***	***186***	***1***	***–***	***1,132***	***816***	***–***
Allowance for ECL	**(364)**	**(59)**	**(171)**	**(9)**	**(52)**	**(655)**	**(282)**	**(33)**

Commercial real estate lending includes the financing of corporate, institutional and high net worth customers who are investing primarily in income-producing assets and, to a lesser extent, in their construction and development. The portfolio is globally diversified with larger concentrations in Hong Kong, the UK and the US. The Group has aligned the definition of commercial real estate to reflect the internal risk management view, and the comparatives on pages 161 to 176 have been re-presented.

Our global exposure is centred largely on cities with economic, political or cultural significance. In more developed markets, our exposure mainly comprises the financing of investment assets, the redevelopment of existing stock and the augmentation of both commercial and residential markets to support economic and population growth. In less-developed commercial real estate markets, our exposures comprise lending for development assets on relatively short tenors with a particular focus on supporting larger, better capitalised developers involved in residential construction or assets supporting economic expansion.

Commercial real estate lending grew $17.7bn, including foreign exchange movements, mainly in Hong Kong and, to a lesser extent, within the UK and Canada.

Refinance risk in commercial real estate

Commercial real estate lending tends to require the repayment of a significant proportion of the principal at maturity. Typically, a customer will arrange repayment through the acquisition of a new loan to settle the existing debt. Refinance risk is the risk that a customer, being unable to repay the debt on maturity, fails to refinance it at commercial rates. We monitor our commercial real estate portfolio closely, assessing indicators for signs of potential issues with refinancing.

Commercial real estate gross loans and advances maturity analysis

	Europe	Asia	MENA	North America	Latin America	Total	UK	Hong Kong
	$m	$m	$m	$m	$m	$m	$m	$m
On demand, overdrafts or revolving								
< 1 year	13,790	22,100	896	4,942	427	42,155	11,305	18,094
1–2 years	5,850	13,174	305	1,949	117	21,395	5,153	9,120
2–5 years	7,257	32,894	417	2,152	1,053	43,773	5,232	26,061
> 5 years	2,796	5,793	318	806	344	10,057	416	4,641
At 31 Dec 2018	**29,693**	**73,961**	**1,936**	**9,849**	**1,941**	**117,380**	**22,106**	**57,916**

Collateral and other credit enhancements

(Audited)

Although collateral can be an important mitigant of credit risk, it is the Group's practice to lend on the basis of the customer's ability to meet their obligations out of cash flow resources rather than placing primary reliance on collateral and other credit risk enhancements. Depending on the customer's standing and the type of product, facilities may be provided without any collateral or other credit enhancements. For other lending, a charge over collateral is obtained and considered in determining the credit decision and pricing. In the event of default, the Group may utilise the collateral as a source of repayment.

Depending on its form, collateral can have a significant financial effect in mitigating our exposure to credit risk. Where there is sufficient collateral, an expected credit loss is not recognised. This is the case for reverse repurchase agreements and for certain loans and advances to customers where the loan to value ('LTV') is very low.

Mitigants may include a charge on borrowers' specific assets, such as real estate or financial instruments. Other credit risk mitigants include short positions in securities and financial assets held as part of linked insurance/investment contracts where the risk is predominantly borne by the policyholder. Additionally, risk may be managed by employing other types of collateral and credit risk enhancements, such as second charges, other liens and unsupported guarantees. Guarantees are normally taken from corporates and export credit agencies ('ECAs'). Corporates would normally provide guarantees as part of a parent/subsidiary relationship and span a number of credit grades. The ECAs will normally be investment grade.

Certain credit mitigants are used strategically in portfolio management activities. While single name concentrations arise in portfolios managed by Global Banking and Corporate Banking, it is only in Global Banking that their size requires the use of portfolio level credit mitigants. Across Global Banking, risk limits and utilisations, maturity profiles and risk quality are monitored and managed proactively. This process is key to the setting of risk appetite for these larger, more complex, geographically distributed customer groups. While the principal form of risk management continues to be at the point of exposure origination, through the lending decision-making process, Global Banking also utilises loan sales and credit default swap ('CDS') hedges to manage concentrations and reduce risk. These transactions are the responsibility of a dedicated Global Banking portfolio management team. Hedging activity is carried out within agreed credit parameters, and is subject to market risk limits and a robust governance structure. Where applicable, CDSs are entered into directly with a central clearing house counterparty. Otherwise our exposure to CDS protection providers is diversified among mainly banking counterparties with strong credit ratings.

CDS mitigants are held at portfolio level and are not included in the expected loss calculations. CDS mitigants are not reported in the following tables.

Collateral on loans and advances

Collateral held is analysed separately for commercial real estate and for other corporate, commercial and financial (non-bank) lending. The following tables include off-balance sheet loan commitments, primarily undrawn credit lines.

The collateral measured in the following tables consists of fixed first charges on real estate, and charges over cash and marketable financial instruments. The values in the tables represent the expected market value on an open market basis. No adjustment has been made to the collateral for any expected costs of recovery. Marketable securities are measured at their fair value.

Other types of collateral such as unsupported guarantees and floating charges over the assets of a customer's business are not measured in the following tables. While such mitigants have value, often providing rights in insolvency, their assignable value is not sufficiently certain and they are therefore assigned no value for disclosure purposes.

The LTV ratios presented are calculated by directly associating loans and advances with the collateral that individually and uniquely supports each facility. When collateral assets are shared by multiple loans and advances, whether specifically or, more generally, by way of an all monies charge, the collateral value is pro-rated across the loans and advances protected by the collateral.

For credit-impaired loans, the collateral values cannot be directly compared with impairment allowances recognised. The LTV figures use open market values with no adjustments. Impairment allowances are calculated on a different basis, by considering other cash flows and adjusting collateral values for costs of realising collateral as explained further on page 267.

Commercial real estate loans and advances

The value of commercial real estate collateral is determined by using a combination of external and internal valuations and physical inspections. For CRR 1–7, local valuation policies determine the frequency of review on the basis of local market conditions because of the complexity of valuing collateral for commercial real estate. For CRR 8–10, almost all collateral would have been revalued within the last three years.

In Hong Kong, market practice is typically for lending to major property companies to be either secured by guarantees or unsecured. In Europe, facilities of a working capital nature are generally not secured by a first fixed charge, and are therefore disclosed as not collateralised.

Wholesale lending – commercial real estate loans and advances including loan commitments by level of collateral for key countries/territories (by stage)

(Audited)

	Total		Of which: UK		Of which: Hong Kong		Of which: US	
	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage
	$m	%	$m	%	$m	%	$m	%
Stage 1								
Not collateralised	62,123	0.1	10,557	0.2	31,224	–	–	–
Fully collateralised	87,530	0.1	17,766	0.1	39,174	–	4,862	–
LTV ratio:								
– less than 50%	46,983	0.1	8,006	0.1	25,870	–	3,463	–
– 51% to 75%	29,621	0.1	8,174	0.1	10,452	0.1	787	–
– 76% to 90%	5,167	0.1	1,038	–	1,168	0.1	519	–
– 91% to 100%	5,759	0.1	548	0.2	1,684	0.1	93	–
Partially collateralised (A):	6,129	0.1	515	0.2	2,130	–	–	–
– *collateral value on A*	*3,735*		*285*		*1,401*		–	
Total	155,782	0.1	28,838	0.1	72,528	–	4,862	–
Stage 2								
Not collateralised	2,249	1.1	446	2.5	1,140	0.2	–	–
Fully collateralised	4,739	1.3	782	4.5	1,576	0.4	439	0.5
LTV ratio:								
– less than 50%	2,039	1.1	394	3.6	795	0.4	303	0.7
– 51% to 75%	1,430	0.7	330	1.2	505	0.4	7	–
– 76% to 90%	363	5.0	34	44.1	29	–	129	–
– 91% to 100%	907	1.0	24	8.3	247	–	–	–
Partially collateralised (B):	261	1.5	24	12.5	15	–	–	–
– *collateral value on B*	*156*		*20*		*5*		–	–
Total	7,249	1.2	1,252	3.9	2,731	0.3	439	–
Stage 3								
Not collateralised	338	57.1	61	85.2	–	–	–	–
Fully collateralised	606	12.7	433	9.2	12	–	–	–
LTV ratio:								
– less than 50%	412	10.0	304	9.2	2	–	–	–
– 51% to 75%	88	27.3	58	6.9	10	–	–	–
– 76% to 90%	38	2.6	35	5.7	–	–	–	–
– 91% to 100%	68	16.2	36	16.7	–	–	–	–
Partially collateralised (C):	474	56.5	261	42.9	–	–	–	–
– *collateral value on C*	*321*		*137*		–		–	
Total	1,418	37.9	755	27.0	12	–	–	–
POCI								
Not collateralised	–	–	–	–	–	–	–	–
Fully collateralised	15	53.3	–	–	–	–	–	–
LTV ratio:								
– less than 50%	13	61.5	–	–	–	–	–	–
– 51% to 75%	2	–	–	–	–	–	–	–
– 76% to 90%	–	–	–	–	–	–	–	–
– 91% to 100%	–	–	–	–	–	–	–	–
Partially collateralised (C):	–	–	–	–	–	–	–	–
– *collateral value on C*	–		–		–		–	
Total	15	53.3	–	–	–	–	–	–
At 31 Dec 2018	164,464	0.5	30,845	0.9	75,271	–	5,301	0.1

Wholesale lending – commercial real estate loans and advances including loan commitments by level of collateral for key countries/territories

(Audited)

	Total		Of which: UK		Of which: Hong Kong		Of which: US	
	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage
	$m	%	$m	%	$m	%	$m	%
Rated CRR/PD1 to 7								
Not collateralised	64,324	0.1	11,001	0.2	32,364	–	–	–
Fully collateralised	91,791	0.1	18,112	0.2	40,747	0.1	5,282	0.1
Partially collateralised (A):	6,377	0.2	532	0.6	2,145	–	–	–
– *collateral value on A*	*3,879*		*299*		*1,406*		–	
Total	162,492	0.1	29,645	0.3	75,256	–	5,282	0.1
Rated CRR/PD 8								
Not collateralised	49	2.0	2	–	–	–	–	–
Fully collateralised	477	1.5	435	1.1	3	33.3	19	–
LTV ratio:								
– less than 50%	178	1.7	149	1.3	3	33.3	19	–
– 51% to 75%	269	0.4	265	0.4	–	–	–	–
– 76% to 90%	13	7.7	7	14.3	–	–	–	–
– 91% to 100%	17	11.8	14	14.3	–	–	–	–
Partially collateralised (B):	13	7.7	8	12.5	–	–	–	–
– *collateral value on B*	*12*		*6*		–		–	
Total	539	1.7	445	1.3	3	33.3	19	–
Rated CRR/PD9 to 10								
Not collateralised	338	57.1	61	85.2	–	–	–	–
Fully collateralised	621	13.5	433	9.2	12	–	–	–
LTV ratio:								
– less than 50%	425	11.5	304	9.2	2	–	–	–
– 51% to 75%	90	26.7	58	6.9	10	–	–	–
– 76% to 90%	38	2.6	35	5.7	–	–	–	–
– 91% to 100%	68	16.2	36	16.7	–	–	–	–
Partially collateralised (C):	474	56.5	261	42.9	–	–	–	–
– *collateral value on C*	*321*		*137*		–		–	
Total	1,433	38.0	755	27.0	12	–	–	–
At 31 Dec 2018	164,464	0.5	30,845	0.9	75,271	–	5,301	0.1

Other corporate, commercial and financial (non-bank) loans and advances

Other corporate, commercial and financial (non-bank) loans are analysed separately in the following table, which focuses on the countries/territories containing the majority of our loans and advances balances. For financing activities in other corporate and commercial lending, collateral value is not strongly correlated to principal repayment performance.

Collateral values are generally refreshed when an obligor’s general credit performance deteriorates and we have to assess the likely performance of secondary sources of repayment should it prove necessary to rely on them.

Accordingly, the following table reports values only for customers with CRR 8–10, recognising that these loans and advances generally have valuations that are comparatively recent.

Wholesale lending – other corporate, commercial and financial (non-bank) loans and advances including loan commitments by level of collateral for key countries/territories (by stage)

(Audited)

	Total		Of which: UK		Of which: Hong Kong		Of which: US	
	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage
	$m	%	$m	%	$m	%	$m	%
Stage 1								
Not collateralised	549,536	0.1	154,059	0.2	122,259	–	30,395	–
Fully collateralised	234,081	0.1	24,387	0.2	36,730	0.1	93,804	–
LTV ratio:								
– less than 50%	60,405	0.2	4,461	0.4	12,032	0.1	24,922	–
– 51% to 75%	82,590	–	9,510	0.2	14,264	0.1	7,267	–
– 76% to 90%	15,853	0.1	2,175	0.2	4,567	0.1	4,723	–
– 91% to 100%	75,233	–	8,241	–	5,867	0.1	56,892	–
Partially collateralised (A):	48,877	0.1	5,551	0.1	21,942	–	747	–
– *collateral value on A*	*21,097*		*2,388*		*10,263*		*696*	
Total	832,494	0.1	183,997	0.2	180,931	–	124,946	–
Stage 2								
Not collateralised	42,053	1.4	12,364	3.1	6,212	0.4	1,578	1.3
Fully collateralised	24,977	1.0	7,378	1.0	3,378	0.5	9,713	1.1
LTV ratio:								
– less than 50%	11,915	0.9	5,410	0.6	1,421	0.4	3,711	1.4
– 51% to 75%	5,344	1.3	1,042	3.5	1,290	0.6	810	1.4
– 76% to 90%	1,642	1.5	140	2.9	391	0.5	691	0.3
– 91% to 100%	6,076	0.8	786	0.1	276	0.4	4,501	0.9
Partially collateralised (B):	4,993	0.7	381	3.1	2,287	0.3	–	–
– *collateral value on B*	*2,074*		*207*		*971*		*–*	
Total	72,023	1.2	20,123	2.3	11,877	0.4	11,291	1.1
Stage 3								
Not collateralised	4,990	52.5	1,775	42.1	478	81.2	6	16.7
Fully collateralised	1,660	25.2	513	6.2	146	–	188	9.6
LTV ratio:								
– less than 50%	596	34.9	181	7.7	11	–	77	22.1
– 51% to 75%	487	10.5	172	1.7	62	–	103	1.0
– 76% to 90%	382	25.4	86	10.5	32	–	–	–
– 91% to 100%	195	31.8	74	8.1	41	–	8	–
Partially collateralised (C):	931	44.9	179	22.3	158	15.2	5	60.0
– *collateral value on C*	*429*		*113*		*38*		*2*	
Total	7,581	45.6	2,467	33.2	782	52.7	199	11.1
POCI								
Not collateralised	214	69.2	–	–	25	20.0	–	–
Fully collateralised	59	13.6	–	–	9	–	–	–
LTV ratio:								
– less than 50%	12	33.3	–	–	–	–	–	–
– 51% to 75%	16	25.0	–	–	–	–	–	–
– 76% to 90%	22	–	–	–	–	–	–	–
– 91% to 100%	9	–	–	–	9	–	–	–
Partially collateralised (C):	43	72.1	8	–	35	85.7	–	–
– *collateral value on C*	*38*		*3*		*34*		*–*	
Total	316	59.2	8	–	69	50.7	–	–
At 31 Dec 2018	912,414	0.6	206,595	0.8	193,659	0.3	136,436	0.1

Wholesale lending – other corporate, commercial and financial (non-bank) loans and advances including loan commitments by level of collateral for key countries/territories

(Audited)

	Total		Of which: UK		Of which: Hong Kong		Of which: US	
	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage
	$m	%	$m	%	$m	%	$m	%
Rated CRR/ PD8								
Not collateralised	1,243	5.4	565	6.2	94	7.4	191	5.2
Fully collateralised	1,895	3.6	74	4.1	11	9.1	1,621	3.1
LTV ratio:								
– less than 50%	693	4.2	21	4.8	–	–	594	4.2
– 51% to 75%	292	2.7	49	2.0	11	9.1	169	2.4
– 76% to 90%	45	15.6	2	–	–	–	20	–
– 91% to 100%	865	2.8	2	–	–	–	838	–
Partially collateralised (A):	212	2.8	23	4.3	153	1.3	–	–
– *collateral value on A*	*84*		*14*		*49*		–	
Total	3,350	4.2	662	6	258	3.9	1,812	3.4
Rated CRR/ PD9 to 10								
Not collateralised	5,199	53.2	1,775	42.1	503	78.1	6	16.7
Fully collateralised	1,719	24.8	513	6.2	155	–	188	9.6
LTV ratio:								
– less than 50%	608	36.0	181	7.7	11	–	77	22.1
– 51% to 75%	503	8.7	172	1.7	62	–	103	1.0
– 76% to 90%	405	24.2	86	10.5	32	–	–	–
– 91% to 100%	203	31.5	74	8.1	50	–	8	–
Partially collateralised (B):	974	46.1	187	21.9	193	28.0	5	60.0
– *collateral value on B*	*466*		*116*		*73*		*2*	
Total	7,892	46.1	2,475	33.2	851	52.6	199	11.1
At 31 Dec 2018	11,242	33.7	3,137	27.4	1,109	41.3	2,011	4.2

Other credit risk exposures

In addition to collateralised lending, other credit enhancements are employed and methods used to mitigate credit risk arising from financial assets. These are summarised below:

- Some securities issued by governments, banks and other financial institutions benefit from additional credit enhancements provided by government guarantees that cover the assets.
- Debt securities issued by banks and financial institutions include asset-backed securities ('ABSs') and similar instruments, which are supported by underlying pools of financial assets. Credit risk associated with ABSs is reduced through the purchase of credit default swap ('CDS') protection.

Disclosure of the Group's holdings of ABSs and associated CDS protection is provided on page 161.

- Trading loans and advances mainly pledged against cash collateral are posted to satisfy margin requirements. There is limited credit risk on cash collateral posted since in the event of default of the counterparty these would be set off against the related liability. Reverse repos and stock borrowing are by their nature collateralised.

Collateral accepted as security that the Group is permitted to sell or repledge under these arrangements is described on page 303 of the Financial Statements.

- The Group's maximum exposure to credit risk includes financial guarantees and similar contracts granted, as well as loan and other credit-related commitments. Depending on the terms of the arrangement, we may use additional credit mitigation if a guarantee is called upon or a loan commitment is drawn and subsequently defaults.

For further information on these arrangements, see Note 33 on the Financial Statements.

Derivatives

HSBC participates in transactions exposing us to counterparty credit risk. Counterparty credit risk is the risk of financial loss if the counterparty to a transaction defaults before satisfactorily settling it. It arises principally from over-the-counter ('OTC') derivatives and securities financing transactions and is calculated in both the trading and non-trading books. Transactions vary in value by reference to a market factor such as an interest rate, exchange rate or asset price.

The counterparty risk from derivative transactions is taken into account when reporting the fair value of derivative positions. The adjustment to the fair value is known as the credit value adjustment ('CVA').

For an analysis of CVAs, see Note 12 on the Financial Statements.

The following table reflects by risk type the fair values and gross notional contract amounts of derivatives cleared through an exchange, central counterparty and non-central counterparty.

Notional contract amounts and fair values of derivatives by product type

	2018			2017		
	Notional amount	**Fair value**		Notional amount	Fair value	
		Assets	**Liabilities**		Assets	Liabilities
	$m	**$m**	**$m**	$m	$m	$m
Foreign exchange	**7,582,431**	**86,417**	**83,147**	6,244,286	78,517	75,768
– exchange traded	**10,139**	**173**	**38**	13,520	37	105
– central counterparty cleared OTC	**198,232**	**1,611**	**1,731**	70,719	1,312	1,394
– non-central counterparty cleared OTC	**7,374,060**	**84,633**	**81,378**	6,160,047	77,168	74,269
Interest rate	**24,753,187**	**156,373**	**156,518**	19,929,866	236,795	233,031
– exchange traded	**971,529**	**384**	**668**	1,536,818	240	189
– central counterparty cleared OTC	**17,611,891**	**49,417**	**49,974**	11,730,237	114,003	115,020
– non-central counterparty cleared OTC	**6,169,767**	**106,572**	**105,876**	6,662,811	122,552	117,822
Equity	**1,256,550**	**10,198**	**10,750**	590,156	9,353	11,845
– exchange traded	**1,020,423**	**1,766**	**3,517**	313,483	1,104	2,463
– non-central counterparty cleared OTC	**236,127**	**8,432**	**7,233**	276,673	8,249	9,382
Credit	**346,596**	**3,414**	**3,776**	391,798	4,692	5,369
– central counterparty cleared OTC	**128,912**	**1,396**	**1,140**	107,370	2,715	2,980
– non-central counterparty cleared OTC	**217,684**	**2,018**	**2,636**	284,428	1,977	2,389
Commodity and other	**74,159**	**1,134**	**1,355**	59,716	886	1,233
– exchange traded	**28,489**	**23**	**322**	5,389	56	47
– non-central counterparty cleared OTC	**45,670**	**1,111**	**1,033**	54,327	830	1,186
Total OTC derivatives	**31,982,343**	**255,190**	**251,001**	25,346,612	328,806	324,442
– total OTC derivatives cleared by central counterparties	**17,939,035**	**52,424**	**52,845**	11,908,326	118,030	119,394
– total OTC derivatives not cleared by central counterparties	**14,043,308**	**202,766**	**198,156**	13,438,286	210,776	205,048
Total exchange traded derivatives	**2,030,580**	**2,346**	**4,545**	1,869,210	1,437	2,804
Gross	**34,012,923**	**257,536**	**255,546**	27,215,822	330,243	327,246
Offset		**(49,711)**	**(49,711)**		(110,425)	(110,425)
At 31 Dec		**207,825**	**205,835**		219,818	216,821

The purposes for which HSBC uses derivatives are described in Note 15 on the Financial Statements.

The International Swaps and Derivatives Association ('ISDA') master agreement is our preferred agreement for documenting derivatives activity. It is common, and our preferred practice, for the parties involved in a derivative transaction to execute a credit support annex ('CSA') in conjunction with the ISDA master agreement. Under a CSA, collateral is passed between the parties to mitigate the counterparty risk inherent in outstanding positions. The majority of our CSAs are with financial institutional clients.

We manage the counterparty exposure on our OTC derivative contracts by using collateral agreements with counterparties and netting agreements. Currently, we do not actively manage our general OTC derivative counterparty exposure in the credit markets, although we may manage individual exposures in certain circumstances.

We place strict policy restrictions on collateral types and as a consequence the types of collateral received and pledged are, by value, highly liquid and of a strong quality, being predominantly cash.

Where a collateral type is required to be approved outside the collateral policy, approval is required from a committee of senior representatives from Markets, Legal and Risk.

See page 323 and Note 30 on the Financial Statements for details regarding legally enforceable right of offset in the event of counterparty default and collateral received in respect of derivatives.

Personal lending

This section presents further disclosures related to personal lending. It provides details of the regions, countries and products which are driving the change observed in personal loans and advances to customers, with the impact of foreign exchange separately identified. Additionally, Hong Kong and UK mortgage book LTV data is provided.

This section also provides a reconciliation of the opening 1 January 2018 to 31 December 2018 closing gross carrying/ nominal amounts and associated allowance for ECL.

Further product granularity is also provided by stage, with geographical data presented for loans and advances to customers, loan and other credit-related commitments and financial guarantees.

Total personal lending of $394bn increased by $19bn from $375bn since the Group transitioned to IFRS 9 on 1 January 2018. This increase included adverse foreign exchange movements of $14bn. Excluding foreign exchange movements, there was growth of $33bn primarily driven by Europe ($17bn) and Asia ($15bn).

The allowance for ECL attributable to personal lending, excluding off-balance sheet commitments and guarantees, remained flat from 1 January 2018 at $3bn. This was primarily driven by favourable foreign exchange movements and the stable credit environment.

Excluding foreign exchange movements, the total personal lending increase is primarily driven by mortgage balances, which grew by $26bn. Mortgages in Asia grew by $13bn, notably in Hong Kong ($9bn) and to a lesser extent in Australia ($2.6bn), as a result of continued business growth initiatives and property market growth. In Europe, mortgages grew by $12bn, notably in the UK ($11bn), driven by stronger acquisition performance, including the expanded use of broker relationships.

The quality of both our Hong Kong and UK mortgage books remained high, with negligible defaults and impairment allowances. The average LTV ratio on new mortgage lending in Hong Kong was 48%, compared with an estimated 42% for the overall mortgage portfolio. The average LTV ratio on new lending in the UK was 65%, compared with an estimated 49% for the overall mortgage portfolio. In 2018, we aligned our global approach in relation to LTV reporting. This resulted in Hong Kong and the UK changing from a simple average to a balance weighted average. They will no longer be comparable to previously reported amounts.

Excluding foreign exchange movements, other personal lending balances increased by $8bn since 1 January 2018. Loans and overdrafts grew by $5.3bn in the UK and France. Credit cards increased by $1bn, mainly in the US, Hong Kong and to a lesser extent China and the UK.

Total personal lending for loans and advances to customers at amortised cost by stage distribution

	Gross carrying amount				Allowance for ECL			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	$m	$m	$m	$m
By portfolio								
First lien residential mortgages	284,103	6,286	2,944	293,333	(41)	(62)	(432)	(535)
– of which: interest only (including offset)	*31,874*	*1,324*	*338*	*33,536*	*(3)*	*(13)*	*(92)*	*(108)*
– affordability (including US adjustable rate mortgages)	*16,110*	*1,065*	*507*	*17,682*	*(3)*	*(4)*	*(5)*	*(12)*
Other personal lending	90,578	8,789	1,637	101,004	(493)	(1,203)	(716)	(2,412)
– other	67,196	4,400	1,121	72,717	(214)	(435)	(465)	(1,114)
– credit cards	20,932	4,259	453	25,644	(272)	(756)	(233)	(1,261)
– second lien residential mortgages	1,022	100	57	1,179	(2)	(9)	(13)	(24)
– motor vehicle finance	1,428	30	6	1,464	(5)	(3)	(5)	(13)
At 31 Dec 2018	374,681	15,075	4,581	394,337	(534)	(1,265)	(1,148)	(2,947)
By geography								
Europe	169,782	5,731	2,051	177,564	(105)	(453)	(450)	(1,008)
– of which: UK	*139,237*	*4,308*	*1,315*	*144,860*	*(93)*	*(421)*	*(219)*	*(733)*
Asia	155,661	5,413	693	161,767	(207)	(353)	(180)	(740)
– of which: Hong Kong	*104,909*	*2,715*	*169*	*107,793*	*(71)*	*(220)*	*(39)*	*(330)*
MENA	5,565	350	411	6,326	(61)	(70)	(263)	(394)
North America	38,283	2,552	1,186	42,021	(29)	(90)	(142)	(261)
Latin America	5,390	1,029	240	6,659	(132)	(299)	(113)	(544)
At 31 Dec 2018	374,681	15,075	4,581	394,337	(534)	(1,265)	(1,148)	(2,947)

Exposure to UK interest-only mortgage loans

The following information is presented for the Group's HSBC branded UK interest-only mortgage loans with balances of $14.4bn. This excludes offset mortgages in First Direct, Private Bank mortgages, endowment mortgages and other products.

At the end of 2018, the average LTV ratio in the portfolio was 46% and 96% of mortgages had an LTV ratio of 75% or less. Of the interest-only mortgages that expired in 2016, 84% were repaid within 12 months of expiry with a total of 92% being repaid within 24 months of expiry. For interest-only mortgages expiring during 2017, 86% were fully repaid within 12 months of expiry.

The profile of maturing UK interest-only loans is as follows:

UK interest-only mortgage loans

	$m
Expired interest-only mortgage loans	175
Interest-only mortgage loans by maturity	
– 2019	361
– 2020	400
– 2021	510
– 2022	483
– 2023-2027	2,880
– Post 2027	9,561
At 31 Dec 2018	14,370

Total personal lending for loans and other credit-related commitments and financial guarantees[8] by stage distribution

	Nominal amount				Allowance for ECL			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Europe	52,719	291	290	53,300	(7)	–	–	(7)
– of which: UK	*50,195*	*224*	*285*	*50,704*	*(5)*	–	–	*(5)*
Asia	131,333	1,034	1	132,368	–	–	–	–
– of which: Hong Kong	*102,156*	*366*	–	*102,522*	–	–	–	–
MENA	3,264	67	23	3,354	–	–	–	–
North America	14,469	312	94	14,875	(1)	(1)	–	(2)
Latin America	4,318	59	4	4,381	(5)	–	–	(5)
At 31 Dec 2018	206,103	1,763	412	208,278	(13)	(1)	–	(14)

For footnotes, see page 192.

Personal lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees[8]

(Audited)

	Non-credit impaired				Credit impaired			
	Stage 1		Stage 2		Stage 3		Total	
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018	549,328	(596)	17,678	(1,157)	4,874	(1,312)	571,880	(3,065)
Transfers of financial instruments	(4,270)	(411)	2,047	799	2,223	(388)	–	–
Net remeasurement of ECL arising from transfer of stage	–	358	–	(374)	–	(11)	–	(27)
Net new and further lending/repayments	52,761	(241)	(2,453)	222	(488)	327	49,820	308
Changes to risk parameters – credit quality	–	266	–	(786)	–	(1,197)	–	(1,717)
Assets written off	–	–	–	–	(1,386)	1,380	(1,386)	1,380
Foreign exchange and other	(17,035)	77	(434)	30	(230)	53	(17,699)	160
At 31 Dec 2018	580,784	(547)	16,838	(1,266)	4,993	(1,148)	602,615	(2,961)
ECL release/(charge) for the period		383		(938)		(881)		(1,436)
Recoveries								290
Others								(18)
Total change in ECL for the period								(1,164)

For footnotes, see page 192.

As shown in the above table, the allowance for ECL for loans and advances to customers and banks and relevant loan commitments and financial guarantees decreased $104m during the period from $3,065m at 1 January 2018 to $2,961m at 31 December 2018.

This overall decrease was primarily driven by:

- $1,380m of assets written off;
- $308m relating to underlying net book volume movements, which included the ECL allowance associated with new originations, assets derecognised and net further lending; and
- foreign exchange and other movements of $160m.

These decreases were partially offset by increases of:

- $1,717m relating to underlying credit quality changes, including the credit quality of financial instruments transferring between stages; and
- $27m relating to the net new measurement impact of stage transfers.

Personal lending – credit risk profile by internal PD band for loans and advances to customers at amortised cost

		Gross carrying amount				Allowance for ECL				
	PD range[20]	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total	ECL coverage
	%	$m	$m	$m	$m	$m	$m	$m	$m	%
First lien residential mortgages		284,103	6,286	2,944	293,333	(41)	(62)	(432)	(535)	0.2
– Band 1	0.000 to 0.250	247,046	308	–	247,354	(15)	–	–	(15)	–
– Band 2	0.251 to 0.500	15,458	78	–	15,536	(4)	–	–	(4)	–
– Band 3	0.501 to 1.500	17,987	1,881	–	19,868	(14)	(2)	–	(16)	0.1
– Band 4	1.501 to 5.000	3,295	1,575	–	4,870	(7)	(6)	–	(13)	0.3
– Band 5	5.001 to 20.000	301	1,445	–	1,746	(1)	(19)	–	(20)	1.1
– Band 6	20.001 to 99.999	16	999	–	1,015	–	(35)	–	(35)	3.4
– Band 7	100.000	–	–	2,944	2,944	–	–	(432)	(432)	14.7
Other personal lending		90,578	8,789	1,637	101,004	(493)	(1,203)	(716)	(2,412)	2.4
– Band 1	0.000 to 0.250	41,048	38	–	41,086	(95)	–	–	(95)	0.2
– Band 2	0.251 to 0.500	12,524	116	–	12,640	(34)	–	–	(34)	0.3
– Band 3	0.501 to 1.500	23,573	323	–	23,896	(122)	(26)	–	(148)	0.6
– Band 4	1.501 to 5.000	11,270	3,089	–	14,359	(131)	(285)	–	(416)	2.9
– Band 5	5.001 to 20.000	2,158	4,061	–	6,219	(111)	(465)	–	(576)	9.3
– Band 6	20.001 to 99.999	5	1,162	–	1,167	–	(427)	–	(427)	36.6
– Band 7	100.000	–	–	1,637	1,637	–	–	(716)	(716)	43.7
At 31 Dec 2018		374,681	15,075	4,581	394,337	(534)	(1,265)	(1,148)	(2,947)	0.7

For footnotes, see page 192.

Personal lending – credit risk profile by internal PD band for loans and advances to customers at amortised cost (continued)

	PD range[20]	Gross carrying amount				Allowance for ECL				ECL coverage
		Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total	
	%	$m	$m	$m	$m	$m	$m	$m	$m	%
First lien residential mortgages		266,879	8,299	2,921	278,099	(60)	(67)	(533)	(660)	0.2
– Band 1	0.000 to 0.250	235,249	339	—	235,588	(43)	(1)	—	(44)	—
– Band 2	0.251 to 0.500	17,350	535	—	17,885	(3)	(2)	—	(5)	—
– Band 3	0.501 to 1.500	9,316	3,975	—	13,291	(7)	(6)	—	(13)	0.1
– Band 4	1.501 to 5.000	3,524	1,236	—	4,760	(6)	(8)	—	(14)	0.3
– Band 5	5.001 to 20.000	1,414	1,177	—	2,591	(1)	(21)	—	(22)	0.8
– Band 6	20.001 to 99.999	26	1,037	—	1,063	—	(29)	—	(29)	2.7
– Band 7	100.000	—	—	2,921	2,921	—	—	(533)	(533)	18.2
Other personal lending		87,426	8,055	1,489	96,970	(521)	(1,089)	(777)	(2,387)	2.5
– Band 1	0.000 to 0.250	41,026	369	—	41,395	(73)	—	—	(73)	0.2
– Band 2	0.251 to 0.500	9,761	342	—	10,103	(48)	—	—	(48)	0.5
– Band 3	0.501 to 1.500	20,971	657	—	21,628	(117)	(1)	—	(118)	0.5
– Band 4	1.501 to 5.000	12,930	2,091	—	15,021	(172)	(157)	—	(329)	2.2
– Band 5	5.001 to 20.000	2,719	3,403	—	6,122	(111)	(469)	—	(580)	9.5
– Band 6	20.001 to 99.999	19	1,193	—	1,212	—	(462)	—	(462)	38.1
– Band 7	100.000	—	—	1,489	1,489	—	—	(777)	(777)	52.2
At 1 Jan 2018		354,305	16,354	4,410	375,069	(581)	(1,156)	(1,310)	(3,047)	0.8

For footnotes, see page 192.

Collateral on loans and advances

(Audited)

The following table provides a quantification of the value of fixed charges we hold over specific assets where we have a history of enforcing, and are able to enforce, collateral in satisfying a debt in the event of the borrower failing to meet its contractual obligations, and where the collateral is cash or can be realised by sale in an established market. The collateral valuation excludes any adjustments for obtaining and selling the collateral and, in particular, loans shown as not collateralised or partially collateralised may also benefit from other forms of credit mitigants.

Personal lending – residential mortgage loans including loan commitments by level of collateral for key countries/territories by stage

(Audited)

	Total		Of which: UK		Hong Kong		US	
	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage
	$m	%	$m	%	$m	%	$m	%
Stage 1								
Fully collateralised	**299,072**	**–**	**130,646**	**–**	**79,180**	**–**	**15,321**	**–**
LTV ratio:								
– less than 50%	**160,563**	**–**	**66,834**	**–**	**54,262**	**–**	**8,060**	**–**
– 51% to 60%	**51,415**	**–**	**20,937**	**–**	**11,591**	**–**	**3,382**	**–**
– 61% to 70%	**40,273**	**–**	**17,480**	**–**	**5,979**	**–**	**2,473**	**–**
– 71% to 80%	**28,383**	**–**	**15,086**	**–**	**2,986**	**–**	**1,113**	**–**
– 81% to 90%	**14,191**	**–**	**8,824**	**–**	**2,637**	**–**	**158**	**–**
– 91% to 100%	**4,247**	**0.1**	**1,485**	**–**	**1,725**	**–**	**135**	**–**
Partially collateralised (A):	**1,420**	**0.1**	**581**	**–**	**300**	**–**	**10**	**–**
LTV ratio:								
– 101% to 110%	**808**	**0.1**	**334**	**–**	**256**	**–**	**5**	**–**
– 111% to 120%	**184**	**0.2**	**46**	**–**	**41**	**–**	**2**	**–**
– greater than 120%	**428**	**0.2**	**201**	**–**	**3**	**–**	**3**	**–**
Collateral value on A	***1,266***		***493***		***284***		***8***	
Total	**300,492**	**–**	**131,227**	**–**	**79,480**	**–**	**15,331**	**–**
Stage 2								
Fully collateralised	**6,170**	**1.0**	**1,234**	**1.3**	**867**	**–**	**1,435**	**0.3**
LTV ratio:								
– less than 50%	**3,334**	**0.7**	**917**	**0.9**	**699**	**–**	**814**	**0.1**
– 51% to 60%	**932**	**1.1**	**113**	**3.0**	**74**	**–**	**268**	**0.4**
– 61% to 70%	**853**	**1.0**	**105**	**2.2**	**43**	**–**	**231**	**0.3**
– 71% to 80%	**586**	**1.3**	**39**	**3.4**	**28**	**–**	**79**	**0.9**
– 81% to 90%	**331**	**1.7**	**27**	**3.1**	**20**	**–**	**32**	**1.6**
– 91% to 100%	**134**	**2.4**	**33**	**1.5**	**3**	**–**	**11**	**0.8**
Partially collateralised (B):	**123**	**2.9**	**46**	**0.2**	**1**	**–**	**5**	**0.3**
LTV ratio:								
– 101% to 110%	**76**	**1.5**	**44**	**0.1**	**1**	**–**	**3**	**0.5**
– 111% to 120%	**17**	**4.5**	**1**	**4.3**	**–**	**–**	**1**	**–**
– greater than 120%	**30**	**5.3**	**1**	**0.6**	**–**	**–**	**1**	**–**
Collateral value on B	***118***		***44***		***1***		***4***	
Total	**6,293**	**1.0**	**1,280**	**1.3**	**868**	**–**	**1,440**	**0.3**
Stage 3								
Fully collateralised	**2,557**	**12.3**	**1,023**	**10.9**	**25**	**0.9**	**671**	**1.0**
LTV ratio:								
– less than 50%	**1,255**	**13.6**	**638**	**7.8**	**24**	**0.9**	**219**	**0.9**
– 51% to 60%	**359**	**8.3**	**151**	**11.3**	**1**	**–**	**107**	**0.9**
– 61% to 70%	**336**	**12.0**	**119**	**18.4**	**–**	**–**	**105**	**1.0**
– 71% to 80%	**280**	**9.9**	**70**	**14.8**	**–**	**–**	**114**	**0.9**
– 81% to 90%	**190**	**9.4**	**33**	**19.4**	**–**	**–**	**81**	**1.2**
– 91% to 100%	**137**	**19.8**	**12**	**45.9**	**–**	**–**	**45**	**2.2**
Partially collateralised (C):	**391**	**33.6**	**23**	**15.8**	**–**	**–**	**24**	**0.4**
LTV ratio:								
– 101% to 110%	**73**	**17.4**	**10**	**14.3**	**–**	**–**	**14**	**0.6**
– 111% to 120%	**68**	**24.2**	**5**	**26.4**	**–**	**–**	**6**	**0.3**
– greater than 120%	**250**	**40.8**	**8**	**11.1**	**–**	**–**	**4**	**0.2**
Collateral value on C	***372***		***20***		***–***		***22***	
Total	**2,948**	**15.1**	**1,046**	**11.0**	**25**	**0.9**	**695**	**1.0**
At 31 Dec 2018	**309,733**	**0.2**	**133,553**	**0.1**	**80,373**	**–**	**17,466**	**0.1**

Wholesale lending – loans and advances to customers at amortised cost by country/territory

	Gross carrying amount				Allowance for ECL			
	Corporate and commercial	*Of which: real estate*[21]	Non-bank financial institutions	Total	Corporate and commercial	*Of which: real estate*[21]	Non-bank financial institutions	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Europe	176,577	*25,715*	22,529	199,106	(2,507)	*(481)*	(82)	(2,589)
– UK	127,093	*18,384*	17,703	144,796	(1,701)	*(410)*	(78)	(1,779)
– France	28,204	*5,890*	2,488	30,692	(405)	*(36)*	(1)	(406)
– Germany	10,454	*246*	1,371	11,825	(35)	*–*	–	(35)
– Switzerland	1,674	*509*	348	2,022	(1)	*–*	–	(1)
– other	9,152	*686*	619	9,771	(365)	*(35)*	(3)	(368)
Asia	263,608	*79,941*	27,284	290,892	(1,343)	*(67)*	(31)	(1,374)
– Hong Kong	168,621	*63,287*	15,062	183,683	(579)	*(40)*	(20)	(599)
– Australia	11,335	*2,323*	2,115	13,450	(68)	*(3)*	–	(68)
– India	6,396	*1,408*	2,846	9,242	(77)	*(4)*	(1)	(78)
– Indonesia	4,286	*35*	354	4,640	(269)	*–*	(2)	(271)
– mainland China	24,225	*4,423*	5,146	29,371	(172)	*(15)*	(6)	(178)
– Malaysia	7,924	*1,649*	274	8,198	(77)	*(2)*	–	(77)
– Singapore	17,564	*4,463*	431	17,995	(31)	*(2)*	–	(31)
– Taiwan	6,008	*23*	156	6,164	(2)	*–*	–	(2)
– other	17,249	*2,330*	900	18,149	(68)	*(1)*	(2)	(70)
Middle East and North Africa (excluding Saudi Arabia)	23,738	*2,025*	322	24,060	(1,167)	*(178)*	(1)	(1,168)
– Egypt	1,746	*41*	–	1,746	(125)	*–*	–	(125)
– UAE	14,445	*1,849*	206	14,651	(721)	*(176)*	(1)	(722)
– other	7,547	*135*	116	7,663	(321)	*(2)*	–	(321)
North America	56,983	*14,169*	9,647	66,630	(236)	*(37)*	(8)	(244)
– US	35,714	*8,422*	8,777	44,491	(103)	*(8)*	(2)	(105)
– Canada	20,493	*5,354*	770	21,263	(105)	*(5)*	(2)	(107)
– other	776	*393*	100	876	(28)	*(24)*	(4)	(32)
Latin America	13,671	*1,383*	1,625	15,296	(299)	*(8)*	(4)	(303)
– Mexico	11,302	*1,354*	1,567	12,869	(225)	*(8)*	(4)	(229)
– other	2,369	*29*	58	2,427	(74)	*–*	–	(74)
At 31 Dec 2018	**534,577**	**123,233**	**61,407**	**595,984**	**(5,552)**	***(771)***	**(126)**	**(5,678)**

For footnotes, see page 192.

Personal lending – loans and advances to customers at amortised costs by country/territory

	Gross carrying amount				Allowance for ECL			
	First lien residential mortgages	Other personal	*Of which: credit cards*	Total	First lien residential mortgages	Other personal	*Of which: credit cards*	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Europe	131,557	46,007	*9,790*	177,564	(258)	(750)	*(313)*	(1,008)
– UK	124,357	20,503	*9,356*	144,860	(141)	(592)	*(309)*	(733)
– France	3,454	19,616	*376*	23,070	(43)	(114)	*(4)*	(157)
– Germany	—	288	—	288	—	—	—	—
– Switzerland	1,120	5,213	—	6,333	(2)	(19)	—	(21)
– other	2,626	387	*58*	3,013	(72)	(25)	—	(97)
Asia	119,718	42,049	*11,900*	161,767	(44)	(696)	*(465)*	(740)
– Hong Kong	79,059	28,734	*8,124*	107,793	(1)	(329)	*(228)*	(330)
– Australia	13,858	764	*626*	14,622	(5)	(55)	*(54)*	(60)
– India	1,030	608	*228*	1,638	(5)	(20)	*(14)*	(25)
– Indonesia	59	279	*206*	338	—	(34)	*(27)*	(34)
– mainland China	8,706	1,139	*502*	9,845	(2)	(57)	*(50)*	(59)
– Malaysia	2,890	3,209	*888*	6,099	(24)	(71)	*(33)*	(95)
– Singapore	5,991	5,353	*434*	11,344	—	(70)	*(21)*	(70)
– Taiwan	5,123	860	*289*	5,983	(1)	(20)	*(5)*	(21)
– other	3,002	1,103	*603*	4,105	(6)	(40)	*(33)*	(46)
Middle East and North Africa (excluding Saudi Arabia)	2,393	3,933	*1,181*	6,326	(88)	(306)	*(148)*	(394)
– Egypt	—	309	*71*	309	—	(5)	*(1)*	(5)
– UAE	1,974	1,477	*538*	3,451	(82)	(126)	*(54)*	(208)
– other	419	2,147	*572*	2,566	(6)	(175)	*(93)*	(181)
North America	36,964	5,057	*1,341*	42,021	(122)	(139)	*(81)*	(261)
– US	17,464	2,280	*1,028*	19,744	(13)	(106)	*(75)*	(119)
– Canada	18,267	2,562	*265*	20,829	(16)	(23)	*(5)*	(39)
– other	1,233	215	*48*	1,448	(93)	(10)	*(1)*	(103)
Latin America	2,701	3,958	*1,432*	6,659	(23)	(521)	*(254)*	(544)
– Mexico	2,550	3,192	*1,121*	5,742	(22)	(465)	*(227)*	(487)
– other	151	766	*311*	917	(1)	(56)	*(27)*	(57)
At 31 Dec 2018	293,333	101,004	*25,644*	394,337	(535)	(2,412)	*(1,261)*	(2,947)

Summary of financial instruments to which the impairment requirements in IFRS 9 are applied – by global business

	Gross carrying/nominal amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers at amortised cost	915,188	61,786	13,023	324	990,321	(1,276)	(2,108)	(5,047)	(194)	(8,625)
– RBWM	340,606	19,228	4,960	–	364,794	(544)	(1,250)	(1,129)	–	(2,923)
– CMB	304,103	27,529	5,732	298	337,662	(538)	(659)	(3,110)	(194)	(4,501)
– GB&M	230,250	14,112	1,683	25	246,070	(188)	(182)	(718)	–	(1,088)
– GPB	37,970	724	618	1	39,313	(5)	(3)	(89)	–	(97)
– Corporate Centre	2,259	193	30	–	2,482	(1)	(14)	(1)	–	(16)
Loans and advances to banks at amortised cost	71,873	307	–	–	72,180	(11)	(2)	–	–	(13)
– RBWM	5,801	5	–	–	5,806	(1)	–	–	–	(1)
– CMB	1,912	15	–	–	1,927	(1)	–	–	–	(1)
– GB&M	25,409	212	–	–	25,621	(7)	(2)	–	–	(9)
– GPB	46	–	–	–	46	–	–	–	–	–
– Corporate Centre	38,705	75	–	–	38,780	(2)	–	–	–	(2)
Other financial assets measured at amortised cost	581,118	1,673	126	–	582,917	(27)	(6)	(22)	–	(55)
– RBWM	49,142	184	32	–	49,358	(14)	(2)	(1)	–	(17)
– CMB	15,082	774	60	–	15,916	(7)	(3)	(21)	–	(31)
– GB&M	272,028	703	20	–	272,751	(1)	(1)	–	–	(2)
– GPB	924	1	2	–	927	–	–	–	–	–
– Corporate Centre	243,942	11	12	–	243,965	(5)	–	–	–	(5)
Total gross carrying amount on balance sheet at 31 Dec 2018	1,568,179	63,766	13,149	324	1,645,418	(1,314)	(2,116)	(5,069)	(194)	(8,693)
Loans and other credit-related commitments	569,250	21,839	912	7	592,008	(143)	(139)	(43)	–	(325)
– RBWM	164,589	1,792	399	–	166,780	(6)	(1)	(1)	–	(8)
– CMB	113,753	9,345	308	5	123,411	(72)	(52)	(40)	–	(164)
– GB&M	252,910	9,658	194	2	262,764	(58)	(86)	(2)	–	(146)
– GPB	33,885	1,044	11	–	34,940	–	–	–	–	–
– Corporate Centre	4,113	–	–	–	4,113	(7)	–	–	–	(7)
Financial guarantees[8]	20,884	2,334	297	3	23,518	(19)	(29)	(45)	–	(93)
– RBWM	54	3	3	–	60	–	–	–	–	–
– CMB	7,629	1,203	230	3	9,065	(10)	(11)	(39)	–	(60)
– GB&M	12,093	1,115	63	–	13,271	(8)	(18)	(5)	–	(31)
– GPB	1,053	13	–	–	1,066	(1)	–	–	–	(1)
– Corporate Centre	55	–	1	–	56	–	–	(1)	–	(1)
Total nominal amount off balance sheet at 31 Dec 2018	590,134	24,173	1,209	10	615,526	(162)	(168)	(88)	–	(418)
RBWM	13,160	153	–	–	13,313	(5)	–	–	–	(5)
CMB	226	–	–	1	227	(2)	–	–	–	(2)
GB&M	1,994	–	–	–	1,994	(5)	–	–	–	(5)
GPB	–	–	–	–	–	–	–	–	–	–
Corporate Centre	326,795	770	7	4	327,576	(21)	(50)	(1)	–	(72)
Debt instruments measured at FVOCI at 31 Dec 2018	342,175	923	7	5	343,110	(33)	(50)	(1)	–	(84)

For footnotes, see page 192.

HSBC Holdings

(Audited)

Risk in HSBC Holdings is overseen by the HSBC Holdings Asset and Liability Management Committee ('Holdings ALCO'). The major risks faced by HSBC Holdings are credit risk, liquidity risk and market risk (in the form of interest rate risk and foreign exchange risk).

Credit risk in HSBC Holdings primarily arises from transactions with Group subsidiaries and from guarantees issued in support of obligations assumed by certain Group operations in the normal conduct of their business. It principally represents claims on Group subsidiaries in Europe and North America.

In HSBC Holdings, the maximum exposure to credit risk arises from two components:

- financial instruments on the balance sheet (see page 260); and
- financial guarantees and similar contracts, where the maximum exposure is the maximum that we would have to pay if the guarantees were called upon (see Note 33).

In the case of our derivative balances, we have amounts with a legally enforceable right of offset in the case of counterparty default that are not included in the carrying value. These offsets also include collateral received in cash and other financial assets. The total offset relating to our derivative balances is $1.5bn at 31 December 2018 (2017: $2.1bn).

The credit quality of loans and advances and financial investments, both of which consist of intra-Group lending, is assessed as 'strong' or 'good', with 100% of the exposure being neither past due nor impaired (2017: 100%). For further details of credit quality classification, see page 118.

Securitisation exposures and other structured products

The following table summarises the carrying amount of our ABS exposure by categories of collateral. It includes assets held in the legacy credit portfolio held within Corporate Centre with a carrying value of $5.9bn (2017: $9bn).

At 31 December 2018, the FVOCI reserve in respect of ABSs was a deficit of $179m (2017: deficit of $466m). For 2018, the impairment write-back in respect of ABSs was $106m (2017: write-back of $240m).

Carrying amount of HSBC's consolidated holdings of ABSs

	Trading	Financial investments at FVOCI	Held at amortised cost	Financial assets designated and otherwise mandatorily measured at fair value through profit and loss	Total	*Of which held through consolidated SEs*
	$m	$m	$m	$m	$m	$m
Mortgage-related assets	1,680	15,422	15,498	127	32,727	*208*
– sub-prime residential	17	587	–	–	604	*50*
– US Alt-A residential	–	87	2	94	183	*42*
– US Government agency and sponsored enterprises: MBSs[22]	153	14,627	14,657	–	29,437	*–*
– UK buy-to-let residential	–	–	–	–	–	*–*
– other residential	924	15	780	–	1,719	*10*
– commercial property	586	106	59	33	784	*106*
Leveraged finance-related assets	306	40	–	21	367	*200*
Student loan-related assets	149	1,815	–	1	1,965	*1,800*
Auto finance-related assets	282	–	2,577	–	2,859	*–*
Other assets	1,136	718	2,323	7	4,184	*204*
At 31 Dec 2018	**3,553**	**17,995**	**20,398**	**156**	**42,102**	***2,412***

For footnotes, see page 192.

Selected 2017 credit risk disclosures

The below disclosures were included in our 2017 external reports and do not reflect the adoption of IFRS 9. As these tables are not directly comparable to the current 2018 credit risk tables, which are disclosed on an IFRS 9 basis, these 2017 disclosures have been shown below and not adjacent to 2018 tables.

Summary of credit risk

	At 31 Dec 2017
	$bn
Maximum exposure to credit risk	3,078
– total assets subject to credit risk	2,306
– off-balance sheet commitments subject to credit risk[7,23]	772
Gross loans and advances	1,060
– personal lending	376
– wholesale lending	684
Impaired loans	15
– personal lending	5
– wholesale lending	10
Impaired loans as a % of gross loans and advances	%
Personal lending	1.3
Wholesale lending	1.5
Total	1.5
	$bn
Impairment allowances	7.5
– personal lending	1.7
– wholesale lending	5.8
Loans and advances net of impairment allowances	1,053

	For year ended 31 Dec 2017
	$bn
Loan impairment charge	2.0
– personal lending	1.0
– wholesale lending	1.0
Other credit risk provisions	(0.2)
	1.8

For footnotes, see page 192.

Credit exposure (2017)

Maximum exposure to credit risk

(Audited)

	2017		
	Maximum exposure	Offset	Net
	$m	$m	$m
Derivatives	219,818	(204,829)	14,989
Loans and advances to customers held at amortised cost	962,964	(35,414)	927,550
– personal	374,762	(2,946)	371,816
– corporate and commercial	516,754	(29,459)	487,295
– non-bank financial institutions	71,448	(3,009)	68,439
Loans and advances to banks at amortised cost	90,393	(273)	90,120
Reverse repurchase agreements – non-trading	201,553	(3,724)	197,829
Total on–balance sheet exposure to credit risk	2,305,592	(244,240)	2,061,352
Total off–balance sheet	771,908	—	771,908
– financial guarantees and similar contracts[23]	41,422	—	41,422
– loan and other credit-related commitments[7]	730,486	—	730,486
At 31 Dec 2017	3,077,500	(244,240)	2,833,260

For footnotes, see page 192.

Distribution of financial instruments by credit quality

(Audited)

	Neither past due nor impaired								
	Strong	Good	Satisfactory	Sub-standard	Past due but not impaired	Impaired	Total gross amount	Impairment allowances	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Cash and balances at central banks	179,155	1,043	407	19			180,624		180,624
Items in the course of collection from other banks	6,322	29	273	4			6,628		6,628
Hong Kong Government certificates of indebtedness	34,186	—	—	—			34,186		34,186
Trading assets	137,983	22,365	26,438	1,949			188,735		188,735
– treasury and other eligible bills	15,412	531	491	1,098			17,532		17,532
– debt securities	84,493	9,517	12,978	498			107,486		107,486
– loans and advances to banks	15,496	5,778	4,757	26			26,057		26,057
– loans and advances to customers	22,582	6,539	8,212	327			37,660		37,660
Financial assets designated at fair value	3,378	269	1,029	28			4,704		4,704
Derivatives	181,195	31,827	5,874	922			219,818		219,818
Loans and advances to customers held at amortised cost	503,759	222,343	204,162	16,114	8,600	15,470	970,448	(7,484)	962,964
– personal	324,960	26,612	14,549	780	4,658	4,922	376,481	(1,719)	374,762
– corporate and commercial	140,382	176,745	176,661	14,784	3,422	10,254	522,248	(5,494)	516,754
– non-bank financial institutions	38,417	18,986	12,952	550	520	294	71,719	(271)	71,448
Loans and advances to banks held at amortised cost	77,175	9,026	4,144	39	9	—	90,393	—	90,393
Reverse repurchase agreements – non-trading	143,154	32,321	25,636	442	—	—	201,553	—	201,553
Financial investments	356,065	10,463	15,017	2,886	—	728	385,159		385,159
Other assets	12,714	6,526	10,705	681	107	143	30,876	(48)	30,828
– endorsements and acceptances	1,430	4,636	3,455	183	15	31	9,750		9,750
– accrued income and other	11,175	1,837	7,124	361	91	56	20,644		20,644
– assets held for sale	109	53	126	137	1	56	482	(48)	434
At 31 Dec 2017	1,635,086	336,212	293,685	23,084	8,716	16,341	2,313,124	(7,532)	2,305,592
	%	%	%	%	%	%	%		
Percentage of total gross amount	70.7	14.5	12.7	1.0	0.4	0.7	100.0		

Past due but not impaired gross financial instruments (2017)

Past due but not impaired gross financial instruments by geographical region

(Audited)	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
At 31 Dec 2017	1,324	3,892	852	2,015	633	8,716

Ageing analysis of days for past due but not impaired gross financial instruments

(Audited)	Up to 29 days	30–59 days	60–89 days	90–179 days	180 days and over	Total
	$m	$m	$m	$m	$m	$m
Loans and advances to customers and banks held at amortised cost	6,837	1,255	493	10	14	8,609
– personal	3,455	866	337	—	—	4,658
– corporate and commercial	2,899	343	156	10	14	3,422
– financial	483	46	—	—	—	529
Other financial instruments	33	12	18	12	32	107
At 31 Dec 2017	6,870	1,267	511	22	46	8,716

Impaired loans (2017)

Movement in impaired loans by industry sector

(Audited)

	Personal	Corporate and commercial	Financial	Total
	$m	$m	$m	$m
At 1 Jan 2017	6,490	11,362	376	18,228
Classified as impaired during the year	2,671	3,691	17	6,379
Transferred from impaired to unimpaired during the year	(677)	(1,324)	(8)	(2,009)
Amounts written off	(1,330)	(1,257)	(53)	(2,640)
Net repayments and other	(2,232)	(2,218)	(38)	(4,488)
At 31 Dec 2017	4,922	10,254	294	15,470

Impaired loans by industry sector and geographical region

	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
Non-renegotiated impaired loans	4,551	1,645	870	1,180	452	8,698
– personal	1,648	475	227	665	280	3,295
– corporate and commercial	2,895	1,146	639	508	172	5,360
– financial	8	24	4	7	—	43
Renegotiated impaired loans	3,491	604	1,079	1,426	172	6,772
– personal	381	125	120	958	43	1,627
– corporate and commercial	2,926	478	895	466	129	4,894
– financial	184	1	64	2	—	251
At 31 Dec 2017	8,042	2,249	1,949	2,606	624	15,470
Impaired loans % of total gross loans and advances	2.0%	0.5%	5.4%	2.2%	2.6%	1.5%

Renegotiated loans and forbearance (2017)

Renegotiated loans and advances to customers by industry sector

	First lien residential mortgages	Other personal lending	Corporate and commercial	Non-bank financial institutions	Total
	$m	$m	$m	$m	$m
Neither past due nor impaired	476	268	2,082	257	3,083
Past due but not impaired	58	49	120	—	227
Impaired	1,329	298	4,894	251	6,772
At 31 Dec 2017	1,863	615	7,096	508	10,082
Impairment allowances on renegotiated loans	165	127	1,584	151	2,027

Renegotiated loans and advances to customers by geographical region

	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
At 31 Dec 2017	5,667	921	1,622	1,604	268	10,082

Impairment of loans and advances (2017)

Loan impairment charge to the income statement by industry sector

(Audited)	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
Personal	140	243	92	32	452	959
– first lien residential mortgages	6	(1)	5	—	(27)	(17)
– other personal	134	244	87	32	479	976
Corporate and commercial	619	298	83	(163)	90	927
– manufacturing and international trade and services	314	236	95	18	59	722
– commercial real estate and other property-related	200	21	(4)	9	—	226
– other commercial	105	41	(8)	(190)	31	(21)
Financial	66	17	22	1	—	106
At 31 Dec 2017	825	558	197	(130)	542	1,992

Charge for impairment losses as a percentage of average gross loans and advances to customers by geographical region

	Europe	Asia	MENA	North America	Latin America	Total
	%	%	%	%	%	%
New allowances net of allowance releases	0.33	0.17	0.79	(0.05)	3.20	0.29
Recoveries	(0.09)	(0.03)	(0.14)	(0.07)	(0.41)	(0.07)
At 31 Dec 2017	0.24	0.14	0.65	(0.12)	2.79	0.22
Amount written off net of recoveries	0.23	0.13	1.35	0.28	2.42	0.28

Movement in impairment allowances by industry sector and by geographical region

	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
At 1 Jan 2017	2,789	1,635	1,681	1,272	473	7,850
Amounts written off						
Personal	(438)	(366)	(329)	(100)	(487)	(1,720)
– first lien residential mortgages	(8)	(6)	(42)	(26)	(9)	(91)
– other personal	(430)	(360)	(287)	(74)	(478)	(1,629)
Corporate and commercial	(648)	(273)	(119)	(273)	(63)	(1,376)
– manufacturing and international trade and services	(318)	(250)	(74)	(44)	(18)	(704)
– commercial real estate and other property-related	(121)	(10)	(37)	(20)	(4)	(192)
– other commercial	(209)	(13)	(8)	(209)	(41)	(480)
Financial	(74)	(1)	—	(2)	—	(77)
Total amounts written off	(1,160)	(640)	(448)	(375)	(550)	(3,173)
Recoveries of amounts written off in previous years						
Personal	296	104	39	38	68	545
– first lien residential mortgages	9	4	—	17	25	55
– other personal	287	100	39	21	43	490
Corporate and commercial	35	10	2	37	13	97
– manufacturing and international trade and services	10	9	1	11	3	34
– commercial real estate and other property-related	8	—	1	1	—	10
– other commercial	17	1	—	25	10	53
Financial	2	—	—	—	—	2
Total recoveries of amounts written off in previous years	333	114	41	75	81	644
Charge to income statement	825	558	197	(130)	542	1,992
Exchange and other movements	274	5	(10)	(51)	(47)	171
At 31 Dec 2017	3,061	1,672	1,461	791	499	7,484
Impairment allowances against banks:						
– individually assessed	—	—	—	—	—	—
Impairment allowances against customers:						
– individually assessed	2,296	1,056	1,104	383	121	4,960
– collectively assessed	765	616	357	408	378	2,524
Impairment allowances at 31 Dec 2017	3,061	1,672	1,461	791	499	7,484

Movement in impairment allowances on loans and advances to customers and banks

(Audited)

	Banks individually assessed	Customers Individually assessed	Customers Collectively assessed	Total
	$m	$m	$m	$m
At 1 Jan 2017	—	4,932	2,918	7,850
Amounts written off	—	(1,468)	(1,705)	(3,173)
Recoveries of loans and advances previously written off	—	119	525	644
Charge to income statement	—	1,114	878	1,992
Exchange and other movements	—	263	(92)	171
At 31 Dec 2017	—	4,960	2,524	7,484
Impairment allowances % of loans and advances	—	0.5%	0.3%	0.8%

Wholesale lending (2017)

Total wholesale lending for loans and advances to banks and customers[24]

	Gross loans	Impairment allowance
	$m	$m
Corporate and commercial	522,248	(5,494)
– agriculture, forestry and fishing	6,302	(122)
– mining and quarrying	10,911	(450)
– manufacturing	115,531	(1,390)
– electricity, gas, steam and air-conditioning supply	17,397	(88)
– water supply, sewerage, waste management and remediation	2,806	(3)
– construction	15,443	(540)
– wholesale and retail trade, repair of motor vehicles and motorcycles	98,079	(1,361)
– transportation and storage	24,258	(131)
– accommodation and food	16,971	(138)
– publishing, audiovisual and broadcasting	18,405	(83)
– real estate	114,349	(638)
– professional, scientific and technical activities	18,094	(95)
– administrative and support services	19,960	(138)
– public administration and defence, compulsory social security	221	—
– education	1,490	(7)
– health and care	5,688	(34)
– arts, entertainment and recreation	3,003	(14)
– other services	20,354	(235)
– activities of households	—	—
– extra-territorial organisations and bodies activities	—	—
– government	11,728	(8)
– asset-backed securities	1,258	(19)
Non-bank financial institutions	71,719	(271)
Loans and advances to banks	90,393	—
At 31 Dec 2017	684,360	(5,765)
By geography		
Europe	228,775	(2,469)
– of which: UK	*163,393*	*(1,589)*
Asia	332,680	(1,402)
– of which: Hong Kong	*197,232*	*(639)*
MENA	29,142	(1,131)
North America	76,661	(579)
Latin America	17,102	(184)
At 31 Dec 2017	684,360	(5,765)

For footnotes, see page 192.

Wholesale lending: loan and other credit-related commitments[7]

	Europe	Asia	MENA	North America	Latin America	Total	UK	Hong Kong
	$m	$m	$m	$m	$m	$m	$m	$m
At 31 Dec 2017	186,912	195,396	17,935	123,267	11,666	535,176	85,362	88,859
– corporate and commercial	123,972	179,302	17,390	102,666	10,795	434,125	72,652	79,596
– financial	62,940	16,094	545	20,601	871	101,051	12,710	9,263

For footnotes, see page 192.

Commercial real estate (2017)

Commercial real estate lending

	Europe	Asia	MENA	North America	Latin America	Total	UK	Hong Kong
	$m	$m	$m	$m	$m	$m	$m	$m
Gross loans and advances								
Neither past due nor impaired	26,632	60,894	500	8,637	1,407	98,070	20,171	51,909
Past due but not impaired	56	57	5	197	34	349	2	50
Impaired loans	905	17	182	83	65	1,252	722	12
At 31 Dec 2017	27,593	60,968	687	8,917	1,506	99,671	20,895	51,971
– *of which: renegotiated loans*	*1,112*	*—*	*190*	*97*	*79*	*1,478*	*1,010*	*—*
Impairment allowances	297	15	142	75	—	529	237	12

Commercial real estate gross loans and advances maturity analysis

	Europe	Asia	MENA	North America	Latin America	Total	UK	Hong Kong
	$m	$m	$m	$m	$m	$m	$m	$m
On demand, overdrafts or revolving								
< 1 year	5,734	18,038	268	4,678	260	28,978	4,193	15,964
1–2 years	4,780	11,549	119	1,178	58	17,684	3,679	9,345
2–5 years	14,770	25,395	117	2,199	734	43,215	12,377	21,089
> 5 years	2,309	5,986	183	862	454	9,794	646	5,573
At 31 Dec 2017	27,593	60,968	687	8,917	1,506	99,671	20,895	51,971

Commercial real estate loans and advances including loan commitments by level of collateral

(Audited)

		Of which:		
	Total	UK	Hong Kong	US
	$m	$m	$m	$m
Rated CRR/ EL1 to 7				
Not collateralised	44,551	5,187	31,100	—
Fully collateralised	75,633	20,711	31,768	4,742
Partially collateralised (A)	5,523	963	1,557	—
– *Collateral value on A*	*3,621*	*564*	*752*	*—*
Total	125,707	26,861	64,425	4,742
Rated CRR/ EL8				
Not collateralised	6	4	—	—
Fully collateralised	221	128	—	54
– LTV ratio: less than 50%	67	64	—	—
– 51% to 75%	40	31	—	—
– 76% to 90%	89	19	—	54
– 91% to 100%	25	14	—	—
Partially collateralised (B):	71	54	—	—
– *Collateral value on B*	*43*	*40*	—	—
Total	298	186	—	54
Rated CRR/ EL9 to 10				
Not collateralised	63	46	—	1
Fully collateralised	717	376	12	—
– LTV ratio: less than 50%	157	60	9	—
– 51% to 75%	173	149	1	—
– 76% to 90%	141	122	1	—
– 91% to 100%	246	45	1	—
Partially collateralised (C):	486	350	—	—
– *Collateral value on C*	*295*	*189*	—	—
Total	1,266	772	12	1
At 31 Dec 2017	127,271	27,819	64,437	4,797

Other corporate, commercial and non-bank financial institutions loans and advances including loan commitments by level of collateral rated CRR/EL 8 to 10 only

(Audited)

		Of which:		
	Total	UK	Hong Kong	US
	$m	$m	$m	$m
Rated CRR/ EL8				
Not collateralised	3,722	319	15	1,708
Fully collateralised	554	104	5	48
– LTV ratio: less than 50%	188	25	3	7
– 51% to 75%	157	66	2	34
– 76% to 90%	39	11	—	2
– 91% to 100%	170	2	—	5
Partially collateralised (A):	493	92	135	42
– *Collateral value on A*	*206*	*59*	*10*	*21*
Total	4,769	515	155	1,798
Rated CRR/ EL9 to 10				
Not collateralised	3,734	1,508	511	3
Fully collateralised	2,572	1,223	98	317
– less than 50%	804	516	60	—
– 51% to 75%	606	403	10	6
– 76% to 90%	398	235	21	—
– 91% to 100%	764	69	7	311
Partially collateralised (B):	1,750	398	167	425
– *Collateral value on B*	*877*	*209*	*123*	*300*
Total	8,056	3,129	776	745
At 31 Dec 2017	12,825	3,644	931	2,543

Personal lending (2017)

Total personal lending gross loans

	Europe	Asia	MENA	North America	Latin America	Total	UK	Hong Kong	Total as a % of total gross loans
	$m	$m	$m	$m	$m	$m	$m	$m	
First lien residential mortgages	126,685	109,502	2,375	37,330	2,281	278,173	119,770	70,279	26.2
– *of which:*									
interest only (including offset)	*35,242*	*873*	*65*	*92*	*—*	*36,272*	*33,468*	*—*	*3.4*
affordability (including US adjustable rate mortgages)	*409*	*3,111*	*—*	*13,742*	*—*	*17,262*	*—*	*3*	*1.6*
Other personal lending	43,329	40,880	4,496	5,227	4,376	98,308	19,790	27,868	9.3
– other	32,995	29,400	2,663	2,919	2,205	70,182	10,039	19,977	6.7
– credit cards	10,235	11,435	1,531	1,037	1,642	25,880	9,751	7,891	2.4
– second lien residential mortgages	99	21	2	1,233	—	1,355	—	—	0.1
– motor vehicle finance	—	24	300	38	529	891	—	—	0.1
At 31 Dec 2017	170,014	150,382	6,871	42,557	6,657	376,481	139,560	98,147	35.5
Loan and other credit-related commitments	50,384	120,312	3,975	14,443	5,196	194,310	48,413	89,994	

Total personal lending impairment allowances

	Europe	Asia	MENA	North America	Latin America	Total	UK	Hong Kong
	$m	$m	$m	$m	$m	$m	$m	$m
First lien residential mortgages	262	30	68	148	16	524	145	—
Other personal lending	341	237	259	60	298	1,195	257	86
– other	230	109	132	17	151	639	147	36
– credit cards	111	128	122	30	140	531	110	50
– second lien residential mortgages	—	—	—	13	—	13	—	—
– motor vehicle finance	—	—	5	—	7	12	—	—
At 31 Dec 2017	603	267	327	208	314	1,719	402	86
Impairment allowances % of impaired loans	29.7%	44.5%	94.2%	12.8%	97.2%	34.9%	28.3%	62.3%

Residential mortgage loans including loan commitments by level of collateral

(Audited)

		Of which:		
	Total	UK	Hong Kong	US
	$m	$m	$m	$m
Non-impaired loans and advances				
Fully collateralised	287,088	124,736	72,073	16,240
– LTV ratio: less than 50%	164,110	69,679	55,237	7,868
– 51% to 60%	48,287	20,706	8,340	4,180
– 61% to 70%	37,054	15,422	3,282	2,832
– 71% to 80%	25,893	11,992	3,402	1,312
– 81% to 90%	9,445	5,824	1,376	42
– 91% to 100%	2,299	1,113	436	6
Partially collateralised:				
Greater than 100% (A)	660	174	—	—
– 101% to 110%	270	89	—	—
– 111% to 120%	121	16	—	—
– greater than 120%	269	69	—	—
Collateral on A	*550*	*125*	—	—
Non-impaired loans and advances	287,748	124,910	72,073	16,240
Impaired loans and advances				
Fully collateralised	3,004	1,008	46	1,138
– LTV ratio: less than 50%	1,238	538	42	414
– 51% to 60%	518	196	3	207
– 61% to 70%	416	130	—	178
– 71% to 80%	354	85	1	160
– 81% to 90%	323	40	—	115
– 91% to 100%	155	19	—	64
Partially collateralised:				
Greater than 100% (B)	342	38	—	36
– 101% to 110%	101	15	—	19
– 111% to 120%	61	5	—	11
– greater than 120%	180	18	—	6
Collateral on B	*269*	*31*	—	*33*
Impaired loans and advances	3,346	1,046	46	1,174
At 31 Dec 2017	291,094	125,956	72,119	17,414

Supplementary information (2017)

Wholesale gross loans and advances to customers by country/territory

	Gross loans				Impairment allowances			
	Corporate and commercial	*Of which: real estate*[21]	Non-bank financial institutions	Total	Corporate and commercial	*Of which: real estate*[21]	Non-bank financial institutions	Total
	$m	*$m*	$m	$m	$m	*$m*	$m	$m
Europe	182,501	*24,244*	32,093	214,594	(2,286)	*(371)*	(183)	(2,469)
– UK	130,121	*14,609*	27,829	157,950	(1,390)	*(299)*	(180)	(1,570)
– France	32,647	*5,597*	2,048	34,695	(542)	*(34)*	—	(542)
– Germany	9,690	*250*	1,156	10,846	(51)	—	(2)	(53)
– Switzerland	1,244	*1*	531	1,775	—	—	—	—
– other	8,799	*3,787*	529	9,328	(303)	*(38)*	(1)	(304)
Asia	250,950	*70,554*	26,311	277,261	(1,375)	*(43)*	(27)	(1,402)
– Hong Kong	156,198	*51,787*	15,346	171,544	(613)	*(30)*	(26)	(639)
– Australia	11,311	*1,987*	2,355	13,666	(75)	*(4)*	—	(75)
– India	5,382	*1,030*	2,165	7,547	(95)	*(3)*	(1)	(96)
– Indonesia	4,157	*18*	114	4,271	(254)	—	—	(254)
– mainland China	26,052	*8,953*	4,824	30,876	(224)	*(2)*	—	(224)
– Malaysia	7,489	*1,555*	331	7,820	(34)	—	—	(34)
– Singapore	17,541	*2,890*	259	17,800	(41)	*(2)*	—	(41)
– Taiwan	5,176	*11*	185	5,361	(4)	—	—	(4)
– other	17,644	*2,323*	732	18,376	(35)	*(2)*	—	(35)
Middle East and North Africa (excluding Saudi Arabia)	21,533	*1,647*	1,107	22,640	(1,092)	*(157)*	(39)	(1,131)
– Egypt	1,343	*17*	38	1,381	(97)	—	(7)	(104)
– UAE	12,130	*1,117*	769	12,899	(824)	*(157)*	—	(824)
– other	8,060	*513*	300	8,360	(171)	—	(32)	(203)
North America	54,915	*16,788*	10,926	65,841	(557)	*(66)*	(22)	(579)
– US	35,678	*10,888*	10,204	45,882	(318)	*(18)*	(15)	(333)
– Canada	18,330	*4,680*	682	19,012	(200)	*(34)*	(4)	(204)
– other	907	*1,220*	40	947	(39)	*(14)*	(3)	(42)
Latin America	12,349	*1,117*	1,282	13,631	(184)	*(1)*	—	(184)
– Mexico	9,354	*931*	1,083	10,437	(158)	*(1)*	—	(158)
– other	2,995	*186*	199	3,194	(26)	—	—	(26)
At 31 Dec 2017	522,248	*114,350*	71,719	593,967	(5,494)	*(638)*	(271)	(5,765)

For footnotes, see page 192.

Personal gross loans and advances to customers by country/territory

	Gross loans				Impairment allowances			
	First lien residential mortgages	Other personal	*Of which: credit cards*	Total	First lien residential mortgages	Other personal	*Of which: credit cards*	Total
	$m	$m	*$m*	$m	$m	$m	*$m*	$m
Europe	126,685	43,329	*10,235*	170,014	(262)	(341)	*(111)*	(603)
– UK	119,770	19,790	*9,751*	139,560	(145)	(257)	*(110)*	(402)
– France	2,910	16,650	*420*	19,560	(33)	(66)	*—*	(99)
– Germany	1	234	*—*	235	—	—	*—*	—
– Switzerland	839	5,776	*—*	6,615	—	(12)	*—*	(12)
– other	3,165	879	*64*	4,044	(84)	(6)	*(1)*	(90)
Asia	109,502	40,880	*11,435*	150,382	(30)	(237)	*(128)*	(267)
– Hong Kong	70,279	27,868	*7,891*	98,147	—	(86)	*(50)*	(86)
– Australia	12,444	838	*749*	13,282	(2)	(20)	*(18)*	(22)
– India	1,185	441	*193*	1,626	(4)	(7)	*(4)*	(11)
– Indonesia	64	322	*225*	386	—	(15)	*(11)*	(15)
– mainland China	8,877	1,170	*289*	10,047	(2)	(11)	*(5)*	(13)
– Malaysia	3,003	3,385	*837*	6,388	(14)	(48)	*(20)*	(62)
– Singapore	5,760	4,952	*419*	10,712	—	(17)	*(6)*	(17)
– Taiwan	4,877	822	*283*	5,699	(1)	(17)	*(2)*	(18)
– other	3,013	1,082	*549*	4,095	(7)	(16)	*(12)*	(23)
Middle East and North Africa (excluding Saudi Arabia)	2,375	4,496	*1,531*	6,871	(68)	(259)	*(122)*	(327)
– Egypt	—	283	*62*	283	—	(5)	*(1)*	(5)
– UAE	1,880	1,682	*612*	3,562	(64)	(95)	*(26)*	(159)
– other	495	2,531	*857*	3,026	(4)	(159)	*(95)*	(163)
North America	37,330	5,227	*1,037*	42,557	(148)	(60)	*(30)*	(208)
– US	17,415	2,278	*724*	19,693	(36)	(38)	*(25)*	(74)
– Canada	18,639	2,731	*266*	21,370	(7)	(15)	*(5)*	(22)
– other	1,276	218	*47*	1,494	(105)	(7)	*—*	(112)
Latin America	2,281	4,376	*1,642*	6,657	(16)	(298)	*(140)*	(314)
– Mexico	2,129	3,044	*1,077*	5,173	(13)	(267)	*(127)*	(280)
– other	152	1,332	*565*	1,484	(3)	(31)	*(13)*	(34)
At 31 Dec 2017	278,173	98,308	*25,880*	376,481	(524)	(1,195)	*(531)*	(1,719)

Carrying amount of HSBC's consolidated holdings of ABSs

	Trading	Available for sale	Held to maturity	Designated at fair value through profit or loss	Loans and receivables	Total	*Of which held through consolidated SEs*
	$m	$m	$m	$m	$m	$m	*$m*
Mortgage-related assets	1,767	14,221	13,965	—	1,762	31,715	*1,826*
– sub-prime residential	22	918	—	—	32	972	*484*
– US Alt-A residential	—	1,102	3	—	—	1,105	*1,041*
– US Government agency and sponsored enterprises: MBSs	331	11,750	13,962	—	—	26,043	*—*
– other residential	814	181	—	—	1,595	2,590	*75*
– commercial property	600	270	—	—	135	1,005	*226*
Leveraged finance-related assets	128	373	—	—	45	546	*283*
Student loan-related assets	155	2,198	—	—	—	2,353	*2,158*
Other assets	1,266	731	—	2	3,553	5,552	*428*
At 31 Dec 2017	3,316	17,523	13,965	2	5,360	40,166	*4,695*

Risk elements in the loan portfolio

Unless otherwise stated, the disclosure of credit risk elements in this section reflects US accounting practice and classifications. The purpose of the disclosure is to present within the US disclosure framework those elements of the loan portfolios with a greater risk of loss. The three main classifications of credit risk elements presented are:

- impaired loans;
- unimpaired loans contractually more than 90 days past due as to interest or principal; and
- troubled debt restructurings not included in the above.

Interest forgone on impaired and restructured loans

	2018	2017
	$m	$m
Europe	152	154
Asia	90	169
Middle East and North Africa	107	153
North America	104	147
Latin America	27	33
Year ended 31 Dec	**480**	656

Interest recognised on impaired and restructured loans

	2018	2017
	$m	$m
Europe	145	52
Asia	41	53
Middle East and North Africa	29	20
North America	85	121
Latin America	26	39
Year ended 31 Dec	**326**	285

Impaired loans

A loan is impaired, and an impairment allowance is recognised, when there is objective evidence of a loss event that has an effect on the cash flows of the loan that can be reliably estimated. In accordance with IFRSs, we recognise interest income on assets after they have been written down as a result of an impairment loss.

The balance of impaired loans at 31 December 2018 was $2.1bn lower than at 31 December 2017. This reduction was largely due to a reduction in corporate and commercial impaired balances as a result of fewer significant current year impaired loans together with loan credit grade improvements, repayments and write-offs.

Unimpaired loans more than 90 days past due

Under IFRS 9, the Group determines that a financial instrument is credit impaired and in stage 3 by considering relevant objective evidence, primarily whether:

- contractual payments of either principal or interest are past due for more than 90 days;
- there are other indications that the borrower is unlikely to pay such as that a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition; and
- the loan is otherwise considered to be in default.

If such unlikeliness to pay is not identified at an earlier stage, it is deemed to occur when an exposure is 90 days past due, even where regulatory rules permit default to be defined based on 180 days past due. Therefore the definitions of credit impaired and default are aligned as far as possible so that stage 3 represents all loans that are considered defaulted or otherwise credit impaired. Interest income is recognised by applying the effective interest rate to the amortised cost amount, (i.e. gross carrying amount less ECL allowance).

As a financial instrument is considered impaired if contractual payments of either principal or interest are past due for more than 90 days, these amounts will be reported under impaired loans with no balance reported under unimpaired loans more than 90 days past due.

Previously under IAS 39, examples of unimpaired loans more than 90 days past due included individually assessed mortgages that are in arrears more than 90 days where there was no other indicators of impairment, but where the value of collateral was sufficient to repay both the principal debt and all potential interest for at least one year; and short-term trade facilities past due more than 90 days for technical reasons such as delays in documentation, but where there was no concern over the creditworthiness of the counterparty.

Troubled debt restructurings

Under US GAAP, a troubled debt restructuring ('TDR') is a loan, the terms of which have been modified for economic or legal reasons related to the borrower's financial difficulties to grant a concession to the borrower that the lender would not otherwise consider. A modification that results in a delay in payment that is considered insignificant is not regarded as a concession for the purposes of this disclosure. The SEC requires separate disclosure of any loans that meet the definition of a TDR that are not included in the previous two loan categories. These are classified as TDRs in the table on page 173. Loans that have been identified as a TDR under the US guidance retain this designation until maturity or derecognition. This treatment differs from the Group's impaired loans disclosure convention under IFRSs under which a loan may return to unimpaired status after demonstrating a significant reduction in the risk of non-payment of future cash flows. As a result, reported TDRs include those loans that have returned to unimpaired status under the Group's disclosure convention for renegotiated loans.

The balance of TDRs not included as impaired loans at 31 December 2018 was $2.7bn, $154m lower than 2017 mainly due to a reduction in Europe and Asia. Under the Group's IFRS 9 methodology financial instruments (except for renegotiated loans) are transferred out of stage 3 when they no longer exhibit any evidence of credit impairment. Wholesale renegotiated loans will continue to be in stage 3 until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, observed over a minimum one-year period and there are no other indicators of impairment. For loans that are assessed for impairment on a portfolio basis, the evidence typically comprises a history of payment performance against the original or revised terms, as appropriate to the circumstances. For loans that are assessed for impairment on an individual basis, all available evidence is assessed on a case-by-case basis. Retail renegotiated loans are deemed to remain credit impaired until repayment or derecognition.

Potential problem loans

Potential problem loans are loans where information on possible credit problems among borrowers causes management to seriously doubt their ability to comply with the loan repayment terms. The following concentrations of credit risk have a higher risk of containing potential problem loans.

Under IFRS 9, an assessment of whether credit risk has increased significantly since initial recognition is performed at each reporting period by considering the change in the risk of default occurring over the remaining life of the financial instrument. Any financial instrument deemed to have suffered a significant increase in credit risk is transferred from stage 1 to stage 2.

The assessment explicitly or implicitly compares the risk of default occurring at the reporting date compared to that at initial recognition, taking into account reasonable and supportable information, including information about past events, current conditions and future economic conditions. The assessment is unbiased, probability weighted, and to the extent relevant, uses forward-looking information consistent with that used in the measurement of ECL.

The analysis of credit risk is multifactor. The determination of whether a specific factor is relevant and its weight compared with other factors depends on the type of product, the characteristics of the financial instrument and the borrower, and the geographical region. Therefore, it is not possible to provide a single set of criteria that will determine what is considered to be a significant increase in credit risk and these criteria will differ for different types of lending, particularly between retail and wholesale. However, unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when 30 days past due. Financial instruments classified as stage 2 and greater than 30 days past due are considered to have a higher risk of containing potential problem loans.

'Renegotiated loans and forbearance' on page 142 includes disclosure about the credit quality of loans whose contractual terms have been changed at some point in the life of the loan because of significant concerns about the borrower's ability to make contractual payments when due. Renegotiated loans are classified as impaired when:

- there has been a change in contractual cash flow as a result of a concession that the lender would otherwise not consider; and
- it is probable that without the concession, the borrower would be unable to meet contractual payment obligations in full.

This presentation applies unless the concession is insignificant and there are no other indicators of impairment. The renegotiated loan will continue to be disclosed as impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-repayment of future cash flows, and there are no other indicators of impairment.

Renegotiated loans that are not classified as impaired may have a higher risk of becoming delinquent in the future, and may therefore be potential problem loans. Further information regarding the credit quality classification of renegotiated loans can be found on page 119.

Analysis of risk elements in the loan portfolio by geographical region

The following table sets out the amount of risk elements in loan portfolios included within loans and advances to customers and banks in the consolidated balance sheet, trading loans classified as in default and assets obtained by taking possession of security. The table excludes the amount of risk elements in loan portfolios classified as 'Assets held for sale' in the consolidated balance sheet.

Risk elements in the loan portfolio by geographical region

	2018 $m	2017 $m	2016 $m	2015 $m	2014 $m
Impaired loans					
Europe	**6,434**	8,042	8,062	9,265	9,709
Asia	**2,521**	2,249	2,499	2,375	2,048
Middle East and North Africa	**2,233**	1,949	2,230	2,178	2,514
North America	**1,500**	2,606	4,842	8,930	11,694
Latin America	**659**	624	595	1,030	3,365
	13,347	15,470	18,228	23,778	29,330
Unimpaired loans contractually more than 90 days past due as to principal or interest					
Europe	**—**	—	—	7	6
Asia	**—**	—	—	2	1
Middle East and North Africa	**—**	24	15	96	59
North America	**—**	—	3	27	3
Latin America	**—**	—	—	—	3
	—	24	18	132	72
Troubled debt restructurings (not included in the classifications above)					
Europe	**1,682**	1,890	1,900	1,495	1,652
Asia	**98**	273	269	284	267
Middle East and North Africa	**527**	459	549	584	778
North America	**229**	174	518	3,698	3,932
Latin America	**189**	83	130	164	353
	2,725	2,879	3,366	6,225	6,982
Trading loans classified as in default					
North America	**—**	—	—	—	4
Europe	**—**	56	—	—	—
Middle East and North Africa	—	—	—	—	—
North America	—	—	—	—	—
Latin America	—	—	—	—	—
	—	56	—	—	4
Risk elements on loans					
Europe	**8,116**	9,988	9,962	10,767	11,367
Asia	**2,619**	2,522	2,768	2,661	2,316
Middle East and North Africa	**2,760**	2,432	2,794	2,858	3,351
North America	**1,729**	2,780	5,363	12,655	15,633
Latin America	**848**	707	725	1,194	3,721
	16,072	18,429	21,612	30,135	36,388
Assets held for sale					
Europe	**16**	14	16	23	28
Asia	**39**	51	46	19	14
Middle East and North Africa	**—**	—	1	1	1
North America	**12**	11	57	116	186
Latin America	**9**	18	22	20	16
	76	94	142	179	245
Total risk elements					
Europe	**8,132**	10,002	9,978	10,790	11,395
Asia	**2,658**	2,573	2,814	2,680	2,330
Middle East and North Africa	**2,760**	2,432	2,795	2,859	3,352
North America	**1,741**	2,791	5,420	12,771	15,819
Latin America	**857**	725	747	1,214	3,737
At 31 Dec	**16,148**	18,523	21,754	30,314	36,633
	%	%	%	%	%
Allowance for ECL/loan impairment allowances as a percentage of risk elements on loans	**53.7**	40.6	36.3	31.8	34.0

Supplementary information

Gross loans and advances by industry sector over five years

	In accordance with IFRS 9	In accordance with IAS 39			
	2018	2017	2016	2015	2014
	$m	$m	$m	$m	$m
Personal	**394,337**	376,481	339,798	374,082	393,554
– first lien residential mortgages	**293,333**	278,173	249,778	274,511	286,524
– other personal	**101,004**	98,308	90,020	99,571	107,030
Corporate and commercial	**534,577**	522,248	465,827	499,513	542,625
– agriculture, forestry and fishing	**6,701**	6,302	5,261	6,595	6,570
– mining and quarrying	**14,172**	10,911	15,781	22,236	16,772
– manufacturing	**105,704**	115,531	112,965	117,536	132,306
– electricity, gas, steam and air-conditioning supply	**16,044**	17,397	14,302	16,603	22,004
– water supply, sewerage, waste management and remediation	**3,523**	2,806	2,380	3,311	2,761
– construction	**15,254**	15,443	14,876	18,102	19,293
– wholesale and retail trade, repair of motor vehicles and motorcycles	**97,665**	98,079	82,848	90,719	109,118
– transportation and storage	**25,541**	24,258	23,081	26,399	26,439
– accommodation and food	**21,547**	16,971	12,823	14,135	13,002
– publishing, audiovisual and broadcasting	**21,172**	18,405	19,058	22,043	16,924
– real estate	**123,233**	114,349	96,639	95,768	95,079
– professional, scientific and technical activities	**22,573**	18,094	15,557	17,528	25,305
– administrative and support services	**25,103**	19,960	15,707	14,725	15,942
– public administration and defence, compulsory social security	**1,463**	221	137	167	633
– education	**1,829**	1,490	1,033	1,169	1,067
– health and care	**4,308**	5,688	4,971	4,896	4,640
– arts, entertainment and recreation	**5,041**	3,003	2,490	2,545	2,338
– other services	**13,913**	20,354	16,989	16,761	24,220
– activities of households	**830**	—	—	—	—
– extra-territorial organisations and bodies activities	**59**	—	—	—	—
– government	**8,073**	11,728	8,442	7,455	6,143
– asset-backed securities	**829**	1,258	487	820	2,069
Financial	**133,587**	162,112	151,855	150,833	163,016
– non-bank financial institutions	**61,407**	71,719	63,729	60,414	50,818
– banks	**72,180**	90,393	88,126	90,419	112,198
Total gross loans and advances	**1,062,501**	1,060,841	957,480	1,024,428	1,099,195
Impaired loans and advances to customers	**13,347**	15,470	18,228	23,758	29,283
Impairment allowances on loans and advances to customers and banks	**8,638**	7,484	7,850	9,555	12,337
Loans and advances change in ECL/Loan impairment charge	**1,896**	1,992	3,350	3,592	4,055
– new allowances net of allowance releases	**2,304**	2,636	3,977	4,400	5,010
– recoveries	**(408)**	(644)	(627)	(808)	(955)

Loans and advances change in ECL/loan impairment charges by industry sector over five years

	In accordance with IFRS 9	In accordance with IAS 39			
	2018	2017	2016	2015	2014
	$m	$m	$m	$m	$m
Change in ECL/loan impairment charge/(release)					
Personal	**1,158**	959	1,703	1,834	1,803
Corporate and commercial	**786**	927	1,608	1,769	2,256
Financial	**(48)**	106	39	(11)	(4)
Year ended 31 Dec	**1,896**	1,992	3,350	3,592	4,055

Loans and advances change in ECL/impairment losses as a percentage of average gross loans and advances to customers

	In accordance with IFRS 9	In accordance with IAS 39			
	2018	2017	2016	2015	2014
	%	%	%	%	%
New allowances net of allowance releases	**0.23**	0.29	0.46	0.48	0.53
Recoveries	**(0.04)**	(0.07)	(0.07)	(0.09)	(0.10)
Total charge for ECL/impairment losses	**0.19**	0.22	0.39	0.39	0.43
Amount written off net of recoveries	**0.22**	0.28	0.32	0.37	0.58

Movement in loans and advances allowance for ECL/impairment allowances over five years

	In accordance with IFRS 9	In accordance with IAS 39			
	2018	2017	2016	2015	2014
	$m	$m	$m	$m	$m
Impairment allowances at 1 Jan	**7,484**	7,850	9,573	12,386	15,201
Opening adjustment upon adoption of IFRS 9	**1,882**	N/A	N/A	N/A	N/A
Amounts written off	**(2,553)**	(3,173)	(3,456)	(4,194)	(6,379)
– personal	**(1,380)**	(1,720)	(1,602)	(2,707)	(3,733)
– corporate and commercial	**(1,050)**	(1,376)	(1,830)	(1,473)	(2,425)
– financial	**(123)**	(77)	(24)	(14)	(221)
Recoveries of amounts written off in previous years	**408**	644	627	808	955
– personal	**290**	545	515	681	818
– corporate and commercial	**108**	97	109	124	128
– financial	**10**	2	3	3	9
Loans and advances change in ECL/loan impairment charge	**1,896**	1,992	3,350	3,592	4,055
Exchange and other movements	**(479)**	171	(2,244)	(3,019)	(1,446)
Allowance for ECL/Impairment allowances at 31 Dec	**8,638**	7,484	7,850	9,573	12,386
ECL/Impairment allowances[1]					
– stage 1	**1,287**	N/A	N/A	N/A	N/A
– stage 2	**2,110**	N/A	N/A	N/A	N/A
– stage 3	**5,047**	N/A	N/A	N/A	N/A
– POCI	**194**	N/A	N/A	N/A	N/A
– individually assessed	**N/A**	4,960	4,932	5,420	6,244
– collectively assessed	**N/A**	2,524	2,918	4,153	6,142
Allowance for ECL/Impairment allowances at 31 Dec	**8,638**	7,484	7,850	9,573	12,386

1. *In IAS 39, impairment allowances were categorised as being either individually or collectively assessed whereas IFRS 9 categorises ECL by staging.*

Movement in renegotiated loans and advances to customers

	2018				2017			
	Personal	**Corporate and commercial**	**Financial**	**Total**	Personal	Corporate and commercial	Financial	Total
	$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Renegotiated loans as at 1 Jan	**2,478**	**7,096**	**508**	**10,082**	4,758	7,565	517	12,840
Loans renegotiated in the year without derecognition	**512**	**1,688**	**31**	**2,231**	688	1,700	7	2,395
Loans renegotiated in the year resulting in recognition of a new loan (POCI in 2018)	**—**	**69**	**—**	**69**	—	36	—	36
Net repayments and other	**(742)**	**(2,084)**	**(468)**	**(3,294)**	(2,968)	(2,205)	(16)	(5,189)
– Repayments	**(520)**	**(1,610)**	**(64)**	**(2,194)**	(644)	(2,279)	(32)	(2,955)
– Amounts written off	**(104)**	**(182)**	**(121)**	**(407)**	(100)	(338)	(1)	(439)
– Other	**(118)**	**(292)**	**(283)**	**(693)**	(2,224)	412	17	(1,795)
Renegotiated loans as at 31 Dec	**2,248**	**6,769**	**71**	**9,088**	2,478	7,096	508	10,082

Country distribution of outstandings and cross-border exposures

We control the risk associated with cross-border lending through a centralised structure of internal country limits. Exposures to individual countries and cross-border exposure in the aggregate are kept under continual review.

The following table summarises the aggregate of our in-country foreign currency and cross-border outstandings by type of borrower to countries that individually represent in excess of 0.75% of our total assets. The classification is based on the country of residence of the borrower but also recognises the transfer of country risk in respect of third-party guarantees, eligible collateral held and residence of the head office when the borrower is a branch. In accordance with the Bank of England Country Exposure Report (Form CE) guidelines, outstandings comprise loans and advances (excluding settlement accounts), amounts receivable under finance leases, acceptances, commercial bills, certificates of deposit, and debt and equity securities (net of short positions), and exclude accrued interest and intra-HSBC exposures.

In-country foreign currency and cross-border amounts outstanding

	Footnotes	Banks $bn	Government and official institutions $bn	Other $bn	Total $bn
At 31 Dec 2018					
US		**4.3**	**50.5**	**30.6**	**85.4**
Mainland China		**23.0**	**6.7**	**32.2**	**61.9**
UK		**28.0**	**9.5**	**39.8**	**77.3**
Japan		**18.6**	**33.0**	**7.7**	**59.3**
Hong Kong		**5.8**	**0.3**	**40.6**	**46.7**
Germany		**15.0**	**9.6**	**5.5**	**30.1**
Canada		**10.2**	**10.9**	**8.4**	**29.5**
Singapore	1	**4.1**	**8.9**	**12.1**	**25.1**
France	1	**4.6**	**5.9**	**8.8**	**19.3**
At 31 Dec 2017					
US		5.8	29.5	37.6	72.9
Mainland China		25.5	10.3	30.3	66.1
UK		21.4	4.8	33.7	59.9
Japan		16.7	26.5	13.3	56.5
Hong Kong		4.3	0.3	39.3	43.9
Germany		10.8	8.8	10.7	30.3
Canada	1	7.3	6.8	5.8	19.9
Singapore	1	2.9	5.7	11.9	20.5
France		6.9	4.7	14.1	25.7
At 31 Dec 2016					
US		4.4	41.9	19.5	65.8
Mainland China		20.8	9.2	24.3	54.3
UK		21.0	9.3	24.0	54.3
Japan		10.5	22.6	9.9	43.0
Hong Kong		4.5	0.4	32.1	37.0
Germany		12.3	19.9	8.1	40.3
Canada	1	5.9	8.0	6.7	20.6
Singapore	1	4.2	3.0	9.6	16.8
France		6.4	8.1	12.1	26.6

1 *These balances were between 0.75% and 1% of total assets. All other balances were above 1%. Singapore balances in 2016 were below 0.75% and have been included for comparative purposes.*

Liquidity and funding risk profile

Liquidity and funding risk in 2018

This section provides a summary of our current policies and practices regarding the management of liquidity and funding risk.

HSBC requires all operating entities to comply with its liquidity and funding risk management framework ('LFRF') on a stand-alone basis and to meet regulatory and internal minimum requirements at all times. The liquidity coverage ratio ('LCR') and net stable funding ratio ('NSFR') are key components of the LFRF.

The liquidity and funding position of the Group remained strong throughout 2018 as illustrated below. The methodology used to create a consolidated view of the Group's liquidity using the LCR is currently under review and any changes may have an impact on this disclosure in the future. The liquidity value is lower than the carrying value due to adjustments applied to comply with the European Commission ('EC') or other local regulators.

	At		
	31 Dec 2018 $bn	30 Jun 2018 $bn	31 Dec 2017 $bn
High-quality liquid assets (liquidity value)	**567**	540	513
Net outflows	**369**	342	360
Liquidity coverage ratio	**154%**	158%	142%

Management of liquidity and funding risk

Liquidity coverage ratio

The LCR aims to ensure that a bank has sufficient unencumbered high-quality liquid assets ('HQLAs') to meet its liquidity needs in a 30-calendar-day liquidity stress scenario. HQLAs consist of cash or assets that can be converted into cash at little or no loss of value. The Group's LCR is calculated on an EC basis and at 31 December 2018 was 154% (31 December 2017: 142%).

At 31 December 2018, all the Group's principal operating entities were well above regulatory minimum levels and above the internally expected levels established by the Board. The following table displays the individual LCR levels for our principal operating entities on an EC LCR basis. This basis may vary from local LCR measures due to differences in the way non-EU regulators have implemented the Basel III recommendations.

Operating entities' LCRs

		At	
		31 Dec	31 Dec
		2018	2017
	Footnotes	**%**	%
HSBC Bank plc UK liquidity group (pre-ring-fencing)	*25*	**—**	139
HSBC UK Bank plc (ring-fenced bank)	*26*	**143**	—
HSBC Bank plc (non-ring-fenced bank)	*27*	**147**	—
The Hongkong and Shanghai Banking Corporation – Hong Kong Branch	*28*	**161**	151
The Hongkong and Shanghai Banking Corporation – Singapore Branch	*28,29*	**149**	144
HSBC Bank USA		**121**	132
HSBC France	*30*	**128**	149
Hang Seng Bank		**202**	204
HSBC Canada	*30*	**115**	123
HSBC Bank China		**153**	162
HSBC Middle East – UAE Branch		**182**	197
HSBC Mexico		**153**	215
HSBC Private Bank		**273**	220

For footnotes, see page 192.

Net stable funding ratio

We are required to maintain sufficient stable funding. The net stable funding ratio ('NSFR') measures stable funding relative to required stable funding, and reflects a bank's long-term funding profile (funding with a term of more than a year). It is designed to complement the LCR.

At 31 December 2018, the Group's principal operating entities were within the NSFR risk tolerance level established by the Board and applicable under the LFRF.

The table below displays the NSFR levels for the principal HSBC operating entities.

Operating entities' NSFRs

		At	
		31 Dec	31 Dec
		2018	2017
	Footnotes	**%**	%
HSBC Bank plc UK liquidity group (pre-ring-fencing)	*25*	**—**	108
HSBC UK Bank plc (ring-fenced bank)	*26*	**144**	—
HSBC Bank plc (non-ring-fenced bank)	*27,31*	**113**	—
The Hongkong and Shanghai Banking Corporation – Hong Kong Branch	*28*	**132**	144
The Hongkong and Shanghai Banking Corporation – Singapore Branch	*28*	**123**	117
HSBC Bank USA		**131**	129
HSBC France	*30*	**113**	116
Hang Seng Bank		**152**	155
HSBC Canada	*30*	**126**	136
HSBC Bank China		**153**	148
HSBC Middle East – UAE Branch		**132**	143
HSBC Mexico		**123**	123
HSBC Private Bank		**203**	185

For footnotes, see page 192.

Depositor concentration and term funding maturity concentration

The LCR and NSFR metrics assume a stressed outflow based on a portfolio of depositors within retail, corporate and financial deposit segments. The validity of these assumptions is challenged if the portfolio of depositors is not large enough to avoid depositor concentration.

Operating entities are exposed to term refinancing concentration risk if the current maturity profile results in future maturities being overly concentrated in any defined period.

At 31 December 2018, all principal operating entities were within the risk tolerance levels set for depositor concentration and term funding maturity concentration. These risk tolerances were established by the Board and are applicable under the LFRF.

Liquid assets of HSBC's principal operating entities

The following table shows the liquidity value of the unencumbered liquid assets of HSBC's principal operating entities at the period end as a six-monthly average. At 31 December 2018, 86% (June 2018: 85%) of the liquid assets eligible for inclusion in the Group consolidated LCR were classified as Level 1.

Liquid assets of HSBC's principal entities

	Footnotes	Recognised at 31 Dec 2018 $m	2H18 Average $m	Recognised at 30 Jun 2018 $m	1H18 Average $m	Recognised at 31 Dec 2017 $m	2H17 Average $m
HSBC Bank plc UK liquidity group (pre-ring-fencing)	25						
Level 1		—	—	166,913	160,088	161,036	156,623
Level 2a		—	—	7,763	6,364	2,914	4,795
Level 2b		—	—	16,582	17,296	18,777	19,919
HSBC UK Bank plc (ring-fenced bank)	26						
Level 1		**57,862**	**59,474**	—	—	—	—
Level 2a		**1,561**	**1,383**	—	—	—	—
Level 2b		**—**	**—**	—	—	—	—
HSBC Bank plc (non-ring-fenced bank)	27						
Level 1		**107,488**	**106,929**	—	—	—	—
Level 2a		**5,417**	**8,484**	—	—	—	—
Level 2b		**9,913**	**16,875**	—	—	—	—
The Hongkong and Shanghai Banking Corporation – Hong Kong Branch	28						
Level 1		**99,634**	**84,595**	75,436	78,496	77,217	77,295
Level 2a		**28,495**	**28,277**	28,656	24,991	26,848	25,841
Level 2b		**1,578**	**1,317**	1,153	1,988	5,528	6,056
Hang Seng Bank							
Level 1		**33,009**	**30,519**	32,551	30,531	31,091	31,485
Level 2a		**5,458**	**3,995**	2,739	3,151	3,287	3,077
Level 2b		**141**	**141**	142	146	197	199
HSBC Bank USA							
Level 1		**53,659**	**49,481**	57,413	53,383	65,131	60,090
Level 2a		**19,062**	**17,971**	15,612	14,869	13,690	13,226
Level 2b		**—**	**1**	—	13	39	32
Total of HSBC's other principal entities	32						
Level 1		**90,023**	**89,410**	80,566	84,508	88,281	86,372
Level 2a		**7,044**	**7,397**	8,003	8,447	7,899	7,810
Level 2b		**383**	**458**	407	691	1,003	886

For footnotes, see page 192.

Sources of funding

(Audited)

Our primary sources of funding are customer current accounts and customer savings deposits payable on demand or at short notice. We issue wholesale securities (secured and unsecured) to supplement our customer deposits and change the currency mix, maturity profile or location of our liabilities and to meet the Group's minimum requirement for own funds and eligible liabilities.

The following 'Funding sources and uses' table provides a consolidated view of how our balance sheet is funded, and should be read in light of the LFRF, which requires operating entities to manage liquidity and funding risk on a stand-alone basis.

The table analyses our consolidated balance sheet according to the assets that primarily arise from operating activities and the sources of funding primarily supporting these activities. Assets and liabilities that do not arise from operating activities are presented as a net balancing source or deployment of funds.

In 2018, the level of customer accounts continued to exceed the level of loans and advances to customers. The positive funding gap was predominantly deployed in liquid assets (cash and balances with central banks and financial investments) as required by the LFRF.

Loans and advances to banks continued to exceed deposits by banks, meaning the Group remained a net unsecured lender to the banking sector.

Funding sources

	2018	2017
	$m	$m
Customer accounts	**1,362,643**	1,364,462
Deposits by banks	**56,331**	69,922
Repurchase agreements – non-trading	**165,884**	130,002
Debt securities in issue	**85,342**	64,546
Cash collateral, margin and settlement accounts	**54,066**	N/A
Liabilities of disposal groups held for sale	**313**	1,286
Subordinated liabilities	**22,437**	19,826
Financial liabilities designated at fair value	**148,505**	94,429
Liabilities under insurance contracts	**87,330**	85,667
Trading liabilities	**84,431**	184,361
– repos	**1,495**	2,255
– stock lending	**10,998**	8,363
– settlement accounts	**N/A**	11,198
– other trading liabilities	**71,938**	162,545
Total equity	**194,249**	197,871
Other balance sheet liabilities	**296,593**	309,399
At 31 Dec	**2,558,124**	2,521,771

Funding uses

	Footnotes	2018	2017
		$m	$m
Loans and advances to customers		**981,696**	962,964
Loans and advances to banks		**72,167**	90,393
Reverse repurchase agreements – non-trading		**242,804**	201,553
Prepayments, accrued income and other assets	5,6	**47,159**	N/A
Cash collateral, margin and settlement accounts		**47,159**	N/A
Assets held for sale		**735**	781
Trading assets		**238,130**	287,995
– reverse repos		**9,893**	10,224
– stock borrowing		**8,387**	6,895
– settlement accounts		**N/A**	15,258
– other trading assets		**219,850**	255,618
Financial investments		**407,433**	389,076
Cash and balances with central banks		**162,843**	180,624
Other balance sheet assets		**405,157**	408,385
At 31 Dec		**2,558,124**	2,521,771

For footnotes, see page 192.

Wholesale term debt maturity profile

The maturity profile of our wholesale term debt obligations is set out in the following table.

The balances in the table are not directly comparable with those in the consolidated balance sheet because the table presents gross cash flows relating to principal payments and not the balance sheet carrying value, which include debt securities and subordinated liabilities measured at fair value.

Wholesale funding cash flows payable by HSBC under financial liabilities by remaining contractual maturities

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Debt securities issued	**8,091**	**13,362**	**15,808**	**10,241**	**5,447**	**21,811**	**70,462**	**63,914**	**209,136**
– unsecured CDs and CP	**4,378**	**7,640**	**10,696**	**6,546**	**818**	**529**	**764**	**1,031**	**32,402**
– unsecured senior MTNs	**467**	**1,233**	**3,107**	**2,263**	**2,172**	**11,252**	**55,307**	**54,256**	**130,057**
– unsecured senior structured notes	**817**	**821**	**1,452**	**1,029**	**2,394**	**3,005**	**7,021**	**4,473**	**21,012**
– secured covered bonds	**—**	**—**	**205**	**—**	**—**	**1,190**	**3,469**	**1,137**	**6,001**
– secured asset-backed commercial paper	**2,094**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**2,094**
– secured ABS	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**327**	**327**
– others	**335**	**3,668**	**348**	**403**	**63**	**5,835**	**3,901**	**2,690**	**17,243**
Subordinated liabilities	**—**	**95**	**2,007**	**—**	**—**	**2,021**	**1,383**	**31,131**	**36,637**
– subordinated debt securities	**—**	**95**	**2,007**	**—**	**—**	**2,021**	**1,383**	**28,934**	**34,440**
– preferred securities	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**2,197**	**2,197**
At 31 Dec 2018	**8,091**	**13,457**	**17,815**	**10,241**	**5,447**	**23,832**	**71,845**	**95,045**	**245,773**
Debt securities issued	7,502	8,409	9,435	8,132	15,111	13,000	55,347	48,234	165,170
– unsecured CDs and CP	1,085	3,636	4,334	3,064	6,132	137	386	277	19,051
– unsecured senior MTNs	1,614	2,973	3,047	2,924	5,109	6,564	41,090	39,544	102,865
– unsecured senior structured notes	1,298	1,796	2,054	1,935	2,870	4,586	10,156	5,328	30,023
– secured covered bonds	—	—	—	209	—	212	2,494	1,655	4,570
– secured asset-backed commercial paper	3,479	—	—	—	—	—	—	—	3,479
– secured ABS	—	—	—	—	—	—	914	436	1,350
– others	26	4	—	—	1,000	1,501	307	994	3,832
Subordinated liabilities	3	1,918	74	—	170	2,371	4,077	32,000	40,612
– subordinated debt securities	3	1,918	74	—	170	2,371	3,618	30,162	38,315
– preferred securities	—	—	—	—	—	—	459	1,838	2,297
At 31 Dec 2017	7,505	10,327	9,509	8,132	15,281	15,371	59,424	80,234	205,782

Contractual maturity of financial liabilities

The following table shows, on an undiscounted basis, all cash flows relating to principal and future coupon payments (except for trading liabilities and derivatives not treated as hedging derivatives). For this reason, balances in the following table do not agree directly with those in our consolidated balance sheet. Undiscounted cash flows payable in relation to hedging derivative liabilities are classified according to their contractual maturities. Trading liabilities and derivatives not treated as hedging derivatives are included in the 'On demand' time bucket and not by contractual maturity.

A maturity analysis of repos and debt securities in issue included in trading liabilities is presented in Note 29 on the Financial Statements.

In addition, loans and other credit-related commitments and financial guarantees are generally not recognised on our balance sheet. The undiscounted cash flows potentially payable under loan and other credit-related commitments and financial guarantees are classified on the basis of the earliest date they can be called.

Cash flows payable by HSBC under financial liabilities by remaining contractual maturities

(Audited)

	Footnotes	On demand $m	Due within 3 months $m	Due between 3 and 12 months $m	Due between 1 and 5 years $m	Due after 5 years $m
Deposits by banks		**35,544**	**10,482**	**2,419**	**7,507**	**556**
Customer accounts		**1,082,007**	**211,811**	**62,963**	**7,617**	**130**
Repurchase agreements – non-trading		**5,929**	**156,752**	**2,487**	**950**	**–**
Trading liabilities	33	**84,431**	**–**	**–**	**–**	**–**
Financial liabilities designated at fair value	33	**217**	**8,737**	**15,591**	**75,578**	**89,261**
Derivatives		**204,062**	**360**	**927**	**2,065**	**1,323**
Debt securities in issue		**236**	**18,253**	**24,902**	**36,599**	**13,656**
Subordinated liabilities		**–**	**438**	**793**	**7,600**	**27,670**
Other financial liabilities		**100,268**	**19,056**	**4,694**	**2,367**	**1,260**
		1,512,694	**425,889**	**114,776**	**140,283**	**133,856**
Loan and other credit-related commitments		**685,650**	**92,186**	**1,109**	**944**	**377**
Financial guarantees	8	**22,942**	**113**	**289**	**160**	**14**
At 31 Dec 2018		**2,221,286**	**518,188**	**116,174**	**141,387**	**134,247**
Proportion of cash flows payable in period		**71%**	**17%**	**4%**	**5%**	**4%**
Deposits by banks		48,247	10,596	1,877	7,814	1,508
Customer accounts		1,159,962	153,018	44,348	7,238	675
Repurchase agreements – non-trading		20,550	106,236	2,270	1,085	–
Trading liabilities		184,361	–	–	–	–
Financial liabilities designated at fair value		715	1,249	7,117	39,596	59,428
Derivatives		212,797	219	1,221	3,170	1,506
Debt securities in issue		11	12,624	21,066	25,654	11,092
Subordinated liabilities		3	2,227	841	7,011	21,775
Other financial liabilities		48,407	18,780	3,701	1,994	1,314
		1,675,053	304,949	82,441	93,562	97,298
Loan and other credit-related commitments	7	570,132	138,542	10,602	7,860	2,350
Financial guarantees	8,34	23,944	268	821	785	31
At 31 Dec 2017		2,269,129	443,759	93,864	102,207	99,679
Proportion of cash flows payable in period		75%	15%	3%	4%	3%

For footnotes, see page 192.

HSBC Holdings

Liquidity risk in HSBC Holdings is overseen by Holdings ALCO. This risk arises because of HSBC Holdings' obligation to make payments to debt holders as they fall due and to pay its operating expenses. The liquidity risk related to these cash flows is managed by matching external debt obligations with internal loan cash flows and by maintaining an appropriate liquidity buffer that is monitored by Holdings ALCO.

The balances in the following table are not directly comparable with those on the balance sheet of HSBC Holdings as the table incorporates, on an undiscounted basis, all cash flows relating to principal and future coupon payments (except for derivatives not treated as hedging derivatives). Undiscounted cash flows payable in relation to hedging derivative liabilities are classified according to their contractual maturities. Derivatives not treated as hedging derivatives are included in the 'On demand' time bucket.

In addition, loan commitments and financial guarantees and similar contracts are generally not recognised on our balance sheet. The undiscounted cash flows potentially payable under financial guarantees and similar contracts are classified on the basis of the earliest date on which they can be called.

Cash flows payable by HSBC Holdings under financial liabilities by remaining contractual maturities

(Audited)

	Footnotes	On demand $m	Due within 3 months $m	Due between 3 and 12 months $m	Due between 1 and 5 years $m	Due after 5 years $m
Amounts owed to HSBC undertakings		**—**	**949**	**—**	**—**	**—**
Financial liabilities designated at fair value		**—**	**237**	**2,656**	**14,384**	**11,653**
Derivatives		**1,321**	**—**	**—**	**339**	**499**
Debt securities in issue		**—**	**379**	**1,159**	**29,178**	**30,801**
Subordinated liabilities		**—**	**248**	**757**	**4,019**	**25,311**
Other financial liabilities		**—**	**675**	**228**	**—**	**—**
		1,321	**2,488**	**4,800**	**47,920**	**68,264**
Loan commitments		**—**	**—**	**—**	**—**	**—**
Financial guarantees	8	**8,627**	**—**	**—**	**—**	**—**
At 31 Dec 2018		**9,948**	**2,488**	**4,800**	**47,920**	**68,264**
Amounts owed to HSBC undertakings		—	2,525	46	—	—
Financial liabilities designated at fair value		—	286	875	16,554	19,465
Derivatives		2,008	—	—	293	781
Debt securities in issue		—	232	1,787	13,975	26,452
Subordinated liabilities		—	2,113	537	2,852	20,944
Other financial liabilities		—	849	200	—	—
		2,008	6,005	3,445	33,674	67,642
Loan commitments		—	—	—	—	—
Financial guarantees	8	7,778	—	—	—	—
At 31 Dec 2017		9,786	6,005	3,445	33,674	67,642

For footnotes, see page 192.

Market risk profile

Market risk in 2018

Market risk is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios. Exposure to market risk is separated into two portfolios:

- trading portfolios; and
- non-trading portfolios.

Market risk exposures arising from our insurance manufacturing operations are discussed on page 125.

A summary of our current policies and practices regarding the management of market risk is set out on page 120.

Global markets were characterised by robust economic sentiment at the start of the year. As the year progressed, economic activity diverged across the global economy against a backdrop of continuing trade and geopolitical tensions; concerns around slowing growth in China; and the continuing uncertainty around the shape of the UK's withdrawal from the EU.

Monetary tightening started across the developed world. The US Federal Reserve raised official interest rates multiple times during the year and signalled it will raise rates more slowly in 2019. Bond yields started to increase but remained low by historical standards. In the eurozone, the European Central Bank ended its bond-buying programme, although softening growth and inflation prospects add to the uncertainty of the timing of the next interest rate hike.

Trading value at risk ('VaR') ended the year lower when compared with the previous year. The trading VaR composition remained largely the same, with interest rate trading VaR being the largest individual contributor to overall trading VaR.

Non-trading interest rate VaR ended the year lower when compared with the previous year as exposures were managed down.

Trading portfolios

Value at risk of the trading portfolios

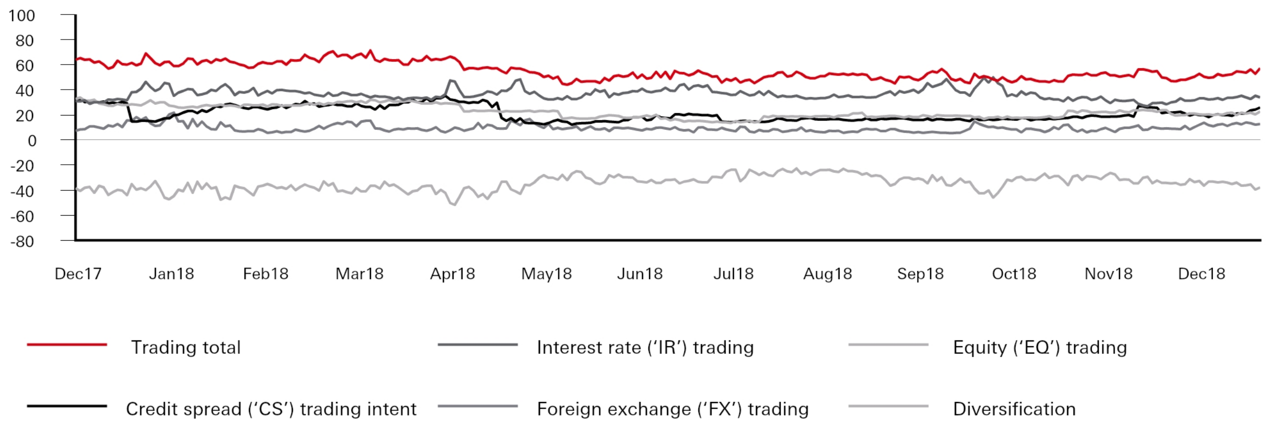
Trading VaR predominantly resides within Global Markets where trading VaR was lower at 31 December 2018 compared with 31 December 2017. The contributions of each asset class were largely range bound during the year.

The decrease in trading VaR from the equity and credit spread trading VaR components was partially offset by an increase in the interest rate and foreign exchange trading VaR components.

The effects of portfolio diversification reduced the overall trading VaR.

The daily levels of total trading VaR over the last year are set out in the graph below.

Daily VaR (trading portfolios), 99% 1 day ($m)



The Group trading VaR for the year is shown in the table below.

Trading VaR, 99% 1 day[35]

(Audited)

	Foreign exchange and commodity	Interest rate	Equity	Credit spread	Portfolio diversification[36]	Total[37]
	$m	$m	$m	$m	$m	$m
Balance at 31 Dec 2018	**12.6**	**33.9**	**22.6**	**25.9**	**(37.9)**	**57.1**
Average	**9.5**	**36.4**	**22.5**	**20.7**	**(34.3)**	**54.8**
Maximum	**21.8**	**49.9**	**33.8**	**35.2**		**71.2**
Minimum	**5.5**	**27.0**	**13.5**	**12.2**		**43.9**
Balance at 31 Dec 2017	7.4	30.8	32.6	31.1	(38.2)	63.7
Average	10.4	38.2	16.7	15.4	(32.9)	47.8
Maximum	23.0	67.1	32.6	31.8		70.8
Minimum	4.9	27.2	9.1	5.1		36.6

For footnotes, see page 192.

Back-testing

In 2018, the Group experienced three back-testing exceptions against actual profit and loss: a profit exception in February, driven by gains on short positions on falling index and stock exposures; a profit exception in August, driven by volatility in Turkish lira spot; and a loss exception in December, driven by month-end adjustments that were not in scope of the market risk model.

The Group also experienced one back-testing profit exception against hypothetical profit and loss in August based on the same driver described above.

There was no evidence of model errors or control failures.

The back-testing result excludes exceptions due to changes in fair value adjustments.

Non-trading portfolios

Value at risk of the non-trading portfolios

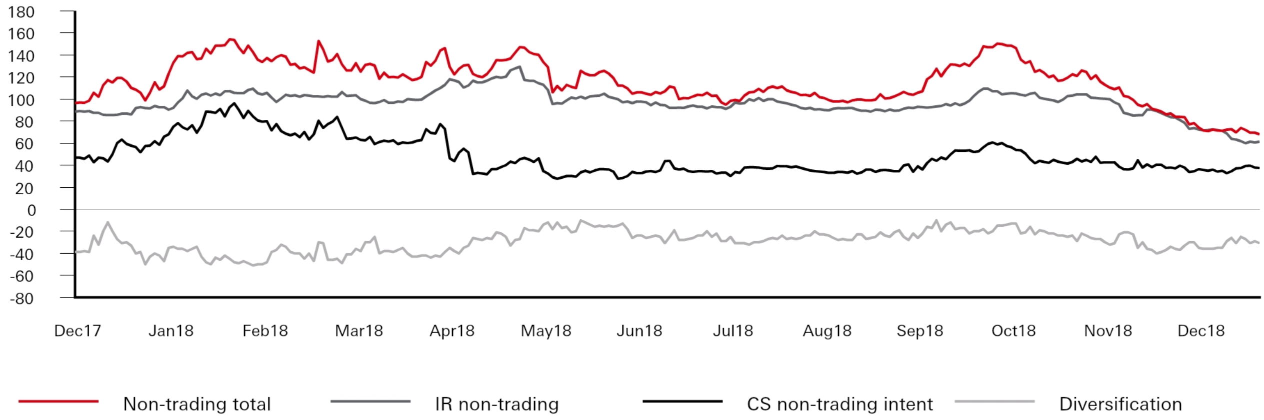
Non-trading VaR of the Group includes contributions from all global businesses. There was no commodity risk in the non-trading portfolios. The non-trading VaR ended the year lower compared with the previous year, due to a reduction in the non-trading interest rate VaR component. This was caused by the reduction of the risk in our investment portfolio, specifically from reduced interest rate risk on US Treasuries and agency mortgage-backed securities.

Non-trading VaR includes the interest rate risk in the banking book transferred to and managed by Balance Sheet Management ('BSM') and the non-trading financial instruments held by BSM. The management of interest rate risk in the banking book and the role of BSM are described further in the following 'Net interest income sensitivity' section.

Non-trading VaR excludes the insurance operations, which are discussed further on page 188, and the interest rate risk in the banking book arising from HSBC Holdings.

The daily levels of total non-trading VaR over the last year are set out in the graph below.

Daily VaR (non-trading portfolios), 99% 1 day ($m)



The Group non-trading VaR for the year is shown in the table below.

Non-trading VaR, 99% 1 day

(Audited)

	Interest rate	Credit spread	Portfolio diversification[36]	Total[37]
	$m	$m	$m	$m
Balance at 31 Dec 2018	**61.4**	**37.2**	**(30.6)**	**68.0**
Average	**96.8**	**48.3**	**(29.1)**	**116.0**
Maximum	**129.3**	**96.0**		**154.1**
Minimum	**59.9**	**27.6**		**68.0**
Balance at 31 Dec 2017	88.5	46.7	(38.9)	96.3
Average	119.0	46.1	(36.9)	128.2
Maximum	164.1	71.9		183.8
Minimum	88.5	24.5		93.3

For footnotes, see page 192.

Non-trading VaR excludes equity risk on available-for-sale securities, structural foreign exchange risk and interest rate risk on fixed-rate securities issued by HSBC Holdings. This section and the sections below describe the scope of HSBC's management of market risks in non-trading books.

Market risk balance sheet linkages

The following balance sheet lines in the Group's consolidated position are subject to market risk:

Trading assets and liabilities

The Group's trading assets and liabilities are in almost all cases originated by GB&M. These assets and liabilities are treated as traded risk for the purposes of market risk management, other than a limited number of exceptions, primarily in Global Banking where the short-term acquisition and disposal of the assets are linked to other non-trading-related activities such as loan origination.

Derivative assets and liabilities

We undertake derivative activity for three primary purposes: to create risk management solutions for clients, to manage the portfolio risks arising from client business, and to manage and hedge our own risks. Most of our derivative exposures arise from sales and trading activities within GB&M, and are treated as traded risk for market risk management purposes.

The assets and liabilities included in trading VaR give rise to a large proportion of the income included in net income from financial instruments held for trading or managed on a fair value basis. Adjustments to trading income such as valuation adjustments do not affect the trading VaR model.

For information on the accounting policies applied to financial instruments at fair value, see Note 1 on the Financial Statements.

Structural foreign exchange exposures

For our policies and procedures for managing structural foreign exchange exposures, see page 122 of the Risk management section.

Structural foreign exchange exposures represent net investments in subsidiaries, branches and associates, the functional currencies of which are currencies other than the US dollar. Exchange differences on structural exposures are recognised in 'Other comprehensive income'.

Net structural foreign exchange exposures

	Footnotes	2018 $m	2017 $m
Currency of structural exposure			
Hong Kong dollars		**41,477**	33,992
Pound sterling	36	**36,642**	37,039
Chinese renminbi		**27,554**	27,968
Euros		**20,964**	20,269
Indian rupees		**3,837**	4,286
Mexican pesos		**4,363**	4,270
Canadian dollars		**3,815**	4,241
Saudi riyals		**3,913**	3,971
Malaysian ringgit		**2,572**	2,461
Singapore dollars		**2,246**	2,433
UAE dirhams		**2,185**	2,054
Taiwanese dollars		**1,904**	1,877
Australian dollars		**1,823**	1,892
Indonesian rupiah		**1,792**	1,845
Korean won		**1,285**	1,423
Swiss francs		**987**	950
Thai baht		**856**	766
Brazilian real		**707**	745
Argentine pesos		**568**	753
Turkish lira		**507**	778
Others, each less than $700m		**5,762**	5,623
At 31 Dec		**165,759**	159,636

For footnotes, see page 192.

Shareholders' equity would decrease by $2,743m (2017: $2,659m) if euro and sterling foreign currency exchange rates weakened by 5% relative to the US dollar.

Net interest income sensitivity

The following tables set out the assessed impact to a hypothetical base case projection of our net interest income ('NII') (excluding insurance) under the following scenarios:

- an immediate shock of 25 basis points ('bps') to the current market-implied path of interest rates across all currencies on 1 January 2019 (effects over one year and five years); and
- an immediate shock of 100bps to the current market-implied path of interest rates across all currencies on 1 January 2019 (effects over one year and five years).

The sensitivities shown represent our assessment of the change to a hypothetical base case NII, assuming a static balance sheet and no management actions from BSM. They incorporate the effect of interest rate behaviouralisation, managed rate product pricing assumptions and customer behaviour, for example, prepayment of mortgages or customer migration from non-interest-bearing to interest-bearing deposit accounts under the specific interest rate scenarios. The scenarios represent interest rate shocks to the current market implied path of rates.

The NII sensitivities shown are indicative and based on simplified scenarios. Immediate interest rate rises of 25bps and 100bps would increase projected net interest income for the 12 months to 31 December 2019 by $828m and $2,778m, respectively. Conversely, falls of 25bps and 100bps would decrease projected net interest income for the 12 months to 31 December 2019 by $884m and $3,454m, respectively.

The sensitivity of NII for 12 months decreased by $521m and $747m comparing December 2018 with December 2017 in the plus and minus 100bps parallel shocks, respectively. These decreases were driven by movements in the US dollar amounts primarily due to changes in balance sheet composition and the migration of non-interest-bearing liabilities to interest-bearing liabilities as interest rates increased. By contrast, sterling NII sensitivity increased because of higher liquidity linked to UK structural reform and preparations surrounding the UK's exit from the European Union.

The change in NII sensitivity for five years is also driven by the factors above.

The structural sensitivity arising from the four global businesses, excluding Global Markets, is positive in a rising rate environment and negative in a falling rate environment. Both BSM and Global Markets have NII sensitivity profiles that offset this to some degree. The tables do not include BSM management actions or changes in Global Markets' net trading income that may further limit the offset.

The limitations of this analysis are discussed within the 'Risk management' section on page 112.

NII sensitivity to an instantaneous change in yield curves (12 months)

	Currency					
	US dollar $m	HK dollar $m	Sterling $m	Euro $m	Other $m	Total $m
Change in Jan 2019 to Dec 2019 (based on balance sheet at 31 December 2018)						
+25bps parallel	**70**	**232**	**198**	**115**	**213**	**828**
-25bps parallel	**(160)**	**(301)**	**(244)**	**8**	**(187)**	**(884)**
+100bps parallel	**147**	**773**	**777**	**408**	**673**	**2,778**
-100bps parallel	**(523)**	**(1,046)**	**(1,122)**	**9**	**(772)**	**(3,454)**
Change in Jan 2018 to Dec 2018 (based on balance sheet at 31 December 2017)						
+25bps parallel	227	179	147	50	203	806
-25bps parallel	(287)	(305)	(181)	8	(160)	(925)
+100bps parallel	845	711	600	412	731	3,299
-100bps parallel	(1,444)	(1,425)	(631)	31	(732)	(4,201)

The net interest income sensitivities arising from the scenarios presented in the tables above are not directly comparable. This is due to timing differences relating to interest rate changes and the repricing of assets and liabilities.

NII sensitivity to an instantaneous change in yield curves (5 years)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	$m	$m	$m	$m	$m	$m
Change in Jan 2019 to Dec 2019 (based on balance sheet at 31 December 2018)						
+25bps parallel	**828**	**1,155**	**1,416**	**1,529**	**1,428**	**6,356**
-25bps parallel	**(884)**	**(1,127)**	**(1,206)**	**(1,296)**	**(1,597)**	**(6,110)**
+100bps parallel	**2,778**	**3,863**	**4,542**	**4,968**	**5,096**	**21,247**
-100bps parallel	**(3,454)**	**(4,632)**	**(5,276)**	**(5,691)**	**(6,187)**	**(25,240)**
Change in Jan 2018 to Dec 2018 (based on balance sheet at 31 December 2017)						
+25bps parallel	806	1,153	1,326	1,439	1,507	6,231
-25bps parallel	(925)	(872)	(1,154)	(1,271)	(1,381)	(5,603)
+100bps parallel	3,299	4,463	5,105	5,472	5,759	24,098
-100bps parallel	(4,201)	(4,538)	(5,102)	(5,498)	(5,813)	(25,152)

Sensitivity of capital and reserves

Financial assets at fair value through other comprehensive income reserves are included as part of CET1 capital. We measure the potential downside risk to the CET1 ratio due to interest rate and credit spread risk in this portfolio using the portfolio's stressed VaR, with a 99% confidence level and an assumed holding period of one quarter. At December 2018, the stressed VaR of the portfolio was $2.9bn (2017: $2.6bn).

We monitor the sensitivity of reported cash flow hedging reserves to interest rate movements on a six-monthly basis by assessing the expected reduction in valuation of cash flow hedges due to parallel movements of plus or minus 100bps in all yield curves. These particular exposures form only a part of our overall interest rate exposure.

The following table describes the maximum and minimum sensitivity of our cash flow hedge reported reserves to the stipulated movements in yield curves during the year. The sensitivities are indicative and based on simplified scenarios.

Sensitivity of cash flow hedging reported reserves to interest rate movements

	Maximum impact	Minimum impact
	$m	$m
At 31 Dec 2018		
+100 basis point parallel move in all yield curves	**(684)**	**(492)**
As a percentage of total shareholders' equity	**(0.37)%**	**(0.26)%**
-100 basis point parallel move in all yield curves	**720**	**550**
As a percentage of total shareholders' equity	**0.39%**	**0.30%**
At 31 Dec 2017		
+100 basis point parallel move in all yield curves	(839)	(684)
As a percentage of total shareholders' equity	(0.44)%	(0.36)%
-100 basis point parallel move in all yield curves	860	720
As a percentage of total shareholders' equity	0.45%	0.38%

Third-party assets in Balance Sheet Management

For our BSM governance framework, see page 122 of 'Risk management'.

Third-party assets in BSM decreased by 5% during 2018. Cash and balances at central banks decreased by $17bn, predominantly in Europe as a result of cash funding requirements across businesses.

Interbank lending decreased by $11bn, largely driven by money market and term lending operations in Asia.

Reverse repo activity decreased by $16bn, reflecting in part the management of cash surplus in North America. Financial investments increased by $17bn, driven by an increase in investments across Asia and Europe.

Third-party assets in Balance Sheet Management

	2018	2017
	$m	$m
Cash and balances at central banks	**144,802**	161,715
Trading assets	**601**	637
Loans and advances:		
– to banks	**25,257**	36,047
– to customers	**964**	3,202
Reverse repurchase agreements	**22,899**	38,842
Financial investments	**333,622**	309,908
Other	**6,880**	4,648
At 31 Dec	**535,025**	554,999

Defined benefit pension schemes

Market risk arises within our defined benefit pension schemes to the extent that the obligations of the schemes are not fully matched by assets with determinable cash flows.

For details of our defined benefit schemes, including asset allocation, see Note 6 on the Financial Statements, and for pension risk management see page 126.

Additional market risk measures applicable only to the parent company

HSBC Holdings uses VaR to monitor and manage foreign exchange risk. In order to manage interest rate risk, HSBC Holdings uses the projected sensitivity of its net interest income to future changes in yield curves and the interest rate gap repricing tables.

Foreign exchange risk

Total foreign exchange VaR arising within HSBC Holdings in 2018 was as follows.

HSBC Holdings – foreign exchange VaR

	2018	2017
	$m	$m
At 31 Dec	**77.7**	78.9
Average	**79.5**	86.1
Minimum	**77.7**	74.9
Maximum	**93.7**	101.2

The foreign exchange risk arises from loans to subsidiaries of a capital nature that are not denominated in the functional currency of either the provider or the recipient and that are accounted for as financial assets, and from structural foreign exchange hedges. Changes in the carrying amount of these loans due to foreign exchange rate differences, and changes in the fair value of foreign exchange hedges are taken directly to HSBC Holdings' income statement.

Sensitivity of net interest income

HSBC Holdings monitors NII sensitivity over a five-year time horizon, reflecting the longer-term perspective on interest rate risk management appropriate to a financial services holding company. These sensitivities assume that any issuance where HSBC Holdings has an option to reimburse at a future call date is called at this date. The table below sets out the effect on HSBC Holdings' future NII over a five-year time horizon of incremental 25bps parallel falls or rises in all yield curves at the beginning of each quarter during the 12 months from 1 January 2018.

The NII sensitivities shown are indicative and based on simplified scenarios. Immediate interest rate rises of 25bps and 100bps would decrease projected net interest income for the 12 months to 31 December 2019 by $7m and $29m, respectively. Conversely, falls of 25bps and 100bps would increase projected net interest income for the 12 months to 31 December 2019 by $10m and $43m, respectively.

NII sensitivity to an instantaneous change in yield curves (12 months)

	US dollar	HK dollar	Sterling	Euro	Other	Total
	$m	$m	$m	$m	$m	$m
Change in Jan 2019 to Dec 2019 (based on balance sheet at 31 Dec 2018)						
+25bps	**(10)**	**–**	**8**	**(5)**	**–**	**(7)**
-25bps	**10**	**–**	**(8)**	**8**	**–**	**10**
+100bps	**(38)**	**–**	**31**	**(22)**	**–**	**(29)**
-100bps	**38**	**–**	**(28)**	**33**	**–**	**43**
Change in Jan 2018 to Dec 2018 (based on balance sheet at 31 December 2018)						
+25bps	32	–	3	(2)	–	34
-25bps	(32)	–	(3)	10	–	(26)
+100bps	129	–	12	(6)	–	135
-100bps	(129)	–	(8)	40	–	(97)

NII sensitivity to an instantaneous change in yield curves (5 years)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	$m	$m	$m	$m	$m	$m
Change in Jan 2019 to Dec 2019 (based on balance sheet at 31 December 2018)						
+25bps	**(7)**	**(9)**	**(9)**	**(4)**	**(8)**	**(37)**
-25bps	**10**	**12**	**11**	**11**	**11**	**55**
+100bps	**(29)**	**(36)**	**(36)**	**(16)**	**(32)**	**(149)**
-100bps	**43**	**47**	**47**	**29**	**42**	**208**
Change in Jan 2018 to Dec 2018 (based on balance sheet at 31 December 2018)					–	
+25bps	34	52	52	53	53	244
-25bps	(26)	(47)	(57)	(53)	(53)	(236)
+100bps	135	208	210	210	210	973
-100bps	(97)	(168)	(189)	(201)	(205)	(860)

The interest rate sensitivities in the preceding table are indicative and based on simplified scenarios. The figures represent hypothetical movements in NII based on our projected yield curve scenarios, HSBC Holdings' current interest rate risk profile and assumed changes to that profile during the next five years.

The sensitivities represent our assessment of the change to a hypothetical base case based on a static balance sheet assumption, and do not take into account the effect of actions that could be taken to mitigate this interest rate risk.

Interest rate repricing gap table

The interest rate risk on the fixed-rate securities issued by HSBC Holdings is not included within the Group VaR, but is managed on a repricing gap basis. The following interest rate repricing gap table analyses the full-term structure of interest rate mismatches within HSBC Holdings' balance sheet where debt issuances are reflected based on either the next reprice date if floating rate or the maturity/call date (whichever is first) if fixed rate.

Repricing gap analysis of HSBC Holdings

	Footnotes	Total	Up to 1 year	From over 1 to 5 years	From over 5 to 10 years	More than 10 years	Non-interest bearing
		$m	$m	$m	$m	$m	$m
Cash at bank and in hand:							
– balances with HSBC undertakings		3,509	3,509	—	—	—	—
Derivatives		707	—	—	—	—	707
Loans and advances to HSBC undertakings		79,657	39,316	16,717	18,382	2,000	3,242
Financial investments in HSBC undertakings		—	—	—	—	—	—
Investments in subsidiaries		160,231	4,703	2,136	379		153,013
Other assets		1,077	—	—	—	—	1,077
Total assets		245,181	47,528	18,853	18,761	2,000	158,039
Amounts owed to HSBC undertakings		(949)	—	—	—	—	(949)
Financial liabilities designated at fair values		(25,049)	(1,920)	(11,871)	(9,299)	(750)	(1,208)
Derivatives		(2,159)	—	—	—	—	(2,159)
Debt securities in issue		(50,800)	(14,879)	(16,753)	(18,156)	(2,900)	1,888
Other liabilities		(1,156)	—	—	—	—	(1,156)
Subordinated liabilities		(17,715)	(1,646)	—	(4,476)	(10,317)	(1,277)
Total equity		(147,353)	(1,450)	(9,861)	(10,777)	(1,372)	(123,893)
Total liabilities and equity		(245,181)	(19,895)	(38,485)	(42,708)	(15,339)	(128,754)
Off-balance sheet items attracting interest rate			(30,713)	10,544	12,718	6,410	1,041
Net interest rate risk gap at 31 Dec 2018			(3,080)	(9,088)	(11,229)	(6,929)	30,326
Cumulative interest rate gap			(3,080)	(12,168)	(23,397)	(30,326)	
Cash at bank and in hand:							
– balances with HSBC undertakings		1,985	1,985	—	—	—	—
Derivatives		2,388	—	—	—	—	2,388
Loans and advances to HSBC undertakings		88,571	63,237	6,027	12,521	3,351	3,435
Financial investments in HSBC undertakings		4,264	2,375	—	—	—	1,596
Investments in subsidiaries		92,930	4,866	2,640	—	—	85,424
Other assets		1,596	—	—	—	—	1,596
Total assets		191,734	72,463	8,667	12,521	3,351	94,732
Amounts owed to HSBC undertakings		(2,157)	—				(2,571)
Financial liabilities designated at fair values		(30,890)	—	(12,895)	(10,175)	(4,453)	(3,367)
Derivatives		(3,082)	—	—	—	—	(3,082)
Debt securities in issue		(34,258)	(8,433)	(9,017)	(14,517)	(3,351)	1,060
Other liabilities		(1,269)	—	—	—	—	(1,269)
Subordinated liabilities		(15,877)	(1,918)	(1,798)	(2,000)	(9,713)	(448)
Total equity		(103,787)	(7,450)	(6,047)	(8,899)	(1,498)	(79,893)
Total liabilities and equity		(191,734)	(17,801)	(29,757)	(35,591)	(19,015)	(89,570)
Off-balance sheet items attracting interest rate			(41,199)	17,812	14,171	7,705	1,511
Net interest rate risk gap at 31 Dec 2017	39		13,463	(3,278)	(8,899)	(7,959)	6,673
Cumulative interest rate gap			13,463	10,185	1,286	(6,673)	—

For footnotes, see page 192.

Operational risk profile

Operational risk is the risk to achieving our strategy or objectives as a result of inadequate or failed internal processes, people and systems or from external events.

Responsibility for minimising operational risk lies with HSBC's employees. They are required to manage the operational risks of the business and operational activities for which they are responsible.

A summary of our current policies and practices regarding the management of operational risk is set out on page 123.

Operational risk exposures in 2018

In 2018, we continued our ongoing work to strengthen those controls that manage our most material risks. Among other measures, we:

- further enhanced our controls to help ensure that we know our customers, ask the right questions, monitor transactions and escalate concerns to detect, prevent and deter financial crime risk;
- implemented a number of initiatives to raise our standards in relation to the conduct of our business as described on page 123 of the 'Regulatory compliance risk management' section;
- increased monitoring and enhanced detective controls to manage fraud risks, which arise from new technologies and new ways of banking;
- strengthened internal security controls to help prevent cyber-attacks;
- improved controls and security to protect customers when using digital channels; and
- enhanced our third-party risk management capability to help enable the consistent risk assessment of any third-party service.

Further information on the nature of these risks is provided in 'Top and emerging risks' on page 100 and in 'Risk management' from pages 112 to 127.

Operational risk losses in 2018

Operational risk losses in 2018 were higher than in 2017, reflecting an increase in losses incurred relating to large legacy conduct-related events. For further details see Note 35 on the Financial Statements and on conduct-related costs included in significant items on page 88.

Insurance manufacturing operations risk profile

Insurance manufacturing operations risk in 2018

The majority of the risk in our insurance business derives from manufacturing activities and can be categorised as financial risk or insurance risk. Financial risks include market risk, credit risk and liquidity risk. Insurance risk is the risk, other than financial risk, of loss transferred from the holder of the insurance contract to the issuer (HSBC).

A summary of our current policies and practices regarding the management of insurance risk is set out on page 125.

HSBC's bancassurance model

We operate an integrated bancassurance model that provides insurance products principally for customers with whom we have a banking relationship.

The insurance contracts we sell relate to the underlying needs of our banking customers, which we can identify from our point-of-sale contacts and customer knowledge. For the products we manufacture, the majority of sales are of savings, universal life and credit and term life contracts.

By focusing largely on personal and small and medium enterprises ('SME') lines of business, we are able to optimise volumes and diversify individual insurance risks. We choose to manufacture these insurance products in HSBC subsidiaries based on an assessment of operational scale and risk appetite. Manufacturing insurance allows us to retain the risks and rewards associated with writing insurance contracts by keeping part of the underwriting profit and investment income within the Group.

We have life insurance manufacturing subsidiaries in nine countries and territories (Hong Kong, France, Singapore, UK, mainland China, Malta, Mexico, Argentina and Malaysia). We also have a life insurance manufacturing associate in India.

Where we do not have the risk appetite or operational scale to be an effective insurance manufacturer, we engage with a small number of leading external insurance companies in order to provide insurance products to our customers through our banking network and direct channels. These arrangements are generally structured with our exclusive strategic partners and earn the Group a combination of commissions, fees and a share of profits. We distribute insurance products in all of our geographical regions.

Insurance products are sold worldwide, predominantly by RBWM, CMB and GPB through our branches and direct channels.

Measurement

(Audited)

The risk profile of our insurance manufacturing businesses is measured using an economic capital approach. Assets and liabilities are measured on a market value basis, and a capital requirement is defined to ensure that there is a less than one-in-200 chance of insolvency over a one-year time horizon, given the risks to which the businesses are exposed. The methodology for the economic capital calculation is largely aligned to the pan-European Solvency II insurance capital regulations. The economic capital coverage ratio (economic net asset value divided by the economic capital requirement) is a key risk appetite measure.

The business has a current appetite to remain above 140% with a tolerance of 110%. In addition to economic capital, the regulatory solvency ratio is also a metric used to manage risk appetite on an entity basis.

The following tables show the composition of assets and liabilities by contract type and by geographical region.

Balance sheet of insurance manufacturing subsidiaries by type of contract

(Audited)

	Footnotes	With DPF	Unit-linked	Other contracts[40]	Shareholder assets and liabilities	Total
		$m	$m	$m	$m	$m
Financial assets		66,735	7,337	15,552	7,120	96,744
– trading assets		–	–	–	–	–
– financial assets designated and otherwise mandatorily measured at fair value through profit or loss		17,855	7,099	3,024	1,264	29,242
– derivatives		200	–	33	4	237
– financial investments at amortised cost		33,575	70	11,597	4,171	49,413
– financial investments at fair value through other comprehensive income		11,499	–	450	1,385	13,334
– other financial assets	41	3,606	168	448	296	4,518
Reinsurance assets		1,255	69	1,368	–	2,692
PVIF	42	–	–	–	7,149	7,149
Other assets and investment properties		2,670	2	235	453	3,360
Total assets		70,660	7,408	17,155	14,722	109,945
Liabilities under investment contracts designated at fair value		–	1,574	3,884	–	5,458
Liabilities under insurance contracts		69,269	5,789	12,272	–	87,330
Deferred tax	43	179	21	15	1,051	1,266
Other liabilities		–	–	–	3,659	3,659
Total liabilities		69,448	7,384	16,171	4,710	97,713
Total equity		–	–	–	12,232	12,232
Total liabilities and equity at 31 Dec 2018		69,448	7,384	16,171	16,942	109,945

For footnotes, see page 192.

Balance sheet of insurance manufacturing subsidiaries by type of contract (continued)

(Audited)

	Footnotes	With DPF $m	Unit-linked $m	Other contracts[40] $m	Shareholder assets and liabilities $m	Total $m
Financial assets		65,112	9,081	14,849	6,662	95,704
– trading assets		—	—	—	—	—
– financial assets designated at fair value		15,533	8,814	2,951	1,259	28,557
– derivatives		286	—	13	41	340
– financial investments – HTM	44	29,302	—	6,396	3,331	39,029
– financial investments – AFS	44	15,280	—	4,836	1,877	21,993
– other financial assets	41	4,711	267	653	154	5,785
Reinsurance assets		1,108	274	1,154	—	2,536
PVIF	42	—	—	—	6,610	6,610
Other assets and investment properties		1,975	2	164	1,126	3,267
Total assets		68,195	9,357	16,167	14,398	108,117
Liabilities under investment contracts designated at fair value		—	1,750	3,885	—	5,635
Liabilities under insurance contracts		67,137	7,548	10,982	—	85,667
Deferred tax	43	14	6	9	1,230	1,259
Other liabilities		—	—	—	3,325	3,325
Total liabilities		67,151	9,304	14,876	4,555	95,886
Total equity		—	—	—	12,231	12,231
Total liabilities and equity at 31 Dec 2017		67,151	9,304	14,876	16,786	108,117

For footnotes, see page 192.

Balance sheet of insurance manufacturing subsidiaries by geographical region[45]

(Audited)

	Footnotes	**Europe $m**	**Asia $m**	**Latin America $m**	**Total $m**
Financial assets		**28,631**	**66,793**	**1,320**	**96,744**
– trading assets		**—**	**—**	**—**	**—**
– financial assets designated and otherwise mandatorily measured at fair value through profit or loss		**13,142**	**15,774**	**326**	**29,242**
– derivatives		**121**	**116**	**—**	**237**
– financial investments – at amortised cost		**296**	**48,595**	**522**	**49,413**
– financial investments – at fair value through other comprehensive income		**12,453**	**440**	**441**	**13,334**
– other financial assets	41	**2,619**	**1,868**	**31**	**4,518**
Reinsurance assets		**249**	**2,438**	**5**	**2,692**
PVIF	42	**832**	**6,195**	**122**	**7,149**
Other assets and investment properties		**1,053**	**2,280**	**27**	**3,360**
Total assets		**30,765**	**77,706**	**1,474**	**109,945**
Liabilities under investment contracts designated at fair value		**780**	**4,678**	**—**	**5,458**
Liabilities under insurance contracts		**26,375**	**59,829**	**1,126**	**87,330**
Deferred tax	43	**209**	**1,050**	**7**	**1,266**
Other liabilities		**1,690**	**1,911**	**58**	**3,659**
Total liabilities		**29,054**	**67,468**	**1,191**	**97,713**
Total equity		**1,711**	**10,238**	**283**	**12,232**
Total liabilities and equity at 31 Dec 2018		**30,765**	**77,706**	**1,474**	**109,945**
Financial assets		30,231	63,973	1,500	95,704
– trading assets		—	—	—	—
– financial assets designated at fair value		12,430	15,633	494	28,557
– derivatives		169	171	—	340
– financial investments – HTM	44	—	38,506	523	39,029
– financial investments – AFS	44	15,144	6,393	456	21,993
– other financial assets	41	2,488	3,270	27	5,785
Reinsurance assets		469	2,063	4	2,536
PVIF	42	773	5,709	128	6,610
Other assets and investment properties		1,666	1,577	24	3,267
Total assets		33,139	73,322	1,656	108,117
Liabilities under investment contracts designated at fair value		739	4,896	—	5,635
Liabilities under insurance contracts		28,416	56,047	1,204	85,667
Deferred tax	43	217	1,033	9	1,259
Other liabilities		2,043	1,209	73	3,325
Total liabilities		31,415	63,185	1,286	95,886
Total equity		1,724	10,137	370	12,231
Total liabilities and equity at 31 Dec 2017		33,139	73,322	1,656	108,117

For footnotes, see page 192.

Key risk types

The key risks for the insurance operations are market risks (in particular interest rate and equity) and credit risks, followed by insurance underwriting risk and operational risks. Liquidity risk, while significant for the bank, is minor for our insurance operations.

Market risk

(Audited)

Description and exposure

Market risk is the risk of changes in market factors affecting HSBC's capital or profit. Market factors include interest rates, equity and growth assets and foreign exchange rates.

Our exposure varies depending on the type of contract issued. Our most significant life insurance products are contracts with discretionary participating features ('DPF') issued in France and Hong Kong. These products typically include some form of capital guarantee or guaranteed return on the sums invested by the policyholders, to which discretionary bonuses are added if allowed by the overall performance of the funds. These funds are primarily invested in bonds, with a proportion allocated to other asset classes to provide customers with the potential for enhanced returns.

DPF products expose HSBC to the risk of variation in asset returns, which will impact our participation in the investment performance.

In addition, in some scenarios the asset returns can become insufficient to cover the policyholders' financial guarantees, in which case the shortfall has to be met by HSBC. Reserves are held against the cost of such guarantees, calculated by stochastic modelling.

Where local rules require, these reserves are held as part of liabilities under insurance contracts. Any remainder is accounted for as a deduction from the present value of in-force ('PVIF') long-term insurance business on the relevant product. The following table shows the total reserve held for the cost of guarantees, the range of investment returns on assets supporting these products and the implied investment return that would enable the business to meet the guarantees.

The cost of guarantees decreased to $669m (2017: $696m) primarily due to sales of new products with lower guarantees in Hong Kong and updates to modelling assumptions.

For unit-linked contracts, market risk is substantially borne by the policyholder, but some market risk exposure typically remains, as fees earned are related to the market value of the linked assets.

Financial return guarantees

(Audited)

		2018			2017		
		Investment returns implied by guarantee	**Long-term investment returns on relevant portfolios**	**Cost of guarantees**	Investment returns implied by guarantee	Long-term investment returns on relevant portfolios	Cost of guarantees
	Footnotes	**%**	**%**	**$m**	%	%	$m
Capital		**0.0**	**2.2–3.0**	**100**	0.0	2.3–3.2	103
Nominal annual return		**0.1–2.0**	**3.6–3.7**	**78**	0.1–2.0	3.2–3.7	64
Nominal annual return	*46*	**2.1–4.0**	**2.7–4.6**	**420**	2.1–4.0	3.2–4.4	459
Nominal annual return		**4.1–5.0**	**2.7–4.1**	**71**	4.1–5.0	3.2–4.1	70
At 31 Dec				**669**			696

For footnotes, see page 192.

Sensitivities

Changes in financial market factors, from the economic assumptions in place at the start of the year, had a negative impact on reported profit before tax of $326m (2017: $296m positive). The following table illustrates the effects of selected interest rate, equity price and foreign exchange rate scenarios on our profit for the year and the total equity of our insurance manufacturing subsidiaries.

Where appropriate, the effects of the sensitivity tests on profit after tax and equity incorporate the impact of the stress on the PVIF. Due in part to the impact of the cost of guarantees and hedging strategies which may be in place, the relationship between the profit and total equity and the risk factors is non-linear. Therefore, the results disclosed should not be extrapolated to measure sensitivities to different levels of stress. For the same reason, the impact of the stress is not necessarily symmetrical on the upside and downside. The sensitivities are stated before allowance for management actions which may mitigate the effect of changes in the market environment. The sensitivities presented allow for adverse changes in policyholder behaviour that may arise in response to changes in market rates.

Interest rate movements have historically had a greater impact on total equity as changes in the market value of available-for-sale ('AFS') bonds are recognised directly in equity. This impact has reduced in 2018 due to the reclassification of debt securities in Hong Kong and Singapore from AFS to amortised cost on the implementation of IFRS 9.

Sensitivity of HSBC's insurance manufacturing subsidiaries to market risk factors

(Audited)

	2018		2017	
	Effect on profit after tax	**Effect on total equity**	Effect on profit after tax	Effect on total equity
	$m	**$m**	$m	$m
+100 basis point parallel shift in yield curves	**9**	**(61)**	42	(583)
-100 basis point parallel shift in yield curves	**(28)**	**46**	(140)	617
10% increase in equity prices	**213**	**213**	223	237
10% decrease in equity prices	**(202)**	**(202)**	(225)	(239)
10% increase in US dollar exchange rate compared with all currencies	**36**	**36**	24	24
10% decrease in US dollar exchange rate compared with all currencies	**(36)**	**(36)**	(24)	(24)

Credit risk

(Audited)

Description and exposure

Credit risk is the risk of financial loss if a customer or counterparty fails to meet their obligation under a contract. It arises in two main areas for our insurance manufacturers:

- risk associated with credit spread volatility and default by debt security counterparties after investing premiums to generate a return for policyholders and shareholders; and
- risk of default by reinsurance counterparties and non-reimbursement for claims made after ceding insurance risk.

The amounts outstanding at the balance sheet date in respect of these items are shown in the table on page 189.

The credit quality of the reinsurers' share of liabilities under insurance contracts is assessed as 'satisfactory' or higher (as defined on page 118), with 100% of the exposure being neither past due nor impaired (2017: 100%).

Credit risk on assets supporting unit-linked liabilities is predominantly borne by the policyholder. Therefore, our exposure is primarily related to liabilities under non-linked insurance and investment contracts and shareholders' funds. The credit quality of insurance financial assets is included in the table on page 139. The risk associated with credit spread volatility is to a large extent mitigated by holding debt securities to maturity, and sharing a degree of credit spread experience with policyholders.

Liquidity risk

(Audited)

Description and exposure

Liquidity risk is the risk that an insurance operation, though solvent, either does not have sufficient financial resources available to meet its obligations when they fall due, or can secure them only at excessive cost.

The following table shows the expected undiscounted cash flows for insurance liabilities at 31 December 2018. The liquidity risk exposure is wholly borne by the policyholder in the case of unit-linked business and is shared with the policyholder for non-linked insurance.

The profile of the expected maturity of insurance contracts at 31 December 2018 remained comparable with 2017.

The remaining contractual maturity of investment contract liabilities is included in Note 29 on page 319.

Expected maturity of insurance contract liabilities

(Audited)

	Expected cash flows (undiscounted)				
	Within 1 year	**1-5 years**	**5-15 years**	**Over 15 years**	**Total**
	$m	**$m**	**$m**	**$m**	**$m**
Unit-linked	**1,119**	**2,932**	**2,684**	**1,962**	**8,697**
With DPF and Other contracts	**7,459**	**27,497**	**46,217**	**55,989**	**137,162**
At 31 Dec 2018	**8,578**	**30,429**	**48,901**	**57,951**	**145,859**
Unit-linked	969	3,041	4,695	6,814	15,519
With DPF and Other contracts	6,916	26,453	43,784	45,334	122,487
At 31 Dec 2017	7,885	29,494	48,479	52,148	138,006

Insurance risk

Description and exposure

Insurance risk is the risk of loss through adverse experience, in either timing or amount, of insurance underwriting parameters (non-economic assumptions). These parameters include mortality, morbidity, longevity, lapses and unit costs.

The principal risk we face is that, over time, the cost of the contract, including claims and benefits, may exceed the total amount of premiums and investment income received.

The tables on pages 189 and 190 analyse our life insurance risk exposures by type of contract and by geographical region.

The insurance risk profile and related exposures remain largely consistent with those observed at 31 December 2017.

Sensitivities

(Audited)

The following table shows the sensitivity of profit and total equity to reasonably possible changes in non-economic assumptions across all our insurance manufacturing subsidiaries.

Mortality and morbidity risk is typically associated with life insurance contracts. The effect on profit of an increase in mortality or morbidity depends on the type of business being written. Our largest exposures to mortality and morbidity risk exist in Hong Kong and Singapore.

Sensitivity to lapse rates depends on the type of contracts being written. For a portfolio of term assurance, an increase in lapse rates typically has a negative effect on profit due to the loss of future income on the lapsed policies. However, some contract lapses have a positive effect on profit due to the existence of policy surrender charges. We are most sensitive to a change in lapse rates on unit-linked and universal life contracts in Hong Kong and Singapore, and DPF contracts in France.

Expense rate risk is the exposure to a change in the cost of administering insurance contracts. To the extent that increased expenses cannot be passed on to policyholders, an increase in expense rates will have a negative effect on our profits.

Sensitivity analysis

(Audited)

	2018	2017
	$m	$m
Effect on profit after tax and total equity at 31 Dec		
10% increase in mortality and/or morbidity rates	**(77)**	(77)
10% decrease in mortality and/or morbidity rates	**82**	82
10% increase in lapse rates	**(95)**	(93)
10% decrease in lapse rates	**107**	106
10% increase in expense rates	**(92)**	(92)
10% decrease in expense rates	**93**	91

Footnotes to Risk

1 Customer risk rating ('CRR').

2 12-month point-in-time ('PIT') probability-weighted probability of default ('PD').

3 The interest rate risk on the fixed-rate securities issued by HSBC Holdings is not included in the Group VaR. The management of this risk is described on page 176.

4 BSM, for external reporting purposes, forms part of Corporate Centre while daily operations and risk are managed within GB&M.

5 The total ECL is recognised in the loss allowance for the financial asset unless the total ECL exceeds the gross carrying amount of the financial asset, in which case the ECL is recognised as a provision.

6 Includes only those financial instruments that are subject to the impairment requirements of IFRS 9. 'Prepayments, accrued income and other assets' as presented within the consolidated balance sheet on page 255 includes both financial and non-financial assets.

7 31 December 2017 balances have been restated to include $44bn of loan commitments (unsettled reverse repurchase agreements) not previously identified for disclosure.

8 Excludes performance guarantee contracts to which the impairment requirements in IFRS 9 are not applied.

9 Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.

10 Debt instruments measured at FVOCI continue to be measured at fair value with the allowance for ECL as a memorandum item. Change in ECL is recognised in 'Change in expected credit losses and other credit impairment charges' in the income statement.

11 Purchased or originated credit-impaired ('POCI').

12 Days past due ('DPD'). Up to date accounts in Stage 2 are not shown in amounts.

13 Excludes ECL and financial instruments relating to defaulted obligors because the measurement of ECL is relatively more sensitive to credit factors specific to the obligor than future economic scenarios.

14 Includes off-balance sheet financial instruments that are subject to significant measurement uncertainty.

15 Includes low credit-risk financial instruments such as Debt instruments at FVOCI, which have low ECL coverage ratios under all the above scenarios. Coverage ratios on loans and advances to customers including loan commitments and financial guarantees are typically higher. For example, in the UK the coverage ratio for reported ECL is 0.39%, UK AD1 0.43% and UK AD2–3 0.72–0.81%. For US, the coverage ratio for these instruments for reported ECL is 0.11% and for Hong Kong 0.06% for the reported ECL and 0.20% for the trade Downside scenario.

16 ECL sensitivities exclude portfolios utilising less complex modelling approaches.

17 ECL sensitivity includes only on-balance sheet financial instruments to which IFRS 9 impairment requirements are applied.

18 For the purposes of this disclosure gross carrying value is defined as the amortised cost of a financial asset, before adjusting for any loss allowance. As such the gross carrying value of debt instruments at FVOCI as presented above will not reconcile to the balance sheet as it excludes fair value gains and losses.

19 Revocable loan and other commitments of $188bn which are out-of-scope of IFRS 9 are presented within the strong credit quality classification.

20 12 month point in time (PiT) adjusted for multiple economic scenarios

21 Real estate lending within this disclosure corresponds solely to the industry of the borrower. Commercial real estate on page 147 includes borrowers in multiple industries investing in income producing assets and to a lesser extent, their construction and development.

22 US mortgage-backed securities.

23 31 December 2017 balances have been restated to include $3bn of performance and other guarantees not previously identified for disclosure.

24 The disclosure is a comparative for the 2018 'Total wholesale lending for loans and advances to banks and customers by stage distribution table' and was not presented in the Annual Report and Accounts 2017.

25 The HSBC UK Liquidity Group shown comprises four legal entities: HSBC Bank plc (including all overseas branches, and SPEs consolidated by HSBC Bank plc for Financial Statement purposes), Marks and Spencer Financial Services plc, HSBC Private Bank (UK) Ltd and HSBC Trust Company (UK) Limited, managed as a single operating entity, in line with the application of UK liquidity regulation as agreed with the UK PRA.

26 The HSBC UK Liquidity Group shown comprises four legal entities: HSBC UK Bank plc (including the Dublin branch), Marks and Spencer Financial Services plc, HSBC Private Bank (UK) Ltd and HSBC Trust Company (UK) Limited, managed as a single operating entity, in line with the application of UK liquidity regulation as agreed with the UK PRA.

27 HSBC Bank plc includes all overseas branches, and SPEs consolidated by HSBC Bank plc for Financial Statements purposes.

28 The Hongkong and Shanghai Banking Corporation – Hong Kong branch and The Hongkong and Shanghai Banking Corporation – Singapore branch represent the material activities of The Hongkong and Shanghai Banking Corporation. Each branch is monitored and controlled for liquidity and funding risk purposes as a stand-alone operating entity.

29 The comparative figures have been re-presented to reflect revised data.

30 HSBC France and HSBC Canada represent the consolidated banking operations of the Group in France and Canada, respectively. HSBC France and HSBC Canada are each managed as single distinct operating entities for liquidity purposes.

31 In adopting the NSFR (BCBS 295) as a key internal risk management metric, the HSBC Group has, until such time that the NSFR becomes a binding regulatory requirement on the Group or the operating entity locally, permitted entities to reduce the amount of required stable funding requirement ('RSF') for listed equities where the valuation risk has been hedged through an exchange traded daily cash margined derivative, due to management's view as to the speed at which these assets could be monetised under stress and the mitigation of the valuation risk. At 31 December 2018, only HSBC Bank plc were applying a lower RSF to such equities. The NSFRs presented seek to reflect the internal management view of funding risk.

32 The total shown for other principal HSBC operating entities represents the combined position of all the other operating entities overseen directly by the Risk Management Meeting of the GMB.

33 Structured liabilities have moved from 'Trading liabilities' to 'Financial liabilities designated at fair value'. Comparatives have not been restated. See Note 37 for further detail.

34 The undiscounted cash flows potentially payable under financial guarantees are classified on the basis of the earliest date they can be called. Application of this policy throughout the Group was improved in 2018, and therefore comparative information has been represented.

35 Trading portfolios comprise positions arising from the market-making and warehousing of customer-derived positions.

36 Portfolio diversification is the market risk dispersion effect of holding a portfolio containing different risk types. It represents the reduction in unsystematic market risk that occurs when combining a number of different risk types; for example, interest rate, equity and foreign exchange, together in one portfolio. It is measured as the difference between the sum of the VaR by individual risk type and the combined total VaR. A negative number represents the benefit of portfolio diversification. As the maximum and minimum occurs on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures.

37 The total VaR is non-additive across risk types due to diversification effects.

38 At 31 December, we had forward foreign exchange contracts of $5bn (2017: $5bn) in order to manage our sterling structural foreign exchange exposure.

39 Investments in subsidiaries and equity have been allocated based on call dates for any callable bonds. The prior year figures have been amended to reflect this.

40 'Other Contracts' includes term insurance, credit life insurance, universal life insurance and investment contracts not included in the 'Unit-linked' or 'With DPF' columns.

41 Comprise mainly loans and advances to banks, cash and inter-company balances with other non-insurance legal entities.

42 Present value of in-force long-term insurance business.

43 'Deferred tax' includes the deferred tax liabilities arising on recognition of PVIF.

44 Financial investments held to maturity ('HTM') and available for sale ('AFS').

45 HSBC has no insurance manufacturing subsidiaries in Middle East and North Africa or North America.

46 A block of contracts in France with guaranteed nominal annual returns in the range 1.25%-3.72% is reported entirely in the 2.1%-4.0% category in line with the average guaranteed return of 2.6% offered to policyholders by these contracts.

Capital

Capital overview

Capital ratios

	At		
	31 Dec 2018 %	1 Jan 2018 %	31 Dec[1] 2017 %
CRD IV transitional			
Common equity tier 1 ratio	**14.0**	14.6	14.5
Tier 1 ratio	**17.0**	17.4	17.3
Total capital ratio	**20.0**	21.0	20.9
CRD IV end point			
Common equity tier 1 ratio	**14.0**	14.6	14.5
Tier 1 ratio	**16.6**	16.5	16.4
Total capital ratio	**19.4**	18.3	18.3

Total regulatory capital and risk-weighted assets

	At		
	31 Dec 2018 $m	1 Jan 2018 $m	31 Dec[1] 2017 $m
CRD IV transitional			
Common equity tier 1 capital	**121,022**	127,310	126,144
Additional tier 1 capital	**26,120**	24,810	24,810
Tier 2 capital	**26,096**	31,014	31,429
Total regulatory capital	**173,238**	183,134	182,383
Risk-weighted assets	**865,318**	872,089	871,337
CRD IV end point			
Common equity tier 1 capital	**121,022**	127,310	126,144
Additional tier 1 capital	**22,525**	16,531	16,531
Tier 2 capital	**24,511**	15,997	16,413
Total regulatory capital	**168,058**	159,838	159,088
Risk-weighted assets	**865,318**	872,089	871,337

RWAs by risk types

	RWAs $bn	Capital required[2] $bn
Credit risk	**691.1**	**55.3**
Counterparty credit risk	**47.3**	**3.8**
Market risk	**35.8**	**2.8**
Operational risk	**91.1**	**7.3**
At 31 Dec 2018	**865.3**	**69.2**

For footnotes, see page 196.

Capital management

(Audited)

Our objective in the management of Group capital is to maintain appropriate levels to support our business strategy, and meet our regulatory and stress testing related requirements.

Approach and policy

Our approach to capital management is driven by our strategic and organisational requirements, taking into account the regulatory, economic and commercial environment. We aim to maintain a strong capital base to support the risks inherent in our business and invest in accordance with our strategy, meeting both consolidated and local regulatory capital requirements at all times.

Our policy on capital management is underpinned by a capital management framework and our internal capital adequacy assessment process ('ICAAP'), which helps enable us to manage our capital in a consistent manner. The framework incorporates a number of different capital measures calculated on an economic capital and regulatory capital basis. The ICAAP is an assessment of the Group's capital position, outlining both regulatory and internal capital resources and requirements with HSBC's business model, strategy, performance and planning, risks to capital, and the implications of stress testing to capital.

Our assessment of capital adequacy is aligned to our assessment of risks. These risks include credit, market, operational, pensions, insurance, structural foreign exchange, residual risk and interest rate risk in the banking book.

Planning and performance

Capital and risk-weighted asset ('RWA') plans form part of the annual operating plan that is approved by the Board. Revised RWA forecasts are submitted to the GMB on a monthly basis, and reported RWAs are monitored against the plan.

The responsibility for global capital allocation principles rests with the Group Chief Financial Officer. Through our internal governance processes, we seek to maintain discipline over our investment and capital allocation decisions, and seek to ensure that returns on investment meet the Group's management objectives. Our strategy is to allocate capital to businesses and entities to support growth objectives where returns above internal hurdle levels have been identified and in order to meet their regulatory and economic capital needs.

We manage business returns by using a return on tangible equity ('RoTE') measure and a return on average risk-weighted assets ('RoRWA') measure.

Risks to capital

Outside the stress testing framework, other risks may be identified that have the potential to affect our RWAs and/or capital position. The Downside or Upside scenarios are assessed against our capital management objectives and mitigating actions are assigned as necessary.

HSBC closely monitors and considers future regulatory change. In December 2017, the Basel Committee on Banking Supervision ('Basel') published revisions to the Basel III framework, which introduces considerable change across the regulatory framework. Following a recalibration, Basel also published the final changes to the market risk RWA regime, the Fundamental Review of the Trading Book ('FRTB'), in January 2019.

Basel has announced that the package will be implemented on 1 January 2022, with a five-year transitional provision for the output floor, commencing at a rate of 50%. The final standards will need to be transposed into the relevant local law before coming into effect.

HSBC continues to evaluate the final package. Given that the package contains a significant number of national discretions, the possible impact is uncertain.

Stress testing

In addition to annual internal stress tests, the Group is subject to supervisory stress testing in many jurisdictions. Supervisory stress testing requirements are increasing in frequency and in the granularity with which the results are required. These exercises include the programmes of the Prudential Regulation Authority ('PRA'), the Federal Reserve Board, the European Banking Authority, the European Central Bank and the Hong Kong Monetary Authority, as well as stress tests undertaken in other jurisdictions. We take into account the results of regulatory stress testing and our internal stress tests when assessing our internal capital requirements. The outcome of stress testing exercises carried out by the PRA also feeds into a PRA buffer under Pillar 2 requirements, where required.

Capital generation

HSBC Holdings is the provider of equity capital to its subsidiaries and also provides them with non-equity capital where necessary. These investments are substantially funded by HSBC Holdings' own capital issuance and profit retention. As part of its capital management process, HSBC Holdings seeks to maintain a prudent balance between the composition of its capital and its investment in subsidiaries.

Capital

Own funds disclosure

(Audited)

		At	
		31 Dec	31 Dec[1]
		2018	2017
Ref*		**$m**	$m
	Common equity tier 1 ('CET1') capital: instruments and reserves		
1	Capital instruments and the related share premium accounts	**22,384**	18,932
	– ordinary shares	**22,384**	18,932
2	Retained earnings	**121,180**	124,679
3	Accumulated other comprehensive income (and other reserves)	**3,368**	9,433
5	Minority interests (amount allowed in consolidated CET1)	**4,854**	4,905
5a	Independently reviewed interim net profits net of any foreseeable charge or dividend	**3,697**	608
6	**Common equity tier 1 capital before regulatory adjustments**	**155,483**	158,557
	Common equity tier 1 capital: regulatory adjustments		
7	Additional value adjustments	**(1,180)**	(1,146)
8	Intangible assets (net of related deferred tax liability)	**(17,323)**	(16,872)
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability)	**(1,042)**	(1,181)
11	Fair value reserves related to gains or losses on cash flow hedges	**135**	208
12	Negative amounts resulting from the calculation of expected loss amounts	**(1,750)**	(2,820)
14	Gains or losses on liabilities at fair value resulting from changes in own credit standing	**298**	3,731
15	Defined-benefit pension fund assets	**(6,070)**	(6,740)
16	Direct and indirect holdings of own CET1 instruments	**(40)**	(40)
19	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions)	**(7,489)**	(7,553)
28	**Total regulatory adjustments to common equity tier 1**	**(34,461)**	(32,413)
29	**Common equity tier 1 capital**	**121,022**	126,144
	Additional tier 1 ('AT1') capital: instruments		
30	Capital instruments and the related share premium accounts	**22,367**	16,399
31	– classified as equity under IFRSs	**22,367**	16,399
33	Amount of qualifying items and the related share premium accounts subject to phase out from AT1	**2,297**	6,622
34	Qualifying tier 1 capital included in consolidated AT1 capital (including minority interests not included in CET1) issued by subsidiaries and held by third parties	**1,516**	1,901
35	– *of which: instruments issued by subsidiaries subject to phase out*	***1,298***	*1,374*
36	**Additional tier 1 capital before regulatory adjustments**	**26,180**	24,922
	Additional tier 1 capital: regulatory adjustments		
37	Direct and indirect holdings of own AT1 instruments	**(60)**	(60)
41b	Residual amounts deducted from AT1 capital with regard to deduction from tier 2 ('T2') capital during the transitional period	**N/A**	(52)
	– Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities	**N/A**	(52)
43	**Total regulatory adjustments to additional tier 1 capital**	**(60)**	(112)
44	**Additional tier 1 capital**	**26,120**	24,810
45	**Tier 1 capital**	**147,142**	150,954
	Tier 2 capital: instruments and provisions		
46	Capital instruments and the related share premium accounts	**25,056**	16,880
47	Amount of qualifying items and the related share premium accounts subject to phase out from T2	**N/A**	4,746
48	Qualifying own funds instruments included in consolidated T2 capital (including minority interests and AT1 instruments not included in CET1 or AT1) issued by subsidiaries and held by third parties	**1,673**	10,306
49	– *of which: instruments issued by subsidiaries subject to phase out*	***1,585***	*10,236*
51	**Tier 2 capital before regulatory adjustments**	**26,729**	31,932
	Tier 2 capital: regulatory adjustments		
52	Direct and indirect holdings of own T2 instruments	**(40)**	(40)
55	Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions)	**(593)**	(463)
57	**Total regulatory adjustments to tier 2 capital**	**(633)**	(503)
58	**Tier 2 capital**	**26,096**	31,429
59	**Total capital**	**173,238**	182,383

* *The references identify the lines prescribed in the European Banking Authority ('EBA') template, which are applicable and where there is a value.*
For footnotes, see page 196.

Throughout 2018, we complied with the PRA's regulatory capital adequacy requirements, including those relating to stress testing.

At 31 December 2018, our Common equity tier 1 ('CET1') ratio decreased to 14.0% from 14.5% at 31 December 2017.

CET1 capital decreased during the year by $5.1bn, mainly as a result of:

- unfavourable foreign currency translation differences of $5.5bn;
- the $2.0bn share buy-back;
- a $1.2bn increase in threshold deductions as a result of an increase in the value of our material holdings; and
- an increase in the deduction for intangible assets of $1.1bn.

These decreases were partly offset by:

- capital generation through profits, net of dividends and scrip of $3.1bn; and
- a $1.2bn day one impact from transition to IFRS 9, mainly due to classification and measurement changes.

Our Pillar 2A requirement at 31 December 2018, as per the PRA's Individual Capital Guidance based on a point-in-time assessment, was 2.9% of RWAs, of which 1.6% was met by CET1. On 1 January 2019, our Pillar 2A requirement increased to 3.0% of RWAs, of which 1.7% must be met by CET1.

On 4 May 2018, HSBC changed the way in which some of its capital securities are recognised in regulatory capital. The securities were previously recognised as grandfathered tier 2 capital and are now treated as fully eligible tier 2 instruments.

Risk-weighted assets

RWAs

RWAs fell by $6.0bn in the year, which included a drop of $23.4bn due to foreign currency translation differences. Excluding foreign currency translation differences, the $17.4bn increase comprised growth of $27.6bn from asset size and of $2.9bn from changes in asset quality, less a $9.2bn fall due to changes in methodology and policy and a $3.9bn decrease due to model updates.

The following comments describe RWA movements in 2018, excluding foreign currency translation differences.

Asset size

Asset size movements of $41.5bn were principally driven by lending growth in CMB, RBWM and GB&M. In CMB and GB&M, corporate lending made the largest contribution, primarily in Hong Kong, reflecting our strategic focus on loan business in the region and customer demand. RBWM's $6.5bn increase in book size mainly stemmed from mortgage business in Asia and Europe, which was boosted by expanding broker relationships in the UK.

In Corporate Centre, there was a fall of $11.3bn. This included reductions in legacy portfolios of $9.1bn and a decline in money market placements and balances with correspondent banks, which was primarily in Hong Kong. Market risk exposures reduced by $2.8bn, mostly due to lower exposures and rate volatility in France.

Asset quality

Mainly as a result of changes in portfolio mix, RWAs increased by $4.0bn across CMB, GB&M, GPB and RBWM, significantly in Europe and North America. These rises were mitigated by the impact of improved risk parameters in Corporate Centre, predominantly in Asia.

Model updates

Extending our counterparty credit risk exposure models to exposures in Asia and North America reduced RWAs by $4.3bn and $2.4bn respectively.

This was partly offset by increases of $1.6bn, due to updates to UK retail and corporate models, $1.1bn due to a new receivables finance model in Germany, and $0.4bn due to a redeveloped residential mortgage model in Hong Kong.

Methodology and policy

The $10.0bn decrease reported in internal updates derived from management initiatives, including refinements to risk parameters and improved collateral recognition. This was partly offset by a $0.8bn increase in external updates from IFRS 9 implementation effects on credit risk and deferred tax in Corporate Centre.

RWAs by global business

	RBWM	CMB	GB&M	GPB	Corporate Centre	Total
	$bn	$bn	$bn	$bn	$bn	$bn
Credit risk	**99.6**	**296.9**	**172.0**	**13.8**	**108.8**	**691.1**
Counterparty credit risk	**—**	**—**	**45.1**	**0.2**	**2.0**	**47.3**
Market risk	**—**	**—**	**32.4**	**—**	**3.4**	**35.8**
Operational risk	**27.3**	**24.3**	**31.5**	**2.8**	**5.2**	**91.1**
At 31 Dec 2018	**126.9**	**321.2**	**281.0**	**16.8**	**119.4**	**865.3**
Credit risk	94.2	277.3	180.2	13.0	120.5	685.2
Counterparty credit risk	—	—	52.4	0.2	1.9	54.5
Market risk	—	—	35.9	—	3.0	38.9
Operational risk	27.3	23.7	30.8	2.8	8.1	92.7
At 31 Dec 2017	121.5	301.0	299.3	16.0	133.5	871.3

RWAs by geographical region

	Footnotes	Europe	Asia	MENA	North America	Latin America	Total
		$bn	$bn	$bn	$bn	$bn	$bn
Credit risk		**219.5**	**291.9**	**47.0**	**103.1**	**29.6**	**691.1**
Counterparty credit risk		**27.3**	**9.2**	**1.0**	**8.3**	**1.5**	**47.3**
Market risk	3	**24.0**	**23.3**	**1.9**	**8.5**	**1.4**	**35.8**
Operational risk		**27.3**	**39.5**	**6.8**	**11.7**	**5.8**	**91.1**
At 31 Dec 2018		**298.1**	**363.9**	**56.7**	**131.6**	**38.3**	**865.3**
Credit risk		225.9	284.2	47.7	101.2	26.2	685.2
Counterparty credit risk		27.8	13.0	1.1	10.9	1.7	54.5
Market risk	3	29.0	23.5	3.3	7.1	1.0	38.9
Operational risk		28.9	37.1	7.1	12.1	7.5	92.7
At 31 Dec 2017		311.6	357.8	59.2	131.3	36.4	871.3

For footnotes, see page 196.

RWA movement by global business by key driver

	Credit risk, counterparty credit risk and operational risk						
	RBWM	CMB	GB&M	GPB	Corporate Centre	Market risk	Total RWAs
	$bn	$bn	$bn	$bn	$bn	$bn	$bn
RWAs at 31 Dec 2017	**121.5**	**301.0**	**263.4**	**16.0**	**130.5**	**38.9**	**871.3**
Asset size	6.5	30.8	4.2	0.2	(11.3)	(2.8)	27.6
Asset quality	0.4	2.0	0.9	0.7	(1.1)	–	2.9
Model updates	1.3	1.7	(6.9)	–	–	–	(3.9)
– portfolios moving onto internal ratings based ('IRB') approach	0.6	0.8	(0.3)	–	–	–	1.1
– new/updated models	0.7	0.9	(6.6)	–	–	–	(5.0)
Methodology and policy	0.7	(2.4)	(7.3)	0.1	–	(0.3)	(9.2)
– internal updates	0.9	(2.6)	(7.3)	0.1	(0.8)	(0.3)	(10.0)
– external updates – regulatory	(0.2)	0.2	–	–	0.8	–	0.8
Foreign exchange movements	(3.5)	(11.9)	(5.7)	(0.2)	(2.1)	–	(23.4)
Total RWA movement	**5.4**	**20.2**	**(14.8)**	**0.8**	**(14.5)**	**(3.1)**	**(6.0)**
RWAs at 31 Dec 2018	**126.9**	**321.2**	**248.6**	**16.8**	**116.0**	**35.8**	**865.3**

RWA movement by geographical region by key driver

	Credit risk, counterparty credit risk and operational risk						
	Europe	Asia	MENA	North America	Latin America	Market risk	Total RWAs
	$bn	$bn	$bn	$bn	$bn	$bn	$bn
RWAs at 31 Dec 2017	**282.6**	**334.3**	**55.9**	**124.2**	**35.4**	**38.9**	**871.3**
Asset size	(0.4)	23.2	0.4	2.6	4.6	(2.8)	27.6
Asset quality	2.3	(0.9)	0.1	1.3	0.1	–	2.9
Model updates	2.9	(4.5)	–	(2.3)	–	–	(3.9)
– portfolios moving onto IRB approach	1.4	(0.2)	–	(0.1)	–	–	1.1
– new/updated models	1.5	(4.3)	–	(2.2)	–	–	(5.0)
Methodology and policy	(2.4)	(5.4)	(0.2)	(0.7)	(0.2)	(0.3)	(9.2)
– internal updates	(2.4)	(5.8)	(0.6)	(0.9)	–	(0.3)	(10.0)
– external updates – regulatory	–	0.4	0.4	0.2	(0.2)	–	0.8
Foreign exchange movements	(10.9)	(6.1)	(1.4)	(2.0)	(3.0)	–	(23.4)
Total RWA movement	**(8.5)**	**6.3**	**(1.1)**	**(1.1)**	**1.5**	**(3.1)**	**(6.0)**
RWAs at 31 Dec 2018	**274.1**	**340.6**	**54.8**	**123.1**	**36.9**	**35.8**	**865.3**

Leverage ratio

		At		
		31 Dec 2018	1 Jan 2018	31 Dec[1] 2017
Ref*		**$bn**	$bn	$bn
20	Tier 1 capital	**143.5**	143.8	142.7
21	Total leverage ratio exposure	**2,614.9**	2,556.4	2,557.1
		%	%	%
22	**Leverage ratio**	**5.5**	5.6	5.6
EU-23	Choice of transitional arrangements for the definition of the capital measure	**Fully phased-in**	Fully phased-in	Fully phased-in
	UK leverage ratio exposure – quarterly average	**2,464.4**	2,351.2	2,351.4
		%	%	%
	UK leverage ratio – quarterly average	**5.8**	6.2	6.1
	UK leverage ratio – quarter end	**6.0**	6.1	6.1

* *The references identify the lines prescribed in the EBA template.*

Our leverage ratio calculated in accordance with the Capital Requirements Directive IV ('CRD IV') was 5.5% at 31 December 2018, down from 5.6% at 31 December 2017. The increase in exposure was primarily due to growth in customer lending and financial investments.

The Group's UK leverage ratio at 31 December 2018 was 6.0%. This measure excludes qualifying central bank balances from the calculation of exposure.

At 31 December 2018, our UK minimum leverage ratio requirement of 3.25% was supplemented by an additional leverage ratio buffer of 0.5% and a countercyclical leverage ratio buffer of 0.2%. These additional buffers translated into capital values of $12.7bn and $4.7bn respectively. We exceeded these leverage requirements.

Pillar 3 disclosure requirements

Pillar 3 of the Basel regulatory framework is related to market discipline and aims to make financial services firms more transparent by requiring publication, at least annually, of wide-ranging information on their risks, capital and management. Our *Pillar 3 Disclosures at 31 December 2018* is published on our website, www.hsbc.com, under 'Investor Relations'.

Footnotes to capital, leverage and risk-weighted assets

1 *All figures presented as reported under IAS 39 at 31 December 2017.*

2 *'Capital requirement' represents the minimum total capital charge set at 8% of RWAs by article 92 of the Capital Requirements Regulation.*

3 *RWAs are non-additive across geographical regions due to market risk diversification effects within the Group.*

Corporate governance report

The Board

The Board aims to promote the Group's long-term success, deliver sustainable value to shareholders and promote a culture of openness and debate.

Led by the Group Chairman, the Board sets the Group's strategy and risk appetite. It also approves capital and operating plans for achieving strategic objectives on the recommendation of management.

Group Chairman

Mark Tucker was appointed to the Board as an independent non-executive Director on 1 September 2017 and became non-executive Group Chairman on 1 October 2017.

Executive Directors

The Group Chief Executive, the Group Chief Financial Officer and the Group Chief Risk Officer are HSBC employees.

Independent non-executive Directors

The majority of the Board comprises independent non-executive Directors. Their role is to challenge and scrutinise the performance of management and to help develop proposals on strategy. They also review the performance of management in meeting agreed goals and objectives and monitor the Group's risk profile.

All of the non-executive Directors are considered to be independent of HSBC. There are no relationships or circumstances that are likely to affect any individual non-executive Director's judgement. To satisfy the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited ('HKEx'), all non-executive Directors have confirmed their independence during the year. The non-executive Group Chairman was considered to be independent on appointment.

Board and executive responsibilities

The roles of Group Chairman and Group Chief Executive are separate, with a clear division of responsibilities between the running of the Board and executive responsibility for running HSBC's business.

Jonathan Symonds, who has been Senior Independent Director ('SID') since April 2017, was appointed as Deputy Group Chairman in August 2018.

The roles of the Group Chairman, Deputy Group Chairman and Senior Independent Director, and Group Chief Executive are set out in writing and are available on the website at www.hsbc.com/our-approach/corporate-governance/board-responsibilities.

Responsibility for the day-to-day management of the business and implementation of strategy is delegated by the Board to the Group Chief Executive, who is supported by the Group Management Board ('GMB'), an executive forum which he chairs.

There are special meetings of the GMB that provide oversight of risk matters, known as the Risk Management Meeting ('RMM'), which is chaired by the Group Chief Risk Officer. There are also special meetings of the GMB that provide oversight of financial crime risk, known as the Financial Crime Risk Management Meeting, which is chaired by the Group Chief Compliance Officer.

Powers of the Board

The Board is responsible for overseeing the management of HSBC globally and, in so doing, exercises its powers, subject to any relevant laws, regulations and HSBC Holdings' Articles of Association (the 'Articles of Association').

Certain matters are reserved for the Board for its approval. These include: the review and approval of annual operating plans; risk appetite; performance targets; credit or market risk limits; acquisitions; disposals; investments; capital expenditure or realisation or creation of a new venture that exceed certain thresholds; specified senior appointments; and any substantial change in balance sheet management policy.

Operation of the Board

Phillip Ameen, Joachim Faber and John Lipsky retired from the Board following the conclusion of the 2018 Annual General Meeting. Their departures led to a reduction in the size of the Board, as part of its ongoing work to simplify, clarify and strengthen governance arrangements. The number of Board Committees was also reduced from seven to five and subsidiary governance was simplified.

These changes created clearer and stronger lines of authority and accountability, which enables the Board to devote more time to priority areas.

The Board regularly reviews reports on performance against financial and other strategic objectives, key business challenges, risk, business developments, investor relations and the Group's relationships with its key stakeholders. During 2018, the Board reviewed the Group's strategy with the newly-appointed Group Chief Executive and his management team and approved a number of strategic priorities targeted for delivery by the end of 2020. Following their approval, further details were announced to investors in an update in June 2018. The Board routinely tracks progress with respect to each strategic priority, together with the Group Chief Executive and members of his management team.

All of HSBC's activities involve the measurement, evaluation, acceptance and management of risk or combinations of risks. The Board, advised by the Group Risk Committee ('GRC') and the Financial System Vulnerabilities Committee ('FSVC'), promotes a strong risk governance culture that shapes the Group's approach to risk. The Board and these committees support the maintenance of a strong risk management framework.

Under the direction of the Group Chairman, the Group Company Secretary is responsible for ensuring good information flows within the Board and its committees and between senior management and non-executive Directors, as well as facilitating induction and assisting with professional development of non-executive Directors, as required.

The Group Chairman meets with the independent non-executive Directors without the executive Directors in attendance after each Board meeting and otherwise, as necessary.

The Directors are encouraged to have free and open contact with management at all levels and full access to all relevant information. When attending off-site Board meetings and when travelling for other reasons, non-executive Directors are able to visit local business operations and meet local management.

Directors may take independent professional advice, if necessary, at HSBC Holdings' expense.

Board performance evaluation

The Board is committed to regular, independent evaluation of its own effectiveness and that of its committees. During 2018, the Board implemented a governance simplification initiative, changing the size, structure and composition of the Board and its committees. Given that these changes were relatively recent and that a period of time is required for their impact to be fully assessed, the Board agreed that it would be premature to conduct an evaluation of its effectiveness during 2018. Instead, a review of the Board's effectiveness, and that of its committees, will be conducted in 2019 by an independent external service provider and the results presented to the Board during this year. Details of the process followed and actions arising from that evaluation will be included in the *Annual Report and Accounts 2019*.

Director performance evaluation

The Group Chairman has routinely met with each of the non-executive Directors during 2018 to discuss individual performance, Board and committee governance, time commitment and business priorities.

Executive Directors' individual performance evaluations are undertaken as part of the performance management process, which applies for all employees. In respect of the Group Chief Executive, this review process was led by the Group Chairman and discussed with the Nomination & Corporate Governance Committee. The Group Remuneration Committee considers the result of the review by the Group Chairman of the Group Chief Executive, as well as his assessments of the performance of the Group Chief Financial Officer and Group Chief Risk Officer, when determining variable pay each year, as set out in the Directors' remuneration report contained in this *Annual Report and Accounts*.

The Group Chairman's performance is evaluated by the non-executive Directors, led by the SID.

Non-executive Group Chairman

Mark E Tucker, 61

Non-executive Group Chairman
Appointed to the Board: September 2017
Group Chairman since October 2017

Chairman of the Nomination & Corporate Governance Committee

Skills and experience: Mark has extensive experience in the financial services industry in Asia and the UK. Most recently he was Group Chief Executive and President of AIA Group Limited ('AIA'). Before joining AIA, Mark was Group Chief Executive of Prudential plc and the founding Chief Executive of Prudential Corporation Asia Limited. Mark also previously served as a non-executive Director of the Court of The Bank of England, as an independent non-executive Director of the Goldman Sachs Group and as Group Finance Director of HBOS plc.

Current appointments include: Serves on the Asia Business Council and the advisory board of the Asia Global Institute. Mark is also a Director of the Peterson Institute for International Economics.

Executive Directors

John Flint, 50

Group Chief Executive
Appointed to the Board: February 2018

Skills and experience: John joined HSBC in 1989 and helped to establish and expand the HSBC Global Markets business in Asia. He has held various roles across the Group, including Group Treasurer; Deputy Head of Global Markets and Head of Global Markets, Europe, Middle East and Africa; Chief Executive of HSBC Global Asset Management; Chief of Staff to the Group Chief Executive and Group Head of Strategy and Planning. In 2013, John was appointed Group Managing Director and Chief Executive of Retail Banking and Wealth Management.

Current appointments include: Chairman of the Group Management Board and The Hongkong and Shanghai Banking Corporation Limited. John is a member of the Monetary Authority of Singapore International Advisory Panel and the International Business Council of the World Economic Forum. He is also a member of the Climate Finance Leadership Initiative.

Marc Moses, 61

Group Chief Risk Officer
Appointed to the Board: January 2014

Skills and experience: Marc joined HSBC in 2005 as Chief Financial and Risk Officer for Global Banking and Markets, and in December 2010 became Group Chief Risk Officer. He has extensive risk management and financial experience. Marc is a fellow of the Institute of Chartered Accountants in England and Wales. He was European Chief Financial Officer at J.P. Morgan Chase & Co., and an audit partner at Price Waterhouse.

Ewen Stevenson, 52

Group Chief Financial Officer
Appointed to the Board: 1 January 2019

Skills and experience: Ewen has over 25 years of experience in the banking industry, both as an adviser to major banks and as an executive. Ewen was most recently executive Director and Chief Financial Officer at Royal Bank of Scotland Group. Prior to this, he was at Credit Suisse where his last role was co-Head of the EMEA Investment Banking Division and co-Head of the Global Financial Institutions Group.

Independent non-executive Directors

Kathleen Casey, 52

Independent non-executive Director
Appointed to the Board: March 2014

Member of the Group Audit Committee and the Nomination & Corporate Governance Committee

Skills and experience: Kathleen has extensive financial regulatory policy experience. She is a former Commissioner of the US Securities and Exchange Commission, and acted as its principal representative in multilateral and bilateral regulatory dialogues with the G-20 Financial Stability Board and the International Organisation of Securities Commissions. Other former appointments include Staff Director and Counsel to the United States Senate Committee on Banking, Housing, and Urban Affairs; Chair of the Alternative Investment Management Association; and Legislative Director and Chief of Staff for a US Senator.

Current appointments include: Senior adviser to Patomak Global Partners, member of the Board of Trustees of the Financial Accounting Foundation and a number of public and non-profit bodies.

Laura Cha, GBM, 69

Independent non-executive Director
Appointed to the Board: March 2011

Member of the Financial System Vulnerabilities Committee and the Nomination & Corporate Governance Committee

Skills and experience: Laura has extensive regulatory and policy-making experience in the finance and securities sector in Hong Kong and mainland China. She is the former Vice Chairman of the International Advisory Council of the China Securities Regulatory Commission. Other former appointments include non-executive Director of China Telecom Corporation Limited; Bank of Communications Co., Ltd; and Tata Consultancy Services Limited. She also served as Chair of Hong Kong Special Administrative Region's Financial Services Development Council and Deputy Chair of the Securities and Futures Commission in Hong Kong.

Current appointments include: Chair of Hong Kong Exchanges and Clearing Limited and non-executive Deputy Chair of The Hongkong and Shanghai Banking Corporation Limited. She is also a non-executive Director of The London Metal Exchange, Unilever PLC and Unilever N.V.

Henri de Castries, 64

Independent non-executive Director
Appointed to the Board: March 2016

Member of the Group Remuneration Committee and the Nomination & Corporate Governance Committee

Skills and experience: Henri has more than 25 years' international experience in the financial services industry. He joined AXA S.A. in 1989, and then held a number of senior roles, ultimately as Chairman and Chief Executive Officer of AXA until 1 September 2016.

Current appointments include: Special Adviser to General Atlantic, Chairman of Institut Montaigne, lead independent Director of Nestlé S.A. and a non-executive Director of the French National Foundation for Political Science. Henri is also a member of the Global Advisory Council at LeapFrog Investments.

Lord Evans of Weardale, 61

Independent non-executive Director
Appointed to the Board: August 2013

Chairman of the Financial System Vulnerabilities Committee and member of the Nomination & Corporate Governance Committee

Skills and experience: Jonathan has 30 years of experience in national security policy and operations. He was formerly Director General of the UK's Security Service (MI5), had oversight of the Joint Terrorist Analysis Centre and the Centre for the Protection of National Infrastructure, and attended the National Security Council.

Current appointments include: Chairman of the UK Committee on Standards in Public Life and the Advisory Board of Blackdot Solutions Ltd, non-executive Director of Ark Data Centres, and an adviser to various cybersecurity and technology companies.

Irene Lee, 65

Independent non-executive Director
Appointed to the Board: July 2015

Member of the Group Remuneration Committee and the Nomination & Corporate Governance Committee

Skills and experience: Irene has more than 40 years' finance industry experience, having held senior investment banking and fund management positions in the UK, the US and Australia, including positions at Citibank and the Commonwealth Bank of Australia. Other former appointments include serving as a member of the advisory council of J.P. Morgan Australia and the Australian Government Takeovers Panel.

Current appointments include: Executive Chair of Hysan Development Company Limited and a non-executive Director of The Hongkong and Shanghai Banking Corporation Limited, Hang Seng Bank Limited and Cathay Pacific Airways Limited. She is also a member of the Exchange Fund Advisory Committee of the Hong Kong Monetary Authority.

Heidi Miller, 65

Independent non-executive Director
Appointed to the Board: September 2014

Member of the Group Risk Committee and the Nomination & Corporate Governance Committee

Skills and experience: Heidi is a former President of International at J.P. Morgan Chase & Co., and was responsible for leading the global expansion and the international business strategy across its investment bank, asset management, and treasury and securities services divisions. She was also a non-executive Director of Merck & Co., Inc. and Progressive Corp.; Executive Vice President and Chief Financial Officer of Bank One Corporation; and Executive Vice President and Chief Financial Officer of Citigroup Inc.

Current appointments include: Chair of HSBC North America Holdings Inc. and a non-executive Director of First Data Corporation and General Mills Inc.

David Nish, 58

Independent non-executive Director
Appointed to the Board: May 2016

Member of the Group Audit Committee, the Group Remuneration Committee and the Nomination & Corporate Governance Committee

Skills and experience: David served as Chief Executive Officer of Standard Life plc between 2010 and 2015, having joined as Finance Director in 2006. Other former appointments include Group Finance Director of Scottish Power plc; non-executive Director of the UK Green Investment Bank plc, HDFC Life (India), and London Stock Exchange Group plc; and partner of Price Waterhouse. He is a qualified chartered accountant.

Current appointments include: A non-executive Director of Vodafone Group plc and Zurich Insurance Group.

Jonathan Symonds, CBE, 59
Independent non-executive Director
Appointed to the Board: April 2014
Senior Independent Director since April 2017
Deputy Group Chairman since August 2018

Chairman of the Group Audit Committee and member of the Group Risk Committee and the Nomination & Corporate Governance Committee

Skills and experience: Jonathan is a former Chief Financial Officer of Novartis AG and AstraZeneca plc. He was also a partner and managing director of Goldman Sachs, a partner of KPMG, and a non-executive Director and Chairman of the Audit Committee of Diageo plc. He is a fellow of the Institute of Chartered Accountants in England and Wales.

Current appointments include: Chairman of Proteus Digital Health Inc. and Genomics England Limited and a non-executive Director of Rubius Therapeutics, Inc.

Jackson Tai, 68
Independent non-executive Director
Appointed to the Board: September 2016

Chairman of the Group Risk Committee and member of the Group Audit Committee, Financial System Vulnerabilities Committee and the Nomination & Corporate Governance Committee

Skills and experience: Jackson Tai is a skilled international non-executive Director with experience in senior operating and governance roles across Asia and China, as well as North America and Europe. Jackson was formerly Vice Chairman and Chief Executive Officer of DBS Group and DBS Bank Ltd, having served the group as Chief Financial Officer and then as President and Chief Operating Officer. He previously worked at J.P. Morgan & Co. Incorporated as an investment banker in New York, Tokyo and San Francisco. Other former appointments include non-executive Director of Bank of China Limited, Singapore Airlines, NYSE Euronext, ING Groep N.V., CapitaLand Ltd, SingTel Ltd. and Jones Lang LaSalle Inc. Jackson also served as Vice Chairman of Islamic Bank of Asia.

Current appointments include: Non-executive Director of Eli Lilly and Company, Koninklijke Philips N.V., Mastercard Incorporated and the Canada Pension Plan Investment Board.

Pauline van der Meer Mohr, 58
Independent non-executive Director
Appointed to the Board: September 2015

Chairman of the Group Remuneration Committee and a member of the Group Risk Committee and the Nomination & Corporate Governance Committee

Skills and experience: Pauline has extensive legal and human resources experience across a number of different sectors, and contributed to the Dutch Banking Code Monitoring Commission. Former appointments include President of Erasmus University Rotterdam; senior executive Vice President and Head of Group Human Resources at ABN AMRO Bank N.V.; Group Human Resources Director at TNT N.V.; HR Director, Information Technology, Royal Dutch Shell Group; Senior Legal Counsel, Shell International; and member of the supervisory board of ASML Holding N.V.

Current appointments include: Chair of the Dutch Corporate Governance Code Monitoring Committee, Chair of the supervisory board of EY Netherlands, Deputy Chair of the supervisory board of Royal DSM N.V., non-executive Director of Mylan N.V., member of the Selection and Nomination Committee of the Supreme Court of the Netherlands and member of the Capital Markets Committee of the Dutch Authority for the Financial Markets.

Group Company Secretary

Ben Mathews, 51
Group Company Secretary

Ben joined HSBC in June 2013 and became Group Company Secretary in July 2013. He is a fellow of the Institute of Chartered Secretaries and Administrators. Former appointments include Group Company Secretary of Rio Tinto plc and of BG Group plc.

Group Managing Directors

Elaine Arden, 50
Group Chief Human Resources Officer

Elaine joined HSBC in June 2017 as Group Chief Human Resources Officer. She has previously held senior human resources and employee relations roles in a number of other financial institutions. Elaine is a fellow of the Chartered Institute of Banking in Scotland and a member of the Chartered Institute of Personnel & Development.

Samir Assaf, 58
Chief Executive Officer, Global Banking and Markets

Samir joined HSBC in 1994 and became a Group Managing Director in 2011. He is Chairman and a non-executive Director of HSBC France; a Director of HSBC Trinkaus & Burkhardt AG and The Saudi British Bank. Former appointments include: a Director of HSBC Bank plc, HSBC Global Asset Management Limited and HSBC Bank Egypt S.A.E.; and Head of Global Markets for Europe, Middle East and Africa.

Colin Bell, 51
Group Chief Compliance Officer

Colin Bell joined HSBC in July 2016 and was appointed a Group Managing Director in March 2017. Colin previously worked at UBS, where he was Head of Compliance and Operational Risk Control. He has 10 years of experience in managing risk and financial crime, following 16 years in the British Army.

Patrick Burke, 57
President and Chief Executive Officer, HSBC USA

Patrick joined HSBC in 1989 and became a Group Managing Director in 2015. He is also an executive Director, President and CEO of HSBC North America Holdings Inc. and Chairman of HSBC Bank USA, N.A., HSBC Finance Corporation, HSBC USA Inc. and HSBC Global Asset Management (USA) Inc.

Pierre Goad, 57
Chief Communications Officer

Pierre first joined HSBC in 2001. In 2010, he left to join Zurich Insurance Group as Head of Communications. He rejoined HSBC in 2011 and became a Group Managing Director in 2015. Former appointments include: Director of HSBC Bank Canada; Global Co-Head of Communications; and Head of Corporate Development, Europe, Middle East and Global Businesses.

Pam Kaur, 55
Group Head of Internal Audit

Pam joined HSBC and became a Group Managing Director in 2013. She is a non-executive Director of Centrica plc, a co-opted Council member of The Institute of Chartered Accountants in England and Wales, and Chair of the Financial Services Faculty Board. Former appointments include: Global Head of Group Audit for Deutsche Bank AG; Chief Financial Officer and Chief Operating Officer of the Restructuring and Risk Division, Royal Bank of Scotland Group plc; Group Head of Compliance and AML, Lloyds TSB; and Global Director of Compliance, Global Consumer Group, Citigroup.

Stuart Levey, 55
Chief Legal Officer

Stuart joined HSBC and became a Group Managing Director in 2012. Former appointments include: Under Secretary for Terrorism and Financial Intelligence in the US Department of the Treasury; senior fellow for National Security and Financial Integrity at the Council on Foreign Relations; Principal Associate Deputy Attorney General at the US Department of Justice; and a partner at Miller, Cassidy, Larroca & Lewin LLP and at Baker Botts LLP.

Andy Maguire, 52
Group Chief Operating Officer

Andy joined HSBC in 2014 as Group Chief Operating Officer and became a Group Managing Director in 2015. He is Chairman of HSBC Global Services Limited, HSBC Global Services (UK) Limited and HSBC Group Management Services Limited. He is formerly a Managing Partner (UK and Ireland) of the Boston Consulting Group.

Paulo Maia, 60
Chief Executive Officer, Latin America

Paulo joined HSBC in 1993 and became a Group Managing Director on 1 February 2016. He is Chairman of Grupo Financiero HSBC Mexico S.A. de C.V., Chairman of HSBC Argentina Holdings S.A. and a Director of HSBC North America Holdings Inc. Former appointments include: Chief Executive Officer of HSBC Bank Canada and HSBC Bank Australia Limited.

Stephen Moss, 52
Group Chief of Staff

Stephen, who has been with HSBC for 27 years, became a Group Managing Director in 2018. As Chief of Staff to the Group Chief Executive, Stephen leads Group Strategy and Planning, Group Mergers and Acquisitions, Global Communications, Global Events, Group Public Affairs and Group Corporate Sustainability. Stephen is a Director of the Saudi British Bank, HSBC Middle East Holdings B.V. and HSBC Global Asset Management Limited. He is a qualified chartered accountant and member of the Institute of Chartered Accountants in England and Wales.

Charlie Nunn, 47
Chief Executive Officer, Retail Banking and Wealth Management

Charlie joined HSBC in 2011 and became a Group Managing Director and CEO, Retail Banking and Wealth Management in January 2018. Charlie was previously Head of Group Retail Banking and Wealth Management, leading the teams supporting HSBC's Retail and Wealth businesses globally. Prior to this, he was Group Head of Wealth Management and before that Global Chief Operating Officer for Retail Banking and Wealth Management. Charlie has extensive financial services experience and was formerly a partner at Accenture and a Senior Partner at McKinsey & Co.

Noel Quinn, 57
Chief Executive Officer, Global Commercial Banking

Noel joined HSBC in 1992 when the Group acquired Midland Bank and became a Group Managing Director on 1 September 2016. Former appointments include: Head of Specialised and Equity Finance, Director of Strategy and Development for Commercial Banking, Head of Commercial Finance Europe, Head of Commercial Banking UK, and Head of Commercial Banking Asia.

António Simões, 43
Chief Executive Officer, Global Private Banking

António joined HSBC in 2007 and became a Group Managing Director on 1 February 2016. On 1 January 2019, he was appointed Chief Executive Officer of Global Private Banking. António was previously Chief Executive Officer of UK and Europe (HSBC Bank plc), and served as Chief of Staff to the Group Chief Executive Officer and Group Head of Strategy and Planning. António was also formerly the Chairman of the Practitioner Panel of the FCA, a partner of McKinsey & Company, and an associate at Goldman Sachs.

Ian Stuart, 55
Chief Executive Officer, HSBC UK Bank plc

Ian joined HSBC in 2014 and became a Group Managing Director of HSBC Holdings plc on 1 July 2018. In April 2017 he was appointed Chief Executive Officer of HSBC UK Bank plc. He is a Board member of the financial services industry association UK Finance. He has more than 38 years' experience in the banking industry. Before joining HSBC, Ian led the corporate banking business at Barclays for six years and held a variety of roles in business banking during his 22 years at NatWest.

Peter Wong, 67
Deputy Chairman and Chief Executive Officer, The Hongkong and Shanghai Banking Corporation Limited

Peter joined HSBC in 2005 and became a Group Managing Director in 2010. He is Chairman and non-executive Director of HSBC Bank (China) Company Limited and a non-executive Director of Hang Seng Bank Limited. He is also non-executive Vice Chairman of Bank of Communications Co., Limited. Other appointments include Deputy Chairman of the Hong Kong General Chamber of Commerce; Council Member of Hong Kong Trade Development Council and a member of its Belt and Road Committee; and a Member of the Chongqing Mayor's International Economic Advisory Council.

Board of Directors

Appointment, retirement and re-election of Directors

Appointments to the Board are made on merit, and candidates are considered against objective criteria, having due regard to the benefits of the diversity of the Board. A rigorous selection process is followed in relation to the appointment of Directors and certain specified senior appointments.

The number of Directors must not be fewer than five nor exceed 25. The Board may at any time appoint any person as a Director, either to fill a vacancy or as an addition to the existing Board. The Board may appoint any Director to hold any employment or executive office, and may revoke or terminate any such appointment.

Newly appointed Directors retire at the Annual General Meeting ('AGM') following appointment and are eligible for election. Directors are nominated for annual re-election by shareholders subject to continued satisfactory performance based upon an assessment by the Group Chairman and the Nomination & Corporate Governance Committee.

Non-executive Directors are appointed for an initial three-year term and, subject to re-election by shareholders at each AGM, are typically expected to serve two three-year terms. The Board may invite a Director to serve additional periods. Any term beyond six years is subject to particularly rigorous review by the Nomination & Corporate Governance Committee.

The terms and conditions of appointment of non-executive Directors are set out in a letter of appointment, which includes the expectations of them and the estimated time required to perform their role. The current anticipated time commitment, which is subject to periodic review, is 75 days per year. Non-executive Directors who chair a Board committee are expected to devote up to 100 days per year to the Group. The Chairman of the GRC is expected to commit up to 150 days per year reflecting the complexity of the role and responsibilities of this Committee. All non-executive Directors have confirmed they can meet this requirement, taking into account any other commitments they have at the time of appointment, and, in practice, most devote considerably more time.

During their term of appointment, non-executive Directors are expected to consult the Group Chairman or the Group Company Secretary if they are considering whether to accept or vary any commitments outside the Group. The agreement of the Group Chairman is required if any additional or changed commitment might affect the time that a Director is able to devote to his or her role with the Group.

Letters setting out the terms of appointment of each non-executive Director are available for inspection at the registered office of HSBC Holdings.

Induction

Formal induction programmes are arranged for newly appointed Directors based on the individual's needs, skills and experience. Typically, these consist of a series of meetings with other Directors and senior executives, as well as local site visits to provide familiarity with the business. Directors also receive comprehensive guidance from the Group Company Secretary on the Group's corporate governance framework and associated policies, as well as their duties as Directors on the Board.

Conflicts of interest, indemnification of Directors and contracts of significance

The Board has established a policy and a set of procedures relating to Directors' conflicts of interest. Where conflicts of interest arise, the Board has the power to authorise them. A review of those conflicts that have been authorised, and the terms of those authorisations, is routinely undertaken by the Board.

The Articles of Association contain a qualifying third-party indemnity provision, which entitles Directors and other Officers to be indemnified out of the assets of HSBC Holdings against claims from third parties in respect of certain liabilities. Additionally, all Directors have the benefit of directors' and officers' liability insurance.

None of the Directors had, during the year, a material interest, directly or indirectly, in any contract of significance with any HSBC company. During the year, all Directors were reminded of their obligations in respect of transacting in HSBC Group securities and, save as disclosed on page 213, all Directors have confirmed that they have complied with their obligations.

Training and development

Following a period of induction, training and development is provided for each Director with the support of the Group Company Secretary. Non-executive Directors develop and refresh their skills and knowledge through periodic interactions and briefings with senior management of the Group's businesses and functions. During the year, Directors and the Group Company Secretary undertook mandatory training on a range of issues, including: anti-money laundering; anti-bribery and corruption; embedding good conduct; cybersecurity, and sanctions.

Subsidiary governance

The Group Chairman hosted two governance forums during 2018 for the Chairs of the Group's principal subsidiaries. Awareness and discussion sessions were conducted by senior executives and subject matter experts. These covered capital management, investor demands, conduct, UK regulatory matters, IT resilience, cybersecurity, data, and financial crime risk management. Initiatives were agreed on enhancements to the accountability of the principal subsidiaries for governance oversight across their respective regions, and the improvement of information flows between the Group and the principal subsidiary boards. Additionally, discussions took place concerning the strategic planning cycle, reducing organisational complexity, interactions with regulators and board succession planning.

Jonathan Symonds, Chair of the Group Audit Committee ('GAC'), and Jackson Tai, Chair of the GRC, hosted regional forums during 2018 with the Chairs of the Group's subsidiary audit and risk committees.

Shareholder engagement

Communication with shareholders is given high priority by the Board. Extensive information about HSBC and its activities is provided to shareholders in its *Annual Report and Accounts*, the *Strategic Report* and the *Interim Report* as well as on www.hsbc.com.

To complement these publications, there is regular dialogue with institutional investors. Enquiries from individuals on matters relating to their shareholdings and HSBC's business are welcomed.

Directors are encouraged to develop an understanding of the views of major shareholders.

As SID, Jonathan Symonds is available to shareholders if they have concerns that cannot be resolved or for which the normal channels would be inappropriate. He may be contacted via the Group Company Secretary at 8 Canada Square, London E14 5HQ.

The AGM and other general meetings

The 2019 AGM will be held at the International Convention Centre, Broad Street, Birmingham B1 2EA at 11.00am on Friday, 12 April 2019 and a live webcast will be available on www.hsbc.com. A recording of the proceedings will be available on www.hsbc.com shortly after the conclusion of the AGM. Shareholders are encouraged to attend the meeting. Shareholders may send enquiries to the Board in writing via the Group Company Secretary, HSBC Holdings plc, 8 Canada Square, London E14 5HQ or by sending an email to shareholderquestions@hsbc.com.

Shareholders may require the Directors to call a general meeting other than an AGM as provided by the UK Companies Act 2006. Requests to call a general meeting may be made by members representing at least 5% of the paid-up capital of HSBC Holdings that carries the right of voting at its general meetings (excluding any paid-up capital held as treasury shares). A request must state the general nature of the business to be dealt with at the meeting and may include the text of a resolution that may properly be moved and is intended to be moved at the meeting. A request may be in hard copy form or in electronic form, and must be authenticated by the person or persons making it. A request may be made in writing to HSBC Holdings at its UK address, referred to in the paragraph above or by sending an email to shareholderquestions@hsbc.com. At any general meeting convened on such request, no business may be transacted except that stated by the requisition or proposed by the Board.

Board committees

During 2018, the Board reduced the number of Board committees from seven to five. Responsibilities previously delegated to its Conduct & Values Committee and Philanthropic & Community Investment Oversight Committee were reassigned to other, more appropriate governance forums within the Group. Specific responsibility for cyber-crime and information security risk was transferred from the FSVC to the GRC. Responsibility for the development of the firm's culture was assumed by the Group Chairman. In 2018, the Nomination Committee was also renamed the Nomination & Corporate Governance Committee, reflecting its broader corporate governance remit.

The Chairs of each committee report matters of significance to the Board after each meeting and the minutes of the meetings are made available to all Board members.

The detailed roles and responsibilities of each committee are set out in its terms of reference, which can be found on the website at www.hsbc.com/our-approach/corporate-governance/board-committees.

Interaction with principal subsidiaries

The Board manages relationships with the regions through principal subsidiaries. There are close interactions between the Group Board and the principal subsidiaries and their respective committees. Minutes are shared and certain appointments to principal subsidiary boards, as well as other senior roles, are required to be approved by the Nomination & Corporate Governance Committee of the Group Board.

As explained in more detail in the reports of the GAC and the GRC on pages 204 and 206, this interaction is reinforced through the Audit and Risk Committee Chairs' forums. The Chairs of the subsidiary audit and risk committees within the respective regions attend a regional forum to exchange subject matter expertise and to review and discuss forward-looking risk and audit issues.

Board members are encouraged to, and do, make visits to the regions and attend principal subsidiary board and board committee meetings as guests. Similarly, regional Directors are invited regularly to attend committee meetings at a Group level.

The GAC and GRC make a number of recommendations to the Board in relation to the preparation of the financial statements, which are supported by certificates from the principal subsidiaries.

Whistleblowing

The GAC is responsible for reviewing the Group's whistleblowing procedures. It receives regular updates on relevant concerns raised under these procedures, together with management actions taken in response.

Committee effectiveness

The effectiveness of the committees is evaluated as part of the overall performance evaluation of the Board and through annual effectiveness reviews at a committee level. In addition, the committees review the papers and the effectiveness of each meeting as a standing agenda item to ensure that they continue to be effective, challenging and well-managed. They also review a rolling planner of proposed committee business. In 2019, the feedback from this review process will be taken into account in informing the results of the Board's effectiveness review being undertaken by an independent external provider.

Board and Committee attendance in 2018

	AGM	Board*	Group Audit Committee	Group Risk Committee	Group Remuneration Committee	Nomination & Corporate Governance Committee	Financial System Vulnerabilities Committee	Conduct & Values Committee[1]	Philanthropic & Community Investment Oversight Committee[2]
Number of meetings held*	**1**	**9**	**13**	**11**	**8**	**5**	**6**	**2**	**2**
Group Chairman									
Mark Tucker	1	9/9	-	-	-	5/5	-	-	-
Executive Directors									
John Flint[3]	1	6/6	-	-	-	-	-	-	-
Stuart Gulliver[4]	-	3/3	-	-	-	-	-	-	-
Iain Mackay[5]	1	9/9	-	-	-	-	-	-	-
Marc Moses	1	9/9	-	-	-	-	-	-	-
Non-executive Directors									
Phillip Ameen[6]	1	5/5	5/5	-	-	-	-	-	-
Kathleen Casey[7]	1	9/9	13/13	-	-	3/3	2/2	-	-
Henri de Castries[7]	1	9/9	-	-	8/8	3/3	-	-	-
Laura Cha[8, 9]	1	8/9	-	-	-	5/5	3/4	1/2	2/2
Joachim Faber[6]	1	5/5	-	-	-	-	-	-	-
Irene Lee[7, 9, 10]	1	8/9	-	-	6/6	3/3	-	-	-
John Lipsky[6]	1	4/5	-	4/5	2/2	2/2	-	-	-
Pauline van der Meer Mohr[7]	1	9/9	-	6/6	8/8	5/5	-	2/2	-
Heidi Miller[7]	1	8/9	-	10/11	-	3/3	-	-	-
David Nish[7, 9]	1	7/9	13/13	-	6/8	3/3	-	-	-
Jonathan Symonds[7, 11]	1	9/9	13/13	6/6	-	5/5	-	2/2	-
Jackson Tai[7, 12]	1	9/9	1/1	11/11	-	3/3	6/6	-	-
Lord Evans of Weardale[7]	1	9/9	-	-	-	3/3	6/6	1/2	2/2

**Board meetings in 2018 were held in London, Shanghai and Seattle. In addition to the Board meetings listed, Chairman's Committee meetings were also held in 2018.*

1 *The Conduct & Values Committee was demised in 2018.*
2 *The Philanthropic & Community Investment Oversight Committee was demised in 2018.*
3 *Appointed to the Board 21 February 2018.*
4 *Retired from the Board 20 February 2018.*
5 *Retired from the Board 31 December 2018.*
6 *Retired from the Board 20 April 2018.*
7 *Appointed to the Nomination & Corporate Governance Committee 20 April 2018.*
8 *Appointed to the Financial System Vulnerabilities Committee 20 April 2018.*
9 *Unable to attend an ad-hoc meeting of the Board called at short notice.*
10 *Appointed to the Group Remuneration Committee 20 April 2018.*
11 *Appointed to the Group Risk Committee 20 April 2018 and as Deputy Group Chairman 6 August 2018.*
12 *Appointed to the Group Audit Committee 1 December 2018.*

Group Audit Committee

Members

Jonathan Symonds (Chair)

Phillip Ameen (resigned 20 April 2018)

Kathleen Casey

David Nish

Jackson Tai (appointed 1 December 2018)

Role and responsibilities

The GAC has responsibility, delegated to it from the Board, for overseeing all matters relating to external financial reporting. This responsibility encompasses the *Annual Report and Accounts*, quarterly reporting, analyst presentations and Pillar 3 disclosures. In discharging their responsibility the GAC oversees:

- preparation of financial statements, compliance with accounting standards and accounting judgements;
- the effectiveness of internal financial control functions;
- the independence and performance of Internal Audit;
- the relationships with external auditors, including their independence, performance and approval of proposed services outside of the scope of the Group audit; and
- whistleblowing (with effect from the conclusion of the 2018 AGM).

Governance

The Group Chief Financial Officer, Group Chief Accounting Officer, Group Head of Internal Audit, Group Financial Controller and other members of senior management routinely attend meetings of the GAC. The external auditor also attended all meetings. The Chair and other members of the GAC had regular meetings with management to discuss agenda planning and specific issues as they arose during the year. Each meeting includes *in camera* sessions with the internal and external auditors. The Chair of the GAC, who is also the Deputy Group Chairman and Senior Independent Director, oversaw the Group Chief Financial Officer succession process and selection.

Compliance with regulatory requirements

The Board has confirmed that each member of the GAC is independent according to SEC criteria, may be regarded as audit committee financial experts for the purposes of section 407 of the Sarbanes-Oxley Act, and has recent and relevant financial experience for the purposes of the UK and Hong Kong Corporate Governance Codes.

The GAC assesses the adequacy of resources of the accounting and financial reporting function. It also monitors the legal and regulatory environment relevant to its responsibilities.

How the Committee discharges its responsibilities

Financial reporting

The GAC reviews HSBC's financial and reporting judgements and their application to the Group's financial reporting, including Pillar 3 disclosures. It also reviews presentations to external analysts, including the key financial metrics relating to HSBC's strategic actions.

Linkages with principal subsidiary audit committees

During the year the GAC maintained links with the audit committees of The Hong Kong and Shanghai Banking Corporation

Limited, HSBC North America Holdings Inc., HSBC Bank Canada, HSBC Bank plc, HSBC UK Bank Plc, HSBC Latin America Holdings (UK) Limited, HSBC Bank Middle East Limited and HSBC Private Banking Holdings (Suisse) SA.

In 2018, the GAC and GRC hosted three joint regional forums with the Chairs of subsidiaries' audit and risk committees, together with senior management from the relevant subsidiaries. The purpose of these forums was to discuss mutual priorities; improvement and remediation programmes; risk profiles and forward-looking issues. They also provided an opportunity to deliver targeted training and conduct a review of committee effectiveness. These meetings are supplemented throughout the year by formal and informal communication between the committee chairs and GAC members.

Appointments to the audit committees of the principal subsidiaries are reviewed by the GAC. The GAC Chair meets with proposed new Chairs of the principal subsidiary audit committees.

Internal controls

The GAC assesses the effectiveness of the internal control system for financial reporting and any developments affecting it in support of the Board's assessment of internal control over financial reporting in accordance with section 404 of the Sarbanes-Oxley Act. The GAC has received confirmation that executive management has taken or is taking the necessary actions to remedy any failings or weaknesses identified through the operation of the Group's framework of controls. Further detail of how the Board reviews the effectiveness of key aspects of internal control can be found on page 209.

External audit

The GAC reviews the external auditor's approach, strategy for the annual audit and its findings. In 2018, the Committee reviewed auditor independence, audit quality and the use of technology and analytics. GAC members routinely met audit partners in key parts of the world and were involved in auditor conferences. Principal matters discussed with PwC are set out in their report on page 252.

The GAC is also involved in audit partner rotation and succession for the Group and its principal subsidiaries.

A policy is in place and monitored by the GAC on hiring employees or former employees of the external auditor, including in relation to any breaches of the policy.

The GAC regularly meets privately with the external auditor. The GAC Chair maintains regular contact with the audit partner throughout the year.

All non-audit services provided by the external auditor are pre-approved by the GAC in accordance with the auditor independence policy to ensure that services do not create a conflict. Details of the significant engagements for non-audit services are contained in Note 7.

	2018	2017
Auditors' remuneration	**$m**	$m
Total fees payable	**119.50**	129.70
Fees for non-audit services	**32.90**	44.90

A further breakdown of the fees paid to the auditors for each of the last three financial years can be found in Note 7 on the Financial Statements.

During the year, the GAC assessed the effectiveness of PwC as the Group's external auditor, using a questionnaire that focuses on the overall audit process, its effectiveness and the quality of output. The GAC also assessed any potential threats to independence that were self-identified or reported by PwC. The GAC considered PwC to be independent and PwC, in accordance with professional ethical standards, provided the GAC with written confirmation of its independence for the duration of 2018.

The GAC has therefore recommended to the Board that PwC be reappointed as auditor. Resolutions concerning the reappointment of PwC and their audit fee for 2019 will be proposed to shareholders at the 2019 AGM.

Internal Audit

The GAC approves Internal Audit's annual plan, resource and budget, and reviews the performance and effectiveness of the Group Head of Internal Audit. The Group Head of Internal Audit reports to the Chair of the GAC and administratively to the Group Chief Executive. The Committee meets regularly with the Group Head of Internal Audit without other management present. Committee members also meet with critical audit teams around the world. In 2018, the GAC additionally considered audit quality and the use of technology and analytics. The GAC concluded that the Internal Audit function remained effective. The GAC also reviewed succession planning in the Internal Audit function.

Principal activities and significant issues considered during 2018

Internal control framework

The GAC continued to monitor the progress being made to upgrade entity level controls. During 2018, the GAC undertook a series of deep dives to monitor the remediation of identified control deficiencies, noting that good progress was made during the year. The GAC continued to monitor the remediation of controls over access management in IT. Where critical entity level controls overlapped with the activities of the GRC, joint sessions were held.

IFRS 9 implementation

Throughout 2018, the GAC received detailed presentations and updates from management on the Group's readiness for the implementation of IFRS 9. Particular emphasis was given in 2018 to the forward-looking projections, required for IFRS 9 and its relationship to regulatory stress testing. Detailed discussions were held in situations where impairment risk could not be easily modelled, for example, the significant uncertainty regarding the economic outlook for the UK, and US-China trade in conjunction with the relevant subsidiary audit committee.

Bank of Communications Co., Limited ('BoCom')

The GAC received regular updates on the assumptions underpinning the valuation of BoCom. It monitored indicators of impairment, both macro-economic and BoCom specific, and reviewed the results of the impairment assessments carried out by management. Much of this work was carried out in conjunction with The Hongkong and Shanghai Banking Corporation audit committee.

Resolution planning

The Group is required to have in place a recovery plan that sets out recovery options to be initiated in the event of the Group coming under severe financial stress. During 2018, the GAC received updates on the structure of the Group recovery plan. The GAC considered the Group recovery plan and its integration with the Group's risk management framework.

Establishment of the ring-fenced bank

During 2018, the GAC considered the accounting judgements in relation to the creation of HSBC UK, the ring-fenced bank, and the creation of the internal service companies that supplies services to banks.

Ibor

The GAC received presentations on the risks relating to Ibors discontinuation.

Whistleblowing

The GAC reviewed the independence, autonomy and effectiveness of the firm's policies and procedures on whistleblowing, including the procedures for the protection of staff who raise concerns of detrimental treatment.

Significant accounting judgements considered during 2018 included:

Key area	Action taken
Expected credit loss ('ECL') impairment	The GAC considered loan impairment allowances for personal and wholesale lending. Particular judgements included the effect of UK economic uncertainty and the risk of escalation of trade wars between the US and China on the measurement of ECL impairment. The GAC also considered disclosures relating to ECL in the year-end accounts.
Bank of Communications Co., Limited ('BoCom') impairment testing	During the year, the GAC considered the regular impairment reviews of HSBC's investment in BoCom. The GAC review included the sensitivity of the result of the impairment review to estimates and assumptions of projected future cash flows, regulatory capital assumptions and the model's sensitivity to long-term assumptions including the continued appropriateness of the discount rate.
Appropriateness of provisioning for legal proceedings and regulatory matters	The GAC received reports from management on the recognition and amounts of provisions, as well as the existence of contingent liabilities for legal proceedings and regulatory matters. Specific matters addressed included accounting judgements in relation to provisions and contingent liabilities arising out of: (a) investigations by regulators and competition and law enforcement authorities around the world into trading on the foreign exchange markets; (b) investigations of HSBC's Swiss Private Bank by a number of tax administration, regulatory and law enforcement authorities; and (c) investigations into historical sales of US mortgage securitisations by The United States Attorney for the District of Colorado for potential violations of The Financial Industry Reform, Recovery and Enforcement Act of 1989, 12 U.S.C. § 1833a, which was settled during the year.
Interest rate benchmark replacement	The GAC considered the accounting implications of benchmark interest rate replacement for hedge accounting relationships as at 31 December 2018, and longer-term broader accounting implications for financial instruments. The GAC considered management's judgement that no change to hedge accounting is appropriate as at 31 December 2018, and that this position will be kept under review in the context of future market developments in the transition of interest rate benchmarks to new risk-free rates.
Quarterly and annual reporting	The GAC considered key judgements in relation to quarterly and annual reporting. It reviewed draft presentations to external analysts and key financial metrics included in HSBC's strategic actions.
Valuation of financial instruments	The GAC considered the key valuation metrics and judgements involved in the determination of the fair value of financial instruments. The GAC considered the valuation control framework, valuation metrics, significant year-end judgements and emerging valuation topics.
Viability statement	In accordance with the provisions contained in the UK Corporate Governance Code, the Directors carried out a robust assessment of the principal risks for the Group and parent company. The GAC considered the Directors' judgement in concluding that the Group and parent company will be able to continue in operation and meet liabilities as they fall due, and that it is appropriate that the viability statement covers a period of three years.
Tax-related judgements	The GAC considered the recoverability of deferred tax assets, in particular in the US. The GAC also considered management's judgements relating to the tax indemnity agreed to by HSBC as part of the sale of operations in Brazil in 2016. This includes consideration of the key inputs and assumptions used to estimate any obligation under the indemnity.
UK customer remediation	The GAC considered the provisions for redress for mis-selling of payment protection insurance ('PPI') policies in the UK and the associated redress on PPI commissions earned under certain criteria, including management's judgements regarding the effect of the time-bar for claims ending August 2019. In addition, the GAC monitored progress on the remediation of operational processes and associated customer redress.
Defined benefit pension accounting	The GAC considered the UK defined benefit pension scheme accounting where, after the Court of Appeal ruling on 26 October 2018 against Lloyds Banking Group in respect of guaranteed minimum pension equalisation, HSBC has recognised past service costs through the income statement.
IFRS 16 'Leases'	The GAC considered the estimated impact of adoption of IFRS 16 'Leases', which applies from 1 January 2019, and the related disclosures.
Adjusted profit measures	Throughout the year, the GAC considered management's non-GAAP measures for adjusted profits. They have also reviewed a revised policy for such measures as it was aligned to the Group's strategy.

Group Risk Committee

Members

Jackson Tai (Chair)

John Lipsky (resigned 20 April 2018)

Heidi Miller

Pauline van der Meer Mohr (appointed 20 April 2018)

Jonathan Symonds (appointed 20 April 2018)

Independent Adviser

Andrew France (appointed 1 July 2018)

The Independent Adviser supports the Committee's work and has deep experience working with governments and private companies across the world to keep information, technology and critical national infrastructures safe.

Role and responsibilities

The GRC has non-executive responsibility for the oversight of enterprise risk management, risk governance and internal control systems (other than internal financial controls overseen by the GAC). In its holistic view of risk, the GRC is supported by the FSVC, which is the Board committee responsible for overseeing risks relating to financial crime, anti-bribery and corruption. The FSVC reports second order risks to the GRC. Appropriate linkages and information flows between these committees are further enhanced by cross-membership and close engagement of the members and the committee attendees. In April 2018, the GRC assumed responsibility for the oversight of cyber-crime risk and information security risk from the FSVC and people risk and employee conduct from the Conduct & Values Committee.

Governance

In carrying out its responsibilities, the GRC is closely supported by the Group Chief Risk Officer, Group Chief Financial Officer, Group Head of Internal Audit, Group Financial Controller, Global Head of Compliance and Global Head of Risk Strategy, all of whom regularly attend GRC meetings to contribute their subject matter expertise and insight. They together with the first line business, functional and regional leaders, second line risk stewards and third line internal auditors, facilitate Committee members' review and challenge of current and forward-looking risk issues.

The GRC works closely with the GAC to ensure there are no gaps, that any areas of significant overlap are appropriately addressed and to improve inter-committee communication. The Chairs of both these committees engage on the agendas of each other's committee meetings. Furthermore, the Chair of the GAC is a member of the GRC and the Chair of the GRC is a member of the GAC. This further enhances the linkages, coordination and the flows of information between the GRC and GAC.

The GRC programmes its meeting agenda and capitalises on the overseas location of the Holdings Board (and GRC) meetings, as well as the GRC Chair's annual visits to principal subsidiary risk committees to proactively encourage in person participation of principal subsidiary risk committee Chairs in GRC meetings, reviews, stress testing and capital and liquidity management sessions throughout the year.

The GRC Chair and the GRC members regularly meet with the Group Chief Risk Officer, the Group Head of Internal Audit and external auditors without management present.

How the Committee discharges its responsibilities

At each meeting, the GRC reviews the Group risk profile report, which identifies the key issues and common themes arising from the Group's enterprise risk reports. This report includes a synthesised view of the Group's risk appetite statement ('RAS'), top and emerging risks, and the Group risk map. It clearly sets out which Board committee has accountability for the monitoring and oversight of each risk, and identifies any areas where management is required to assess vulnerabilities via stress testing.

Page 100 provides further information on the top and emerging risks, the risk map and the risk appetite for the Group. The GRC receives presentations on a range of topics, including stress testing and briefings on developments in its principal markets. In addition, the GRC requests reports and updates from management on risk-related issues for in-depth consideration and receives regular reports on matters discussed at the Risk Management Meeting of the Group Management Board.

The GRC reviews any revisions to the Group RAS biannually and any proposed changes are recommended to the Board. It reviews management's assessment of risk and provides scrutiny of management's proposed mitigating actions.

The GRC programmes forward-looking and thematic agendas, which are supported by input from all three lines of defence within the global businesses and regions. The Committee also conducts deep dives on the risk implications of strategic matters, risks specific to regions, significant projects and key topical risks that are identified during the GRC's deliberations and discussion. By proactively including Chairs of principal subsidiary risk committees to participate in GRC meetings and thematic reviews, scheduling regional updates in the GRC agenda, conducting holistic deep dives and sharing GRC learnings and insight with subsidiaries, the GRC has further enhanced its connectivity, linkages and two-way flow of information with the principal subsidiary risk committees, and among the risk committees themselves.

Any new appointments to the risk committees of the principal subsidiaries are also reviewed by the GRC. The GRC Chair also meets with any proposed new Chair of the principal subsidiary risk committees.

During 2018, the GRC provided informed review and challenge to the Group's regulatory submissions relating to capital management and liquidity adequacy assessments. It proactively reviewed progress of the Group's liquidity risk management improvement plan. It continued to maintain oversight of the Group's regulatory and internal stress testing programmes with specific review and challenge of the design, key assumptions and outcomes of the principal tests conducted.

The GRC exercised its governance oversight for people risk and employee conduct through reviews, including with the Group Chief Human Resources Officer and Group business heads and at the audit and risk committee chairs forums, that the right behaviours are being promoted to support fair customer outcomes and to protect the integrity of markets. The GRC continued to oversee and challenge the effective delivery of the Global Markets conduct enhancement programme, and considered the emerging opportunities, ethical issues and risks as digital capabilities evolve. Internal Audit's independent assessments on conduct were reported regularly with specific themes highlighted from audit activity.

The GRC has overseen progress with delivering against the remediation plan addressing the allegations set out in the 2018 FX DPA with the US Department of Justice and the 2017 Consent Order with the Federal Reserve Board.

The GRC reviewed HSBC's progress towards improving the Group's cybersecurity and the actions being taken to mitigate exposure to cyber-risk. It also conducted a review and challenge to the Group's continued progress in improving its operational resilience to presumed disruptions, especially in its key infrastructure functions and prioritised business services.

Principal activities and significant issues considered during 2018

Key area	Action taken
The Group RAS and monitoring of the Group risk profile against the RAS	Following its biannual reviews, the GRC did not recommend any material changes to the overall level of risk appetite in 2018. The GRC expanded its focus through the introduction of new risk appetite metrics for model risk and systems and data integrity risk, related to the Group's most critical models and IT services.
Capital and liquidity	The GRC has fully engaged with management in evaluating and challenging the Group's liquidity and funding risk appetite and the effectiveness of the liquidity and funding risk framework. The GRC continued to review the Group's approach to capital planning to ensure it is comprehensive, rigorous and forward looking. The GRC reviewed and challenged both the Group individual liquidity adequacy assessment process and internal capital adequacy assessment process. The GRC also encouraged a strengthening of the principal subsidiary risk committee's review and challenge of their respective capital and liquidity programmes.
Stress testing	The GRC conducted a comprehensive review and challenge of the scenarios and approach to the PRA stress test and reviewed the results of the annual cyclical scenario. The GRC continued to review and oversee the regulatory and internal global stress testing programmes throughout the year.
Execution risk	Regular reports were received from the Group Chief Operating Officer, who updated the GRC on the progress and status of the Group's highest-priority change and transformation programmes and mitigating measures being introduced to manage the identified risks appropriately.
Internal control and risk management	The GRC reviewed the Group's risk management framework and system of internal control (other than internal financial controls covered by the GAC) and the developments affecting them over the course of 2018, as part of the Board's assessment of internal control. The GRC has reviewed and challenged the effectiveness of non-financial risk management with particular focus on data management, information and cyber risk, people risk and conduct, model risk management, IT and operational resilience and third-party risk management.
Deep dive reviews	The GRC conducted in-depth reviews of risk governance and implications relating to the Group's approach to credit risk appetite, data management and strategy, model risk management, information and cybersecurity, non-financial risk management, liquidity and capital management, people risk and employee conduct, and IT and operational resilience.
Connectivity between the GRC and subsidiary risk committees	The GRC continued to enhance the connectivity and flow of information both to and from the subsidiary risk committees during 2018. There has been ongoing active participation by the principal subsidiary risk committee Chairs at GRC meetings. In addition, the GRC Chair attended principal subsidiary risk committee meetings in Asia, UK, Europe, US, Latin America, Canada and the Middle East. In 2018, the GRC and GAC jointly strengthened its previously annual audit and risk committee chairs' conference into three intensive regional audit and risk workshops and meetings for subsidiary committee leadership in Asia Pacific, Europe and the Middle East and the Americas.

Financial System Vulnerabilities Committee

Members

Lord Evans of Weardale (Chair)

Kathleen Casey (resigned 20 April 2018)

Jackson Tai

Laura Cha (appointed 20 April 2018)

Nick Fishwick, CMG (non-Director member)

Dave Hartnett, CB (non-Director member)

Lord Hogan-Howe (non-Director member)

David Irvine, AO (non-Director member)

Clovis Meath Baker, GMG (non-Director member) (resigned 16 April 2018)

Nehchal Sandhu (non-Director member) (resigned 16 April 2018)

John Raine, CMG (non-Director member)

The Honourable Juan Zarate (non-Director member)

The six non-Director members support the Committee's work and among them have extensive experience in geopolitical risk, financial crime risk, international security and law enforcement matters.

Role and responsibilities

The Committee has non-executive responsibility for the oversight of matters related to financial crime and system abuse, in particular anti-money laundering, sanctions, terrorist financing, proliferation financing, anti-bribery and corruption. It is also responsible for monitoring, reviewing and advising the Board on the effectiveness of the policies and procedures established by management to ensure that HSBC meets its obligations to regulatory and law enforcement agencies.

Principal activities and significant issues considered during 2018

Financial crime

The Committee monitored the Group's progress on the implementation of its Global Standards programme and considered the effectiveness of the Group's financial crime risk controls.

Anti-bribery and corruption

The Committee reviewed the activities underway to address key bribery and corruption risks and management's progress with the implementation of a more robust anti-bribery and corruption compliance framework.

Engaging with the Skilled Person

The Committee was responsible for liaising with the Skilled Person to ensure his recommendations were acted on.

Group Remuneration Committee

Members

Pauline van der Meer Mohr (Chair)

Henri de Castries

John Lipsky (resigned 20 April 2018)

David Nish

Irene Lee (appointed 20 April 2018)

Role and responsibilities

The Committee is responsible for setting the overarching principles, parameters and governance framework of the Group's remuneration policy, and the remuneration of executive Directors and other senior Group employees. The Committee regularly reviews the Group's remuneration policy in the context of consistent and effective risk management, and the regulatory requirements of multiple jurisdictions. No Directors are involved in deciding their own remuneration.

A full report on the role and activities of the Committee is set out on pages 217 to 248.

Nomination & Corporate Governance Committee

Members

Mark Tucker (Chairman)

Laura Cha

John Lipsky (resigned 20 April 2018)

Pauline van der Meer Mohr

Jonathan Symonds

Kathleen Casey (appointed 20 April 2018)

Henri de Castries (appointed 20 April 2018)

Lord Evans of Weardale (appointed 20 April 2018)

Irene Lee (appointed 20 April 2018)

Heidi Miller (appointed 20 April 2018)

David Nish (appointed 20 April 2018)

Jackson Tai (appointed 20 April 2018)

Role and responsibilities

The Committee leads the Board appointment process, agrees the criteria for any appointments and engages independent external search consultants, as required. At the conclusion of this process, the Committee will nominate potential candidates for appointment to the Board. In discharging its responsibilities, the Committee regularly reviews the Board's structure, size and composition, including skills, knowledge, independence and diversity represented on the Board so as to ensure it is aligned with the Group's strategic priorities. The Committee determines the membership of Board committees and reviews appointments to the boards of a number of the Group's most significant operating subsidiaries.

The Committee is also responsible for overseeing succession planning for the top 20 roles across the Group and the succession pool for those roles, including progress against the development plans for individuals identified within that pool.

As a result of an expansion of its scope of activities during 2018, the Committee now oversees the Group's corporate governance framework, providing recommendations to the Board to ensure the framework remains robust and reflects best practice.

Principal activities and significant issues considered during 2018

Succession planning

In 2018, the Committee led the process for the succession of the Group Chief Financial Officer. This involved consideration of both internal and external candidates, based on objective criteria and taking into account the benefits of diversity, including gender. An independent external consultant was engaged to advise and support the Committee in its search. Following an initial interview process, a sub-committee was appointed, comprising the Group Chairman, the Deputy Group Chairman and Senior Independent Director, the Group Chief Executive and the Group Chief Human Resources Officer, with responsibility for determining a shortlist of preferred candidates. The Committee discussed the shortlist and made its recommendation to the Board. On 25 June 2018, the Board announced that Ewen Stevenson was to succeed Iain Mackay as Group Chief Financial Officer with effect from 1 January 2019.

Corporate governance

During the year, the remit of the Committee was expanded to include a responsibility to oversee and monitor the Group's corporate governance framework. The Committee's recommendations are made to the Board, where required, to ensure the framework is consistent with best corporate governance standards and practices while remaining appropriate to the size, complexity and strategy of the Group. The Committee is also responsible for monitoring compliance with applicable corporate governance codes and recommending disclosures on corporate governance to the Board for approval, including the statement on corporate governance, which appears in the *Annual Report and Accounts 2018*, on pages 197 and 216.

Diversity

In 2018, the Board's diversity and inclusion policy was updated to ensure that HSBC and its various stakeholders continue to benefit from a Board that includes Directors from a range of different backgrounds and whose ethnicity, experience, age, geographical provenance and gender more closely reflect the diversity of our customers and the communities that we serve. The Board diversity policy is available at www.hsbc.com/our-approach/corporate-governance/board-responsibilities.

In the implementation of its policy, the Board has committed itself to meeting the diversity targets recommended by the Hampton-Alexander Review and Parker Review, most notably that the Board should have 33% female share of representation by 2020 and a minimum of one Board Director from an ethnic minority background by 2021. The Committee will monitor these targets and report performance on a periodic basis in the *Annual Report and Accounts*.

At the date of publication 36% of the Board of Directors were female and three were from an ethnic minority background.

Chairman's Committee

The Chairman's Committee acts on behalf of the Board between scheduled Board meetings to facilitate ad hoc and other business requiring Board approval. It meets when necessary, with the required number of attendees determined by the nature of the proposed business to be discussed, as set out in its terms of reference.

Internal control

The Board is responsible for maintaining and reviewing the effectiveness of risk management and internal control systems, and for determining the aggregate level and types of risks the Group is willing to take in achieving its strategic objectives.

To meet this requirement and to discharge its obligations under the FCA Handbook and the PRA Handbook, procedures have been designed for safeguarding assets against unauthorised use or disposal; for maintaining proper accounting records; and for ensuring the reliability and usefulness of financial information used within the business or for publication.

These procedures provide reasonable assurance against material mis-statement, errors, losses or fraud. They are designed to provide effective internal control within the Group and accord with the Financial Reporting Council's guidance for directors issued in 2014, internal control and related financial and business reporting. The procedures have been in place throughout the year and up to 19 February 2019, the date of approval of this *Annual Report and Accounts 2018*.

The key risk management and internal control procedures include the following:

- **Adherence to the Group's Global Standards Manual:** The Group's Global Standards Manual ('GSM') outlines the core principles within which the Group must operate wherever we conduct business. The GSM overlays all other policies and procedures throughout the Group. The requirements of the GSM are mandatory, apply to and must be observed by all businesses within the Group, regardless of the nature or location of their activities. In 2019, the GSM will be replaced by a set of Global Principles.
- **Delegation of authority within limits set by the Board:** Subject to certain matters reserved for the Board, the Group Chief Executive has been delegated authority limits and powers within which to manage the day-to-day affairs of the Group, including the right to sub-delegate those limits and powers. Each relevant Group Managing Director or executive Director has delegated authority within which to manage the day-to-day affairs of the business or function for which he or she is accountable. Delegation of authority from the Board requires those individuals to maintain a clear and appropriate apportionment of significant responsibilities and to oversee the establishment and maintenance of systems of control that are appropriate to their business or function. Authorities to enter into credit and market risk exposures are delegated with limits to line management of Group companies. The concurrence of the appropriate global function is required, however, to credit proposals with specified higher risk characteristics. Credit and market risks are measured and reported at subsidiary company level and aggregated for risk concentration analysis on a Group-wide basis.
- **Risk identification and monitoring:** Systems and procedures are in place to identify, assess, control and monitor the material risk types facing HSBC as set out in the enterprise-wide risk framework. The Group's risk measurement and reporting systems are designed to help ensure that material risks are captured with all the attributes necessary to support well-founded decisions, that those attributes are accurately assessed and that information is delivered in a timely manner for those risks to be successfully managed and mitigated.
- **Changes in market conditions/practices:** Processes are in place to identify new risks arising from changes in market conditions/practices or customer behaviours, which could expose the Group to heightened risk of loss or reputational damage. The Group employs a top and emerging risks framework, which contains an aggregate of all current and forward-looking risks and enables it to take action that either prevents them materialising or limits their impact.
- **Responsibility for risk management:** All employees are responsible for identifying and managing risk within the scope of their role as part of the three lines of defence model, which is an activity-based model to delineate management accountabilities and responsibilities for risk management and the control environment. The second line of defence sets the policy and guidelines for managing specific risk areas, provides advice and guidance in relation to the risk, and challenges the first line of defence (the risk owners) on effective risk management.
- **Strategic plans:** Strategic plans are prepared for global businesses, global functions and geographical regions within the framework of the Group's overall strategy. Annual operating plans, informed by detailed analysis of risk appetite describing the types and quantum of risk that the Group is prepared to take in executing its strategy, are prepared and adopted by all major Group operating companies and set out the key business initiatives and the likely financial effects of those initiatives.
- **Subsidiary certifications to the GRC:** The risk committees of principal subsidiary companies provide half-year confirmations to the GRC. These confirm that the committees have challenged management on the quality of the information provided, reviewed the actions proposed by management to address any emerging issues or trends indicating material divergence from the Group's risk appetite and that the risk management and internal control systems in place are operating effectively.

The effectiveness of the Group's system of risk management and internal control is reviewed regularly by the Board, the GRC and the GAC.

In 2018, the acceleration of operational resilience and investment in technology controls were particular areas of focus for HSBC. The Group continued to embed the operational risk management framework and invest in the non-financial risk infrastructure. Work also continued to enhance the risk appetite framework for non-financial risks and improve the consistency of adoption of the end-to-end risk and control assessment process. While there remains more to do, progress has been made to strengthen

HSBC's control environment and it will continue to be a priority in 2019.

The GRC and the GAC have received confirmation that executive management has taken or is taking the necessary actions to remedy any failings or weaknesses identified through the operation of the Group's framework of controls.

Internal control over financial reporting

HSBC is required to comply with section 404 of the US Sarbanes-Oxley Act of 2002 and assess the effectiveness of internal control over financial reporting as at 31 December 2018. In 2014, the GAC endorsed the adoption of the COSO 2013 framework for the monitoring of risk management and internal control systems to satisfy the requirements of section 404 of the Sarbanes-Oxley Act of 2002.

The key risk management and internal control procedures over financial reporting include the following:

- **Entity level controls:** The primary mechanism through which comfort over risk management and internal control systems is achieved, is through assessments of the effectiveness of entity level controls ('ELC'), and the reporting of risk and control issues on a regular basis through the various risk management and risk governance forums. ELCs are internal controls that have a pervasive influence over the entity as a whole. They include controls related to the control environment, for example the Company's values and ethics, the promotion of effective risk management and the overarching governance exercised by the Board and its non-executive committees. The design and operational effectiveness of ELCs are assessed annually as part of the assessment of the effectiveness of internal controls over financial reporting. If issues are significant to the Group they are escalated to the GAC (for financial reporting issues) and/or GRC (for all other risk types).
- **Operational risk management framework:** Key process level controls that mitigate the risk of financial misstatement are recorded in the Operational Risk system and monitored in accordance with the ORMF. Further details on the framework can be found on page 112.
- **Disclosure Committee:** Chaired by the Group Company Secretary, this Committee supports the discharge of the Group's obligations under relevant legislation and regulation including the UK and Hong Kong listing rules, the Market Abuse Regulation and US Securities and Exchange Commission rules. In so doing, the Committee is empowered to determine whether a new event or circumstance should be disclosed, including the form and timing of such disclosure, and review all material disclosures made or to be made by the Group. The membership of the Disclosure Committee includes the Group Chief Financial Officer, Group Chief Risk Officer, Chief Legal Officer, Group Chief Accounting Officer, Chief Communications Officer, Global Head of Investor Relations, Group Chief of Staff and Group Financial Controller. The Company's brokers and its external legal counsel also attend as required. The integrity of disclosures is underpinned by structures and processes within the Global Finance and Global Risk functions that support rigorous analytical review of financial reporting and the maintenance of proper accounting records. As required by the Sarbanes-Oxley Act, the Group Chief Executive and the Group Chief Financial Officer have certified that the Group's disclosure controls and procedures were effective as of the end of the period covered by this annual report.
- **Financial reporting:** The Group's financial reporting process is controlled using documented accounting policies and reporting formats, supported by detailed instructions and guidance on reporting requirements, issued to all reporting entities within the Group in advance of each reporting period end. The submission of financial information from each reporting entity is supported by a certification by the responsible financial officer and analytical review procedures at reporting entity and Group levels.
- **Subsidiary certifications to the GAC:** The audit committees of principal subsidiary companies provide half-yearly confirmations to the GAC regarding whether their financial statements have been prepared in accordance with Group policies. They also present fairly the state of affairs of the relevant principal subsidiary and are prepared on a going concern basis.

The annual review of the effectiveness of the Group's system of risk management and internal control over financial reporting was conducted with reference to the COSO 2013 framework. Based on the assessment performed, the Directors concluded that for the year ended 31 December 2018, the Group's internal control over financial reporting was effective.

PwC has audited the effectiveness of HSBC's internal control over financial reporting and has given an unqualified opinion.

Internal audit

The Global Internal Audit function, which is centrally controlled, provides independent and objective assurance of the design and operating effectiveness of the Group's framework of risk management, control and governance processes, focusing on the areas of greatest risk. As mentioned previously, the Group Head of Internal Audit reports to the Chairman of the GAC and frequent meetings are held between them during the year. Executive management is responsible for ensuring that issues raised by the Global Internal Audit function are addressed within an appropriate and agreed timetable. Confirmation to this effect must be provided to Global Internal Audit.

Going concern

The Directors considered it appropriate to prepare the financial statements on the going concern basis.

In making the going concern assessment, the Directors have considered a wide range of detailed information relating to present and potential conditions, including projections for profitability, cash flows, capital requirements and capital resources.

In carrying out their assessment of the principal risks, the Directors considered a wide range of information including:

- details of the Group's business and operating models, and strategy;
- details of the Group's approach to managing risk and allocating capital;
- a summary of the Group's financial performance, and its capital position and annual operating plan;
- enterprise risk reports, including the Group's risk appetite profile (see page 100), top and emerging risks (see page 100) and risk map (see page 115);
- reports and updates regarding regulatory and internal stress testing exercises (see page 115). In 2018, the published Bank of England ('BoE') stress test results for HSBC showed that our capital ratios after taking account of CRD IV restrictions and strategic management actions exceeded the BoE's requirements. The results for HSBC assumed no dividend payments in the first two years of the severe stress projection period.
- reports and updates from management on risk-related issues selected for in-depth consideration;
- reports and updates on the Group's compliance-related initiatives in its Global Markets business as required under the January 2018 deferred prosecution agreement with the US Department of Justice;
- reports and updates on regulatory developments; and
- legal reports.

Share capital and other disclosures

Share buy-back programme

On 9 May 2018, HSBC Holdings commenced a share buy-back to purchase its ordinary shares of $0.50 each up to a maximum consideration of $2.0bn. This programme concluded on 16 August 2018, after the purchase and cancellation of 210,466,091 ordinary shares. The purpose of the buy-back programme was to reduce HSBC's number of outstanding ordinary shares.

The nominal value of shares purchased during 2018 was $105,233,046 and the aggregate consideration paid by HSBC was £1,512,898,101.

The table that follows outlines details of the shares purchased on a monthly basis during 2018. The total number of shares purchased during the year was 210,466,091, representing 1.03% of the shares in issue and 1.05% of the shares in issue, excluding treasury shares.

Month	Number of shares	Highest price paid per share £	Lowest price paid per share £	Average price paid per share £	Aggregate price paid £
Share buy-back of 2018					
May-18	**43,843,281**	**7.4990**	**7.1340**	**7.3027**	**320,172,904**
Jun-18	**65,164,512**	**7.3910**	**7.0030**	**7.2110**	**469,898,070**
Jul-18	**65,467,508**	**7.3600**	**6.9360**	**7.1134**	**465,698,679**
Aug-18	**35,990,790**	**7.2790**	**6.9860**	**7.1443**	**257,128,448**
	210,466,091				**1,512,898,101**

Dividends

Dividends for 2018

First, second and third interim dividends for 2018, each of $0.10 per ordinary share, were paid on 5 July 2018, 27 September 2018 and 21 November 2018, respectively. Note 9 on the Financial Statements gives more information on the dividends declared in 2018. On 19 February 2019, the Directors declared a fourth interim dividend for 2018 of $0.21 per ordinary share in lieu of a final dividend, which will be payable on 8 April 2019 in cash in US dollars, or in sterling or Hong Kong dollars at exchange rates to be determined on 25 March 2019, with a scrip dividend alternative. As the fourth interim dividend for 2018 was declared after 31 December 2018, it has not been included in the balance sheet of HSBC as a liability. The reserves available for distribution at 31 December 2018 were $30.7bn.

A quarterly dividend of $15.50 per 6.20% non-cumulative US dollar preference share, Series A ('Series A dollar preference share'), (equivalent to a dividend of $0.3875 per Series A American Depositary Share ('ADS'), each of which represents one-fortieth of a Series A dollar preference share), and £0.01 per Series A sterling preference share was paid on 15 March, 15 June, 15 September and 15 December 2018.

Dividends for 2019

Quarterly dividends of $15.50 per Series A dollar preference share (equivalent to a dividend of $0.3875 per Series A ADS, each of which represents one-fortieth of a Series A dollar preference share) and £0.01 per Series A sterling preference share were declared on 6 February 2019 for payment on 15 March 2019.

Share capital

Issued share capital

The nominal value of HSBC Holdings' issued share capital paid up at 31 December 2018 was $10,180,420,748 divided into 20,360,841,496 ordinary shares of $0.50 each, 1,450,000 non-cumulative preference shares of $0.01 each and one non-cumulative preference share of £0.01, representing approximately 99.9999%, 0.0001%, and 0% respectively of the nominal value of HSBC Holdings' total issued share capital paid up at 31 December 2018.

Rights, obligations and restrictions attaching to shares

The rights and obligations attaching to each class of ordinary and non-cumulative preference shares in our share capital are set out in full in our Articles of Association. The Articles of Association may be amended by special resolution of the shareholders and can be found on our website at www.hsbc.com/about-hsbc/corporate-governance/board-responsibilities.

Ordinary shares

HSBC Holdings has one class of ordinary share, which carries no right to fixed income. There are no voting restrictions on the issued ordinary shares, all of which are fully paid. On a show of hands, each member present has the right to one vote at general meetings. On a poll, each member present or voting by proxy is entitled to one vote for every $0.50 nominal value of share capital held. There are no specific restrictions on transfers of ordinary shares, which are governed by the general provisions of the Articles of Association and prevailing legislation.

At the 2018 AGM, shareholders gave authority to the Directors to offer a scrip dividend alternative on any dividend (including interim dividends) declared up to the conclusion of the AGM in 2019.

Information on the policy adopted by the Board for paying interim dividends on the ordinary shares may be found on page 349, under the heading 'Shareholder information'.

Dividend waivers

HSBC Holdings employee benefit trusts, which holds shares in HSBC Holdings in connection with the operation of its share plans, have lodged standing instructions to waive dividends on shares held by them that have not been allocated to employees. The total amount of dividends waived during 2018 was $3.4m.

Preference shares

The preference shares, which have preferential rights to income and capital, do not, in general, confer a right to attend and vote at general meetings.

There are three classes of preference shares in the share capital of HSBC Holdings: 6.20% non-cumulative US dollar preference shares, Series A of $0.01 each ('dollar preference shares');

non-cumulative preference shares of £0.01 each ('sterling preference shares'); and non-cumulative preference shares of €0.01 ('euro preference shares'). The dollar preference shares in issue are Series A dollar preference shares and the sterling preference share in issue is a Series A sterling preference share. There are no euro preference shares in issue.

Information on dividends declared for 2018 and 2019 may be found on page 288, under the heading 'Dividends' and in Note 9 on the Financial Statements.

Further details of the rights and obligations attaching to the HSBC Holdings' issued share capital may be found in Note 32 on the Financial Statements.

Share capital changes in 2018

The following events occurred during the year in relation to the ordinary share capital of HSBC Holdings:

Scrip dividends

	HSBC Holdings ordinary shares issued		Aggregate nominal value	Market value per share	
	on	number	$	$	£
Issued in lieu of					
Fourth interim dividend for 2017	**6 Apr 2018**	**39,256,458**	**19,628,229**	**10.0177**	**7.2184**
First interim dividend for 2018	**5 Jul 2018**	**21,593,550**	**10,796,775**	**9.8461**	**7.3734**
Second interim dividend for 2018	**27 Sep 2018**	**20,239,883**	**10,119,942**	**8.9716**	**6.9574**
Third interim dividend for 2018	**21 Nov 2018**	**85,760,978**	**42,880,489**	**8.2430**	**6.2718**

All-employee share plans

	Number	Aggregate nominal value		Exercise price	
				from	to
		$			
HSBC Holdings savings-related share option plans					
HSBC ordinary shares issued in £	**23,219,600**	**11,609,800**	**£**	**4.0472**	**5.9640**
HSBC ordinary shares issued in HK$	**20,631**	**10,316**	**HK$**	**55.4701**	**–**
HSBC ordinary shares issued in $	**11,064**	**5,532**	**$**	**7.1456**	**–**
HSBC ordinary shares issued in €	**8,486**	**4,243**	**€**	**5.3532**	**–**
Options over HSBC ordinary shares lapsed	**4,845,695**	**2,422,848**			
Options over HSBC ordinary shares granted in response to approximately 17,528 applications from HSBC employees in the UK on 21 Sep 2018	**20,501,336**				
HSBC International Employee Share Purchase Plan	**810,042**	**405,021**	**£**	**6.2400**	**7.9300**

HSBC share plans

	HSBC Holdings ordinary shares issued	Aggregate nominal value	Market value per share	
			from	to
		$	£	£
Vesting of awards under the HSBC Share Plan and HSBC Share Plan 2011	**59,670,637**	**29,835,319**	**6.3380**	**7.3280**

Compliance with Hong Kong Listing Rule 13.25A(2)

HSBC Holdings has been granted a waiver from strict compliance with Rule 13.25A(2) of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong.

Under this waiver, HSBC's obligation to file a Next Day Return following the issue of new shares, pursuant to the vesting of share awards granted under its share plans to persons who are not Directors, would only be triggered where it falls within one of the circumstances set out under Rule 13.25A(3).

Authorities to allot and to purchase shares and pre-emption rights

At the AGM in 2018, shareholders renewed the general authority for the Directors to allot new shares up to 13,330,736,120 ordinary shares, 15,000,000 non-cumulative preference shares of £0.01 each, 15,000,000 non-cumulative preference shares of $0.01 each and 15,000,000 non-cumulative preference shares of €0.01 each. Shareholders also renewed the authority for the Directors to make market purchases of up to 1,999,610,418 ordinary shares. The Directors exercised this authority during the year and purchased 210,466,091 ordinary shares.

In addition, shareholders gave authority for the Directors to grant rights to subscribe for, or to convert any security into, no more than 3,999,220,836 ordinary shares in relation to any issue by HSBC Holdings or any member of the Group of contingent convertible securities that automatically convert into or are exchanged for ordinary shares in HSBC Holdings in prescribed circumstances. Further details about the issue of contingent convertible securities may be found in Note 32 on the Financial Statements.

Other than as disclosed in the tables above headed 'Share capital changes in 2018', the Directors did not allot any shares during 2018.

Debt securities

In 2018, following its capital plan, HSBC Holdings issued the equivalent of $25.6bn of debt securities in the public capital markets in a range of currencies and maturities, including $6bn of contingent convertible and $19.6bn of senior securities to ensure it meets the current and proposed regulatory rules, including those relating to the availability of adequate total loss-absorbing capacity. For additional information on capital instruments and bail-inable debt, refer to Notes 28 and 32 on pages 316 and 325.

Treasury shares

In accordance with the terms of a waiver granted by the Hong Kong Stock Exchange on 19 December 2005, HSBC Holdings will comply with the applicable law and regulation in the UK in relation to the holding of any shares in treasury and with the conditions of the waiver in connection with any shares it may hold in treasury. Pursuant to Chapter 6 of the UK Companies Act 2006, 325,273,407 ordinary shares are currently held in treasury. This was the maximum number of shares held at any time during 2018; representing 1.60% of the shares in issue as at 31 December 2018. The nominal value of shares held in treasury is $162,636,704.

Notifiable interests in share capital

At 31 December 2018, HSBC Holdings had received the following notification of major holdings of voting rights pursuant to the requirements of Rule 5 of the Disclosure, Guidance and Transparency Rules:

- BlackRock, Inc. gave notice on 15 February 2019 that on 14 February 2019 it had the following: an indirect interest in HSBC Holdings ordinary shares of 996,000,424; qualifying financial instruments with 240,796,561 voting rights that may be acquired if the instruments are exercised or converted; and financial instruments with a similar economic effect to qualifying financial instruments which refer to 9,275,682 voting rights, representing 4.97%, 1.20% and 0.04%, respectively, of the total voting rights at that date.

At 31 December 2018, according to the register maintained by HSBC Holdings pursuant to section 336 of the Securities and Futures Ordinance of Hong Kong:

- BlackRock, Inc. gave notice on 17 October 2018 that on 12 October 2018 it had the following interests in HSBC Holdings ordinary shares: a long position of 1,335,245,703 shares and a short position of 6,355,666 shares, representing 6.59% and 0.03%, respectively, of the ordinary shares in issue at that date.
- Ping An Asset Management Co., Ltd. gave notice on 2 November 2018 that on 1 November 2018 it had a long position of 1,418,925,452 in HSBC Holdings ordinary shares, representing 7.01% of the ordinary shares in issue at that date.
- The Bank of New York Mellon Corporation gave notice on 18 September 2018 that on 14 September 2018 it had the following interests in HSBC Holdings ordinary shares: a long position of 1,123,775,445 shares and a short position of 812,085,965 shares, representing 5.55% and 4.01% respectively, of the ordinary shares in issue at that date. The notification includes the shares held in custody under the HSBC Holdings plc American Depository Receipt Programme.

Sufficiency of float

In compliance with the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited, at least 25% of the total issued share capital has been held by the public at all times during 2018 and up to the date of this report.

Dealings in HSBC Holdings listed securities

HSBC Group has policies and procedures that, except where permitted by statute and regulation, prohibit specified transactions in respect of its securities listed on The Stock Exchange of Hong Kong Limited. Except for dealings as intermediaries or as trustees by subsidiaries of HSBC Holdings, neither HSBC Holdings nor any of its subsidiaries has purchased, sold or redeemed any of its securities listed on The Stock Exchange of Hong Kong Limited during the year ended 31 December 2018.

Directors' interests

Pursuant to the requirements of the UK Listing Rules and according to the register of Directors' interests maintained by HSBC Holdings pursuant to section 352 of the Securities and Futures Ordinance of Hong Kong, the Directors of HSBC Holdings at 31 December 2018 had certain interests, all beneficial unless otherwise stated, in the shares or debentures of HSBC Holdings and its associated corporations. Save as stated in the following table, no further interests were held by Directors, and no Directors or their connected persons were awarded or exercised any right to subscribe for any shares or debentures in any HSBC corporation during the year.

No Directors held any short position as defined in the Securities and Futures Ordinance of Hong Kong in the shares or debentures of HSBC Holdings and its associated corporations.

Directors' interests – shares and debentures

			At 31 Dec 2018				
	Footnotes	At 1 Jan 2018, or date of appointment, if later	Beneficial owner	Child under 18 or spouse	Jointly with another person	Trustee	Total interests
HSBC Holdings ordinary shares							
Kathleen Casey	1	9,125	9,635				9,635
Laura Cha	5	18,200	10,200				10,200
Henri de Castries		17,116	18,064				18,064
Lord Evans of Weardale		12,892	12,892				12,892
John Flint (appointed on 21 February 2018)	2, 4	533,118	822,252		5,439		827,691
Irene Lee		10,588	11,172				11,172
Iain Mackay (ceased employment on 31 December 2018)	2	442,118	718,532				718,532
Heidi Miller	1	4,200	4,420				4,420
Marc Moses	2	1,207,068	1,533,039				1,533,039
David Nish		50,000		50,000			50,000
Jonathan Symonds		42,821	38,823	4,998			43,821
Jackson Tai	1, 3	44,825	22,970	11,430	21,675		56,075
Mark Tucker		276,000	288,381				288,381
Pauline van der Meer Mohr		15,000	15,000				15,000

1 *Kathleen Casey has an interest in 1,927, Heidi Miller has an interest in 884 and Jackson Tai has an interest in 11,215 listed ADS, which are categorised as equity derivatives under Part XV of the Securities and Futures Ordinance of Hong Kong. Each ADS represents five HSBC Holdings ordinary shares.*

2 *Executive Directors' other interests in HSBC Holdings ordinary shares arising from the HSBC Holdings savings-related share option plans and the HSBC Share Plan 2011 are set out in the Scheme interests in the Directors' remuneration report on page 217. At 31 December 2018, the aggregate interests under the Securities and Futures Ordinance of Hong Kong in HSBC Holdings ordinary shares, including interests arising through employee share plans and the interests above were: John Flint – 1,408,565; Iain Mackay – 2,513,553; and Marc Moses – 3,321,777. Each Director's total interests represents less than 0.02% of the shares in issue and 0.02% of the shares in issue excluding treasury shares.*

3 *Jackson Tai has a non-beneficial interest in 11,430 shares of which he is custodian.*

4 *On 8 January 2019, John Flint reported to HSBC that, as part of a discretionary portfolio structure whereby investment decisions are made entirely by the investment manager, he and his spouse had jointly acquired 4,836 shares on 6 June 2018 and 603 shares on 30 August 2018. Prior clearance was not obtained as required pursuant to the standards set out in the Hong Kong Model Code for Securities Transactions by Directors of Listed Issuers. Arrangements have now been put in place to prevent further transactions in HSBC Group securities within the portfolio structure.*

5 *Laura Cha advised HSBC Holdings plc on 20 January 2019 that her spouse had sold 8,000 shares on 23 August 2018.*

There have been no changes in the shares or debentures of the Directors from 31 December 2018 to the date of this report.

Listing Rule 9.8.4

The information to be disclosed in the *Annual Report and Accounts* pursuant to UK Listing Rule 9.8.4 is contained within the Corporate Governance Report.

Political donations

HSBC does not make any political donations or incur political expenditure within the ordinary meaning of those words. We have no intention of altering this policy. However, the definitions of political donations, political parties, political organisations and political expenditure used in the UK Companies Act 2006 (the 'Act') are very wide. As a result, they may cover routine activities that form part of the normal business activities of the Group and are an accepted part of engaging with stakeholders. To ensure that neither the Company nor any of its subsidiaries inadvertently breaches the Act, authority is sought from shareholders at the Annual General Meeting to make political donations.

HSBC provides administrative support to two political action committees ('PACs') in the US funded by voluntary political contributions by eligible employees. We do not control the PACs, and all decisions regarding the amounts and recipients of contributions are directed by the respective steering committee of each PAC, which are comprised of eligible employees. The PACs recorded combined political donations of $179,200 during 2018 (2017: $131,300).

Employees

At 31 December 2018, HSBC had a total workforce of 235,000 full- and part-time employees compared with 229,000 at the end of 2017 and 241,000 at the end of 2016. Our main centres of employment were the UK with approximately 39,000 employees, India 38,000, Hong Kong 31,000, mainland China 26,000, Mexico 15,000, the US 10,000 and France 7,000.

People at HSBC span many cultures, communities and continents. We want to build trust-based relationships with our people, where they feel empowered in their roles and inspired to grow. We help our leaders to set the tone by listening, not just talking, and valuing the behaviours that get a job done as much as the outcome.

Employee relations

We consult with and, where appropriate, negotiate with employee representative bodies. It is our policy to maintain well-developed communications and consultation programmes with all employee representative bodies. There have been no material disruptions to our operations from labour disputes during the past five years.

Diversity and inclusion

We are committed to a thriving environment where people are valued, respected and supported to fulfil their potential. By building upon the extraordinary range of ideas, backgrounds, styles and perspectives of our employees, we can drive better outcomes for our stakeholders, including customers, communities, suppliers and shareholders.

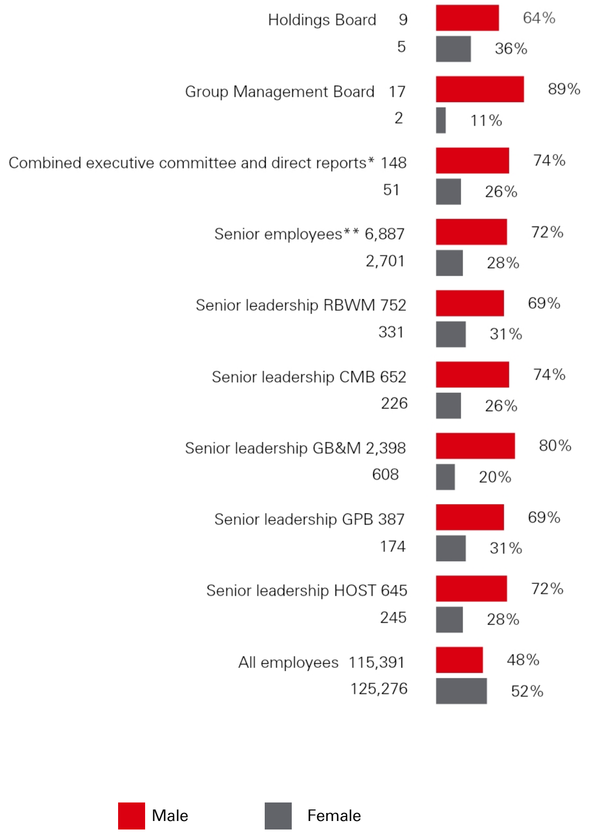
We focus on enhancing the diversity of our workforce so that it is more reflective of the communities in which we operate and the customers we serve.

We expect our people to treat each other with dignity and respect, creating an inclusive culture to support equal opportunities. We do not tolerate discrimination, bullying, harassment and victimisation on any grounds. We encourage our employees to build positive and lasting relationships among the variety of people with whom they interact.

Diversity and inclusion is championed by our Group Chief Executive and his executive team and is governed by the Group People Committee.

More information about our diversity and inclusion activity and our *UK Gender Pay Gap Report* is available at www.hsbc.com/our-approach/measuring-our-impact.

Gender diversity statistics



**Combined executive committee and direct reports includes HSBC's executive Directors, Group Managing Directors and their direct reports (excluding administrative staff) plus the Group Company Secretary.*
***Senior leadership refers to employees performing roles classified as 0, 1, 2 or 3 in our global career band structure.*

Employment of people with a disability

We believe in providing equal opportunities for all employees. The employment of people with a disability is included in this commitment. The recruitment, training, career development and promotion of people with a disability are based on the aptitudes and abilities of the individual. Should employees become disabled during their employment with us, efforts are made to continue their employment and, if necessary, appropriate training and reasonable equipment and facilities are provided.

Employee development

The opportunity to develop is one of the most important factors affecting how people feel about HSBC. We celebrated the first anniversary of our home of learning, HSBC University, in November 2018. HSBC University strengthens how we learn and lead, through new programmes, resources and premises. We have launched HSBC University regional hubs at our offices in Dubai and in the new HSBC UK Headquarters in Birmingham, providing opportunities for our colleagues, clients and community groups to come together to learn, develop and connect.

We have expanded our management and leadership development with new programmes, including 'Leading with Impact', for senior leaders, and 'Leading Myself', for individual contributors. We have further developed our 'Essentials' programme to support people managers strengthen their coaching and hiring skills. Across the organisation our employees have completed 6.2 million hours of formal learning, which equates to 2.8 days of learning per employee.

Health and safety

The Group is committed to providing a healthy and safe working environment for our employees, contractors, customers and visitors on HSBC premises, and where impacted by our operations. We aim to be compliant with all applicable health and safety legal requirements, and to ensure that best practice health and safety management standards are implemented and maintained across the HSBC Group.

Everyone at HSBC has a responsibility for helping to create a healthy and safe working environment. Employees are expected to take ownership of their safety, and are encouraged and empowered to report any concerns.

Chief Operating Officers have overall responsibility for ensuring that the correct policies, procedures and safeguards are put into practice. This includes making sure that everyone in HSBC has access to appropriate information, instruction, training and supervision.

Putting our commitment into practice, in 2018 we delivered a health and safety education and information training programme to every one of our employees. We also carried out a range of programmes to help us understand and effectively manage the risks we face and improve the buildings in which we operate:

- We developed and implemented a health and safety continuous improvement programme, focusing on education, engineering and enforcement/reward.
- We developed and implemented an improved health and safety training and awareness programme for all employees globally. This was to ensure roles and responsibilities were clear and understood; and processes for identifying and reporting hazards and incidents were clearly defined and communicated.
- We implemented, through our global facilities management service provider, an electronic permit-to-work system to provide effective controls for all high-risk work that is undertaken.
- We developed and implemented a global earthquake risk management programme to ensure all HSBC properties in earthquake zones were risk assessed and controls implemented to manage the risk.
- We ensured all our properties had been assessed for fire and asbestos risk, with over 40,000 individual actions taken to improve standards.

Employee health and safety

	Footnotes	2018	2017	2016
Number of workplace fatalities	1	**1**	2	1
Number of major injuries to employees	2	**27**	33	44
All injury rate per 100,000 employees		**184**	209	246

1 *Contractor fatality relating to use of work equipment.*
2 *Fractures, dislocation, concussion.*

Remuneration policy

The quality and commitment of our employees is fundamental to our success and, accordingly, the Board aims to attract, retain and motivate the very best people. As trust and relationships are vital in our business, our goal is to recruit those who are committed to making a long-term career with the Group.

HSBC's reward strategy supports this objective through balancing both short-term and sustainable performance. Our remuneration strategy is designed to reward competitively the achievement of long-term sustainable performance and attract and motivate the very best people who are committed to maintaining a long-term career with the Group while performing their role in the long-term interests of our stakeholders.

In order to ensure alignment between remuneration and our business strategy, individual remuneration is determined through assessment of performance delivered against both annual and long-term objectives summarised in performance scorecards, and adherence to the HSBC Values of being 'open, connected and dependable' and acting with 'courageous integrity'. Altogether, performance is judged, not only on what is achieved over the short and long term, but also on how it is achieved, as the latter contributes to the sustainability of the Group.

The financial and non-financial measures incorporated in the annual and long-term scorecards are carefully considered to ensure alignment with the long-term strategy of the Group.

Further information on the Group's approach to remuneration is given on page 217.

Employee share plans

Share options and discretionary awards of shares granted under HSBC share plans align the interests of employees with the creation of shareholder value. The following table sets out the particulars of outstanding options, including those held by employees working under employment contracts that are regarded as 'continuous contracts' for the purposes of the Hong Kong Employment Ordinance. The options were granted at nil consideration. No options have been granted to substantial shareholders and suppliers of goods or services, nor in excess of the individual limit for each share plan. No options were cancelled by HSBC during the year.

A summary for each plan of the total number of the options which were granted, exercised or lapsed during 2018 is shown in the following table. Further details required to be disclosed pursuant to Chapter 17 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited are available on our website at https://www.hsbc.com/our-approach/corporate-governance/remuneration and on the website of The Stock Exchange of Hong Kong Limited at www.hkex.com.hk, or can be obtained upon request from the Group Company Secretary, 8 Canada Square, London E14 5HQ.

Particulars of options held by Directors of HSBC Holdings are set out on page 236.

Note 6 on the Financial Statements gives details of share-based payments, including discretionary awards of shares granted under HSBC share plans.

All-employee share plans

HSBC operates all-employee share option plans under which options are granted over HSBC ordinary shares. Subject to leaver provisions, options are normally exercisable after three or five years. During 2018, options were granted by reference to the average market value of HSBC Holdings ordinary shares on the five business days immediately preceding the invitation date, then applying a discount of 20%. The mid-market closing price for HSBC Holdings ordinary shares quoted on the London Stock Exchange which, as derived from the Daily Official List on 20 September 2018, the day before the options were granted was £6.6570.

The UK HSBC Holdings Savings-Related Share Option Plan will expire on 23 May 2025 (at which time the plan may be extended with approval from Shareholders) unless the Directors resolve to terminate the plans at an earlier date. There have been no further grants under the HSBC Holdings Savings-Related Share Option Plan: International.

The HSBC International Employee Share Purchase Plan was introduced in 2013 and now includes employees based in 27 jurisdictions.

HSBC Holdings Share Option Plans

Dates of awards		Exercise price		Exercisable			HSBC Holdings ordinary shares				
							At	Granted	Exercised	Lapsed	At
from	to	from	to	from	to	Footnotes	1 Jan 2018	during year	during year	during year	31 Dec 2018
Savings-Related Share Option Plan						1					
24 Apr 2012	21 Sep 2018	(£) 4.0472	(£) 5.9640	1 Aug 2017	30 Apr 2024		64,566,103	20,501,336	23,194,305	4,807,621	57,065,513
Savings-Related Share Option Plan: International						2					
24 Apr 2012	–	(£) 4.4621	(£) –	1 Aug 2017	31 Jan 2018		38,829	–	25,295	13,534	–
24 Apr 2012	–	($) 7.1456	($) –	1 Aug 2017	31 Jan 2018		17,873	–	11,064	6,809	–
24 Apr 2012	–	(€) 5.3532	(€) –	1 Aug 2017	31 Jan 2018		10,539	–	8,486	2,053	–
24 Apr 2012	–	(HK$) 55.4701	(HK$) –	1 Aug 2017	31 Jan 2018		36,309	–	20,631	15,678	–

1 *The weighted average closing price of the shares immediately before the dates on which options were exercised was £6.5220.*
2 *The weighted average closing price of the shares immediately before the dates on which options were exercised was £7.7119.*

Statement of compliance

The statement of corporate governance practices set out on pages 197 to 252 and the information referred to therein constitutes the Corporate governance report of HSBC Holdings. The websites referred to do not form part of this Report.

Relevant corporate governance codes, role profiles and policies

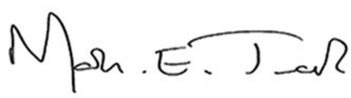
UK Corporate Governance Code	www.frc.org.uk
Hong Kong Corporate Governance Code (set out in Appendix 14 to the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited)	www.hkex.com.hk
Descriptions of the roles and responsibilities of the: – Group Chairman – Group Chief Executive – Deputy Group Chairman and Senior Independent Director – Board	www.hsbc.com/our-approach/corporate-governance/board-responsibilities
Board and senior management	www.hsbc.com/who-we-are/leadership
Roles and responsibilities of the Board's committees	www.hsbc.com/our-approach/corporate-governance/board-committees
Board's policies on: – Diversity and inclusion – Shareholder communication – Human rights – Remuneration practices and governance	www.hsbc.com/our-approach/corporate-governance/board-responsibilities
Global Internal Audit Charter	https://www.hsbc.com/our-approach/corporate-governance/corporate-governance-codes/internal-control

HSBC is subject to corporate governance requirements in both the UK and Hong Kong. During 2018, and with the following exceptions, HSBC applied the principles and complied with the applicable provisions of the UK Corporate Governance Code, and also the requirements of the Hong Kong Corporate Governance Code.

Under the UK Corporate Governance Code, the Board is required to undertake an annual evaluation of its own performance and that of its committees. For the reasons described on page 197, this evaluation did not take place in 2018.

Under the Hong Kong Code, the audit committee should be responsible for the oversight of all risk management and internal control systems. HSBC's Group Risk Committee is responsible for oversight of internal control, other than internal control over financial reporting, and risk management systems. This is permitted under the UK Corporate Governance Code.

The Company has codified obligations for transactions in HSBC Group securities in accordance with the requirements of the Market Abuse Regulation and the rules governing the listing of securities on HKEx, save that the HKEx has granted waivers from strict compliance with the rules that take into account accepted practices in the UK, particularly in respect of employee share plans. During the year, all Directors were reminded of their obligations in respect of transacting in HSBC Group securities and, except as disclosed on page 168, all Directors have confirmed that they have complied with their obligations.



On behalf of the Board

Mark E Tucker

Group Chairman

HSBC Holdings plc

Registered number 617987

19 February 2019

Directors' remuneration report

All disclosures in the Directors' remuneration report are unaudited unless otherwise stated.

Disclosures marked as audited should be considered audited in the context of financial statements taken as a whole.

Annual statement from the Group Remuneration Committee Chair

Dear Shareholder,

I am delighted to present our 2018 Directors' remuneration report. I have set out below a summary of our 2018 performance, and the key decisions made during the year.

Our current remuneration policy entered its third and final year in 2018. Therefore, we will be seeking shareholders' approval for our proposed Directors' remuneration policy for the following three years at the 2019 Annual General Meeting ('AGM').

Our current policy and the implementation of the policy received strong support with more than 96% of the votes cast in favour of the policy and its implementation for 2016 and 2017. Therefore, we intend to make only minor changes to simplify our policy and ensure alignment of executive remuneration with our strategic priorities in line with shareholder feedback. I have explained the key changes in this statement and the remuneration policy section provides further details.

Performance achieved during 2018

During 2018, we announced our strategic priorities to return HSBC to growth and create value for our shareholders. We aim to do this by increasing returns from the Group's areas of strength, particularly in Asia and across our network, turning around low-return businesses of high strategic importance, particularly the US, investing to build a bank for the future with the customer at its centre, and making it easier for our employees to do their jobs.

Our 2018 results demonstrate that our strategy is working. Reported profit before tax was $19.9bn, up 16% from $17.2bn in 2017. On an adjusted basis, profit before tax was $21.7bn, up 3% from $21.1bn in 2017.

Reported revenue rose by 5% to $53.8bn. On an adjusted basis, revenue rose by 4% to $53.9bn, reflecting revenue growth in all of our global businesses. Progress is being made on growing our Asian franchise and international client revenue. We missed our target to achieve positive adjusted jaws, as growth in adjusted operating expenses exceeded our adjusted revenue growth.

Our return on tangible equity ('RoTE') improved to 8.6% in 2018 from 6.8% in 2017, demonstrating our commitment to generating value for shareholders.

The scorecards of our executive Directors include measures that are aligned to the delivery of our strategic priorities, as set out on page 231.

The Group announced a dividend of $0.51 per ordinary share and in 2018, we returned a total of $2bn to shareholders through share buy-backs. We remain a well-funded business with a strong capital base and a diversified balance sheet. We received the 'World's Best Bank for Transaction Services', 'World's Best Bank for Corporates' and the 'World's Best Bank for public-sector clients' awards at the 2018 *Euromoney* Awards for Excellence, a significant endorsement of our investment in innovation and digital solutions, and making transaction banking simpler, better and faster.

Group variable pay pool and risk adjustments

The Group Remuneration Committee reviewed and agreed the Group variable pay pool, taking into account performance against financial and non-financial metrics set out in the Group risk appetite statement and targets set out in our annual operating plan.

Based on this assessment, the Committee considered that a total variable pay pool for 2018 of $3,473m was appropriate. This represents a 5.1% increase on the 2017 variable pay pool reflecting the improvement in financial performance during 2018.

In setting the pool, the Committee used its discretion to apply:

- a reduction of $208m for the fines, penalties and cost of customer redress faced by the Group; and
- a reduction of $793m for:
  - negative adjusted jaws achieved during 2018;
  - certain financial and non-financial risk metrics, where performance was outside our risk appetite;
  - conduct assessments and continued work required to address conduct issues; and
  - counter-cyclical adjustments to recognise the positive impact that interest rate increases have had on the financial performances of Retail Banking and Wealth Management, and Commercial Banking.

At HSBC we assess individual performance based on what is achieved but also how it is achieved, as we believe the latter contributes to the long-term sustainability of the business. We reward employees who exemplify our values through:

- the use of behaviour and performance ratings for all employees, which directly influence pay outcomes;
- variable pay adjustments:
  - during 2018, we made positive adjustments to variable pay awards totalling $13.4m for individuals who have exhibited exemplary conduct and who went the extra mile to courageously do the right thing; and
  - we reduced variable pay awards to certain individuals by $3.7m in aggregate to reflect individual conduct and behaviours; and
- our global recognition programme, where our employees can recognise peers and reward positive behaviours in a real-time, visible way.

Fixed pay for executive Directors

We are proposing to increase the base salary of our executive Directors by 3.3%, which is in line with the average base salary increase made for our UK employees. This is the first base salary increase we will have made for any executive Directors since 2011.

Executive Directors' 2018 variable pay awards

The 2018 annual incentive scorecard outcome was 76% for John Flint, 73% for Iain Mackay and 89% for Marc Moses, reflecting the performance of the Group and performance achieved against their individual scorecards. Details of the annual incentive scorecard outcome are provided on page 231.

For John Flint and Marc Moses, the Committee determined to grant 50% of the annual incentive in shares subject to a one-year retention period and the remaining 50% in cash. This is in line with the structure applied for other employees and permissible under the remuneration rules of the UK's Prudential Regulation Authority ('PRA'). The Committee noted that more than 80% of John Flint's and Marc Moses' combined variable pay and fixed pay allowance for 2018 will continue to be delivered in shares that will be released over a period of eight years, ensuring long-term alignment with share price performance and shareholder experience.

Stuart Gulliver stepped down as Group Chief Executive on 20 February 2018. As set out in our 2017 Directors' remuneration report, Stuart Gulliver was eligible to be considered for a 2018 annual incentive award based on the 2018 annual incentive scorecard outcome, pro-rated for time spent by him in the Group Chief Executive role. Based on this approach, Stuart Gulliver's annual incentive award has been determined to be £282,000 (see details on page 231).

John Flint and Marc Moses will be awarded a long-term incentive ('LTI') award in respect of 2018 performance. In granting these awards, the Committee took into consideration the good progress made during 2018 towards achieving our strategic priorities. These awards will also be subject to a three-year forward-looking performance period ending on 31 December 2021. We have simplified our LTI scorecard through the use of fewer measures with a higher weighting attached to financial measures. Details of the performance measures are set out on page 234.

Executive Director changes

Iain Mackay stepped down as Group Finance Director on 31 December 2018. He received payment in lieu of his salary, fixed pay allowance and cash in lieu of pension for the period from 1 January 2019 to 13 January 2019. In accordance with our approved remuneration policy and contractual terms agreed, Iain Mackay has been designated as a good leaver in respect of his unvested awards that were granted between 2014 and 2018, and was eligible to be considered for an annual incentive award in respect of 2018 as set out on page 231.

Ewen Stevenson was appointed as an executive Director and Group Chief Financial Officer of the Company on 1 January 2019, having joined the Group on 1 December 2018 as Group Chief Financial Officer designate.

For the 2018 performance year, Ewen Stevenson will receive an award in lieu of any variable pay award he would have otherwise received from The Royal Bank of Scotland Group plc ('RBS'). This will be based on his maximum opportunity of £1.6m under RBS's policy and the outcome of the 2018 scorecard, as disclosed in its 2018 annual report and accounts.

In 2019, Ewen Stevenson will be granted share awards to replace unvested RBS awards, which were forfeited as a result of him joining HSBC. The awards granted will, in general, match the performance, vesting and retention periods attached to the awards forfeited, and will be subject to any performance adjustments that would otherwise have been applied by RBS. Further details can be found on page 235.

New remuneration policy

As the term of the current remuneration policy for Directors comes to an end at the 2019 AGM, the Committee is seeking shareholder approval for a new policy.

The Committee undertook an extensive review of the policy based on the following key principles:

- the policy should be simple and transparent;
- there should be a strong alignment between rewards and the interest of our stakeholders, including shareholders, customers and employees;
- the policy should maintain a focus on long-term performance;
- the total compensation package should be competitive to ensure we can retain and attract talent; and
- the structure should meet the expectations of investors and our regulators.

As part of the review, the Committee considered alternatives to our current policy, including the use of restricted share awards or a single incentive scorecard. The Committee was of the view that while these alternative structures had some merits, on balance, our current policy approach provided a more suitable and appropriate framework that was aligned with our key principles.

The Committee also considered that our current policy structure was broadly in line with the structure used by our global peers and other listed peers on the FTSE 100 of a similar size and had received strong support from our shareholders. Therefore, the Committee is proposing only minor changes to the policy being put forward to shareholders for approval, including:

- simplifying our LTI scorecard through the use of fewer measures and a substantial proportion of the scorecard weighted towards value creation financial measures, such as RoTE to reflect feedback received from our shareholders. Assigning a substantial proportion of the overall scorecard weighting to a value creation measure such as RoTE will incentivise executive Directors to improve financial performance and generate a return that delivers value for our shareholders; and
- increasing the fees for non-executive Directors to reflect the increase in time that they are required to commit to their roles, as the Board supports HSBC through its ambitious agenda of governance reform, growth and organisational development in an environment of increasing regulatory, political and organisational complexity. Details of the change in fees and our rationale for changes are set out on page 227.

Within the context of the review, the Committee was also mindful of the changes within the UK Corporate Governance Code (the 'Code'), namely:

- Pension provision: The current executive Director remuneration policy allows for 30% of salary to be paid in lieu of a pension entitlement (reduced from 50% of salary paid under our previous policy in operation before 2016). This is equivalent to 16% of salary after UK income tax and national insurance deductions, which aligns with the maximum contribution rate (as a percentage of salary) that HSBC makes for employees who are defined contribution members of the HSBC Bank (UK) Pension Scheme. For the majority of such employees, HSBC makes a contribution of 9% of salary (10% on the first £21,200 of salary) and, where the employee also makes a contribution to the plan, an additional matching contribution of up to 7% of salary. As the current cash in lieu of pension allowance of our executive Directors is in line with pension contributions available to the majority of our UK workforce, we have not proposed any change. The Committee will continue to monitor the cash in lieu of pension to ensure this remains aligned with the benefit available for the majority of the workforce.
- Post-employment shareholding policy: Under our remuneration policy, executive Directors will realise their pay over a period of up to eight years which is not accelerated on departure. We believe this achieves the objective of ensuring ongoing alignment of executive Directors' interests with shareholder experience post-cessation of their employment. Further details are available on page 220.
- Time horizons for awards: During the policy review, we also reviewed the combined vesting and retention period for our LTI awards, and are comfortable that they meet the five-year holding period as the weighted average holding period for each award is six years from the date of grant.

We also discussed the approach we will use under the current policy and the new policy for making any salary increases for executive Directors and delivering our annual incentive award with a number of our large shareholders and institutional shareholder bodies. We informed them that our approach going forwards will involve:

- considering salary increases for executive Directors, provided they are in line with increases made for our employees and within the limits approved by shareholders; and
- paying a portion of the annual incentive awards of our executive Directors in cash, as permitted by our current and new policy. Currently the executive Directors receive their annual incentive awards entirely in shares subject to a retention period. Under this approach, executives will be eligible to receive a portion, not more than 50% of the total annual incentive awards, in cash. This is to bring the variable pay structure of our executive Directors in line with the structure used for our employees and that used by our international peers, while meeting the requirements of the remuneration rules of the PRA. Even with this change, more than 80% of the executive Directors'

combined variable pay and fixed pay allowance for each year will be delivered in shares and released over a period of eight years.

They have been supportive of the proposed changes and the simplification of the LTI scorecard was well received. In light of the feedback received from shareholders, we have included an environmental, social and governance ('ESG') measure in the LTI scorecard.

Employee remuneration

During 2018, we introduced a simpler and more transparent framework for determining variable pay awards for our junior employees in global functions and HSBC Operations, Services and Technology, based on feedback we received from our employees. The new framework provides a clear and transparent link between performance and behaviour ratings, and the variable pay awards.

The Code issued by the Financial Reporting Council, effective from 1 January 2019, requires remuneration committees to review workforce remuneration to ensure these policies are aligned with our culture and executive Director remuneration. The Committee has been undertaking these reviews as part of the oversight role it performs in respect of the Group's remuneration policy. The framework for this review, was developed after taking into account the industry reforms introduced since the financial crisis, expectations of regulators for the financial service sector and the prescribed responsibility assigned under the PRA's Senior Managers Regime.

Under the PRA's Senior Managers Regime, I have been assigned, as the Chair of the Committee, the responsibility for setting the Group's remuneration policy for all employees. In carrying out this responsibility, the Committee regularly reviews the effectiveness of the remuneration policy for all employees, through feedback received from employee survey results and the information and updates we receive on employee remuneration matters throughout the year. The Committee also reviews the year-end pay review outcomes for the wider group of employees to ensure the outcomes are in line with our remuneration principles. The results of such reviews also inform the decisions the Committee makes on executive remuneration matters. We will include details of the review undertaken by the Committee during 2019 in the next year's report in line with the requirements of the Code.

An overview of our remuneration principles and the wider employee remuneration policy is set out on page 244.

Diversity and inclusion

Our definition of diversity is broader than inherent characteristics and includes other differences that make individuals unique. Our pay strategy is designed to attract and motivate the very best people, regardless of gender, ethnicity, age, disability or any other factor unrelated to performance or experience.

We also encourage diversity of thought from our leaders and our people so we can deliver on our purpose.

Our reported UK gender pay gap is driven by the gender profile of our businesses and functions. There are fewer women in senior leadership roles, meaning that we have more men earning higher salaries. There is a gender imbalance in our more junior roles and a higher proportion of female employees working part-time hours. Collectively, this means that we have a gender pay gap in the UK.

We are committed to improving our gender balance and are taking a number of specific steps, which we expect will positively impact our gender pay gap in the UK over time, including:

- driving better gender balance at all levels in the organisation;
- developing female talent to strengthen the leadership pipeline; and
- supporting families, flexible working; and
- retaining female talent.

We are confident in our approach to pay, and if we identify any pay differences that cannot be explained, we make appropriate adjustments.

Pay ratio of Group Chief Executive and UK employees

We have disclosed the ratio between the remuneration of our Group Chief Executive and UK employees on page 239.

Additional fee for the Chair of the Group Risk Committee ('GRC')

The Committee noted that there has been an increase in the demands and expectations of the role of the GRC Chair, including from regulators and the expanding remit of the GRC also being involved in improving connectivity between the GRC and our regulated subsidiaries. In total, Jackson Tai currently devotes around 150 days per year to the Group. Taking these circumstances into consideration, the Committee exercised its discretion to increase the GRC Chair fee from £60,000 to £120,000 per annum with effect from 1 December 2018. Further details are provided on page 227.

Our annual report on remuneration

The next section provides an overview of our remuneration policy for executive Directors, for which we are seeking shareholder approval.

In the annual report section, we provide details of remuneration decisions made for executive Directors in 2018 for which we will seek shareholder approval with an advisory vote at the 2019 AGM. In the additional remuneration disclosure section of this report, we provide additional remuneration-related disclosures, including an overview of the policy that applies to our employees.

As Chair of the Committee, I hope you will support our remuneration policy and the 2018 annual report on remuneration.

Pauline van der Meer Mohr

Chair

Group Remuneration Committee

19 February 2019

Directors' remuneration policy

In the following tables we have set out our remuneration policy for our executive Directors and non-executive Directors. We will seek shareholders' approval at the AGM on 12 April 2019, and if approved, the policy is intended to apply immediately for three years to the end of the AGM in 2022.

Remuneration policy – key principles

HSBC is one of the world's largest banking and financial services organisations. We are a global company serving more than 39 million customers in both established and emerging markets. Our aim is to attract, retain and motivate the very best people in a competitive environment, and our remuneration strategy is designed to reward the achievement of long-term sustainable performance. The key guiding principles that form the basis of our review of the remuneration policy for Directors are as follows:

Key guiding principles

Simplification	Alignment
• The policy should be simple and the outcomes from the application of the policy should be transparent.	The policy should: • align the interests of Directors with the interests of shareholders and other stakeholders; and • maintain a focus on long-term performance and reward achievement of our strategic priorities.
Market competitive	**Meet regulatory and investor expectations**
• Total compensation under the policy should be competitive and provide us the ability to attract and retain talent.	• The policy should meet the regulatory requirements and also be aligned with investor expectations.

Key changes to our policy for executive Directors

From our discussions with investors on the implementation of our current policy, it was clear there is a considerable desire for companies to simplify remuneration structures and for the total remuneration outcome to be transparent and aligned to shareholder experience.

Equally, our current policy and its implementation have received strong support from investors. We are therefore proposing to continue with our current remuneration policy structure for executive Directors, but with a simplified approach for assessing performance for variable pay awards.

No changes have been made to fixed pay components and benefits for our executive Directors. We are also not proposing any increase in the variable pay opportunity as a percentage of salary.

Key changes to the policy are:

- Using simpler scorecards: Our LTI awards will have fewer performance measures and will be aligned with the financial targets set out in our strategic priorities. The financial measures will carry a significant weighting in the scorecard, with capital and risk and compliance measures being used as an underpin. The objective of this approach is to create a strong alignment between the LTI awards that pay out and the value generated for our shareholders as measured by financial metrics such as RoTE. The targets for the financial metrics used in the LTI scorecard will result in 50% of the total awards vesting if the performance achieved over a three-year performance period is in line with expectations at the start of the performance period. The awards will only vest at 100% if a stretch performance target has been achieved over the performance period.
- Delivering annual incentive awards in cash and shares: Up to a maximum of 50% of any annual incentive award will be paid in cash. The balance will be paid in shares subject to a one-year retention period. This is to bring the variable pay structure of our executive Directors in line with the structure used for our employees and that used by our international peers, while meeting the requirements of the remuneration rules of the PRA. We believe there will continue to be a strong alignment between the interest of our executive Directors and shareholders, as the LTI awards will be granted entirely over shares and deferred over a period of seven years with a one-year retention period applied to each tranche on vesting. In addition, the fixed pay allowance ('FPA') will continue to be delivered entirely in shares, subject to a five-year retention period, and released equally over a five-year period. Therefore, more than 80% of the combined variable pay and FPA will continue to be delivered in shares and released over a period of eight years.

As part of the policy review, the Committee also considered a number of alternative structures, including the use of restricted stock awards or a single incentive scorecard. The Committee concluded that while these alternative pay structures had some merits, our proposed policy presented an appropriate framework that was aligned to our guiding principles.

As part of our review, we also considered whether a post-employment shareholding policy should be introduced. For this purpose, the Committee took into consideration the following features of our policy:

- Shares delivered to executive Directors as part of the FPA have a five-year retention period, which continues to apply following a departure of an executive Director.
- Shares delivered as part of an annual incentive award are subject to a one-year retention period, which continues to apply following a departure of an executive Director.
- LTI awards have a seven-year vesting period with a one-year post-vesting retention period, which is not accelerated on departure. Therefore, when an executive Director ceases employment as a good leaver under our policy, any LTI awards granted will continue to be released over a period of up to eight years, subject to the outcome of performance conditions.

Executive Directors have a five-year period to meet the shareholding requirement under our policy. On cessation of employment as a good leaver after this period, they will hold shares not subject to further performance conditions equivalent in value to more than 400% of salary, assuming they receive a target payout of 50% for LTI awards. These shares will be released over a period of up to eight years.

We believe our existing policy structure achieves the objective of ensuring there is ongoing alignment of executive Directors' interests with shareholder experience post-cessation of their employment.

We also considered whether the combined vesting and retention period for our LTI awards meets the five-year holding period (aggregate of vesting and retention period) that is expected by investors. We believe the seven-year vesting period and the one-year post-vesting retention period applied to shares granted under the LTI aligns with investor expectations as the share awards will be released over a period of eight years with a weighted-average holding period of six years.

Shareholder views

The proposed policy was discussed with a number of our large shareholders and proxy advisory bodies. They have been supportive of the policy and the simplification of our approach was well received.

The engagement with shareholders and proxy advisory bodies has been valuable, and our aim is to continue this dialogue as we implement the proposed policy over the following years.

Directors' remuneration policy

The following tables set out our remuneration policy for executive Directors.

Remuneration policy – executive Directors

Fixed pay

Elements	Details
Base salary	*To attract and retain key talent by being market competitive and rewarding ongoing contribution to role.*
Operation	Base salary reflects the individual's role, experience and responsibility. Base salaries are benchmarked on an annual basis against relevant comparator groups and may be reviewed more frequently at the discretion of the Committee. The Committee reviews and approves changes, taking into consideration local requirements, employee increases and market competitiveness.
Maximum opportunity	Other than in exceptional circumstances, the base salary for the current executive Directors will not increase by more than 15% above the level at the start of the policy period, as set out on page 242, in total for the duration of this policy.
Fixed pay allowance ('FPA')	*To deliver a level of fixed pay required to reflect the role, skills and experience of the Directors and to maintain a competitive total remuneration package for retention of key talent.*
Operation	Fixed pay allowances ('FPAs') are non-pensionable and will be granted in four instalments of immediately vested shares per year, or at any other frequency that the Committee deems appropriate. On vesting, shares equivalent to the net number of shares delivered (after those sold to cover any income tax and social security) will be subject to a retention period and released annually on a pro-rata basis over five years, starting from the March immediately following the end of the financial year in respect of which the shares are granted. Dividends will be paid on the vested shares held during the retention period. The Committee retains the discretion to amend the retention period and/or pay the FPA in cash if required to do so to meet any regulatory requirements.
Maximum opportunity	FPAs are determined based on the role, skills and responsibility of each individual and taking into account market competitiveness of the total remuneration opportunity and other elements of remuneration set in this policy. Other than in exceptional circumstances, the FPA for the duration of this policy will be capped at 150% of base salary levels at the start of this policy.
Cash in lieu of pension	*To attract and retain key talent by being market competitive.*
Operation	Directors receive a cash allowance in lieu of a pension entitlement.
Maximum opportunity	30% of base salary. This is equivalent to 16% of salary after income tax and social security and aligned with the aggregate of contributions that HSBC can make to the defined contribution plan for the majority of our UK employees (currently employer contribution of 10% on the first £21,200 of salary, 9% on salary above £21,200 and additional matching contribution of up to 7%). The Committee retains the discretion to reduce the maximum opportunity to ensure it remains aligned with the pension contribution percentage available for the majority of the UK workforce.

Benefits and all employee share plans

Elements	Details
Benefits	*To provide benefits in accordance with local market practice.*
Operation	Benefits take account of local market practice and include, but are not restricted to: • all taxable benefits (gross value before payment of tax) including provision of medical insurance, accommodation, car, club membership, independent legal advice in relation to a matter arising out of the performance of employment duties for HSBC, tax return assistance or preparation and travel assistance (including any associated tax due, where applicable); and • non-taxable benefits including the provision of health assessment, life assurance and other insurance coverage. The Group Chief Executive is also eligible to be provided with accommodation and car benefit in Hong Kong. Any tax and/or social security due on this benefit will be paid by HSBC. Additional benefits may also be provided when an executive is relocated or spends a substantial proportion of his/her time in more than one jurisdiction for business needs or in such other circumstances as the Committee may determine in its discretion. Such benefits could include, but are not restricted to, airfare, accommodation, shipment, storage, utilities, and any tax and social security that may be due in respect of such benefits.
Maximum opportunity	The maximum opportunity is determined by the nature of the benefit provided. The benefit amount will be disclosed in the single figure of remuneration table for the relevant year.
All employee share plans	*To promote share ownership by all employees.*
Operation	Executive Directors are entitled to participate in all employee share plans, such as the HSBC Sharesave, on the same basis as all other employees. Under the Sharesave, executive Directors can make monthly savings over a period of three or five years towards the grant of an option over HSBC shares. The option price can be at a discount, currently up to 20%, on the share price at the time that the option is granted.
Maximum opportunity	The maximum number of options is determined by the maximum savings limit set by HM Revenue and Customs. This is currently £500 per month.

Variable pay

Adhering to the HSBC Values is a prerequisite to be considered for any variable pay. Executive Directors receive a performance and behaviour rating that is considered by the Committee in determining the variable pay awards.

Elements	Details
Annual incentive	*To drive and reward performance against annual financial and non-financial objectives that are consistent with the strategy and align to shareholder interests.*
Operation	Awards are discretionary and can be delivered in any combination of cash and shares under the HSBC Share Plan 2011 ('HSBC Share Plan'). Shares will not represent less than 50% of any award and are normally immediately vested. On vesting, shares equivalent to the net number of shares that vested (after those sold to cover any income tax and social security payable) must be held for a retention period up to one year, or such other period as required by regulators. The awards will be subject to clawback (i.e. repayment or recoupment of paid/vested awards) on or after vesting for a period of seven years from the date of award. This may be extended to 10 years in the event of an ongoing internal/regulatory investigation at the end of the seven-year period. Details of the clawback provision are set out in the following section on LTI awards. The Committee retains the discretion to: • apply a longer retention period; • increase the proportion of the award to be delivered in shares; and • defer the vesting of a portion of the awards, which will be subject to malus (i.e. reduction and/or cancellation of unvested awards) provisions during any applicable deferral period. Any deferred shares may be entitled to dividend equivalents during the vesting period, which will be paid on vesting. Where awards do not receive dividend equivalents during the vesting period (to meet regulatory requirements), the number of shares to be awarded will be determined using a share price discounted for the expected dividend yield. Any deferred cash award may be entitled to notional return during the deferral period as determined by the Committee.
Maximum opportunity	The maximum opportunity for the annual incentive award, in respect of a financial year, is up to 215% of base salary.
Performance metrics	Performance is measured against an annual scorecard, based on targets set for financial and non-financial measures. The scorecards vary by individual. Measures with financial targets will generally have a weighting of 60% for the Group Chief Executive, 50% for the Group Chief Financial Officer and 25% for the Group Chief Risk Officer. The Committee will assess performance against the targets set to determine the level of achievement. The overall payout of the annual incentive could be between 0% (for below threshold performance) and 100% of the maximum. At threshold level of performance set in the scorecard for each measure, 25% of the award opportunity for that measure will pay out, whereas 100% of the award opportunity will pay out for achieving maximum performance set in the scorecard. Payout will be determined on a straight-line basis between threshold and maximum performance. The Committee can reduce (to zero if appropriate) the annual incentive payout based on the outcome of the performance measures, if it considers that the payout determined does not appropriately reflect the overall position and performance of the Company during the performance period. The Committee has the discretion to: • change the overall weighting of the measures with financial targets and non-financial measures; • vary the measures and their respective weightings within each category. The specific performance measures will be disclosed in the 'annual report on remuneration' for the relevant year; and • make adjustments to performance targets to reflect significant one-off items or exceptional events that occur during the measurement period. Full and clear disclosure of any such adjustments will be made within the annual report on remuneration at the end of the performance year, subject to commercial confidentiality.

Elements	Details
Long-term incentives ('LTI')	*To incentivise sustainable long-term performance and alignment with shareholder interests.*
Operation	Awards are discretionary and are granted if the Committee considers that there has been satisfactory performance over the prior year. The awards are granted as rights to receive shares under the HSBC Share Plan, subject to a forward-looking three-year performance period from the start of the financial year in which the awards are granted. At the end of the performance period, the performance outcome will be used to assess the percentage of the awards that will vest. These shares will then normally vest in five equal instalments, with the first vesting on or around the third anniversary of the grant date and the last instalment vesting on or around the seventh anniversary of the grant date, in accordance with the PRA remuneration rules. On each vesting, shares equivalent to the net number of shares that vested (after those sold to cover any income tax and social security payable) must be held for a retention period up to one year or such other period as required by regulators. Awards are subject to malus provisions prior to vesting. The awards will also be subject to clawback on or after vesting for a period of seven years from the date of award. This may be extended to 10 years in the event of an ongoing internal/regulatory investigation at the end of the seven-year period. Details of the malus and clawback provisions are set out in the bottom section of this table. Awards may be entitled to dividend equivalents during the vesting period, which will be paid on vesting. Where awards do not receive dividend equivalents during the vesting period (to meet regulatory requirements), the number of shares to be awarded will be determined using a share price discounted for the expected dividend yield. The Committee may adjust or amend awards in accordance with the rules of the HSBC Share Plan.
Maximum opportunity	The maximum opportunity for the LTI award, in respect of a financial year, is up to 320% of base salary.
Performance metrics	The Committee will take into consideration prior performance when assessing the value of the LTI grant. Forward-looking performance is measured against a long-term scorecard. Financial measures will generally have a weighting of 60% or more. The Committee will assess performance against the targets set to determine the level of achievement and the overall payout level could be between 0% (for below threshold performance) and 100% of the maximum. At threshold level of performance set in the scorecard for each measure, 25% of the award opportunity for that measure will vest. Up to 50% will vest for achieving the target level of performance set for each measure, while 100% of the award will vest for achieving the maximum level of performance set for each measure. Where performance achieved is between the threshold, target and maximum level of performance set in the scorecard, the number of awards that will vest will be determined on a straight-line basis. The Committee can reduce (to zero if appropriate) the LTI payout based on the outcome of the performance measures, if it considers that the payout determined does not appropriately reflect the overall position and performance of the Company during the performance period. The scorecard outcome may also be subject to a risk and compliance and/or a capital underpin under which the Committee will have the discretion to adjust down the overall scorecard outcome, taking into account performance against those factors. Performance targets will normally be set annually for each three-year cycle. The Committee has the discretion to: • change the overall weighting of the financial and non-financial measures; • vary the measures and their respective weightings within each category. The specific performance measures will be disclosed in the ‘annual report on remuneration’ for the relevant year; • vary the underpin measures; and • make adjustments to performance targets, measures, weighting and/or outcomes in exceptional circumstances. This may be to reflect significant one-off items that occur during the measurement period and/or if events happen that cause it to determine that original targets or conditions are no longer appropriate and that amendment is required so that the targets or conditions achieve their original purpose. Revised targets/measures will be, in the opinion of the Committee, no less difficult to satisfy than the original conditions. Full and clear disclosure of any such adjustments will be made within the 'annual report on remuneration', subject to commercial confidentiality.
Malus and clawback *(applicable to both annual incentive and long-term incentive)*	The Committee has the discretion to operate malus and clawback provisions. Malus can be applied to unvested awards in circumstances including: • detrimental conduct, including conduct that brings the business into disrepute; • past performance being materially worse than originally reported; • restatement, correction or amendment of any financial statements; and • improper or inadequate risk management. Clawback can be applied to vested or paid awards for a period of seven years from the grant date. This may be extended to 10 years in the event of ongoing internal/regulatory investigation at the end of the seven-year period. Clawback may be applied in circumstances including: • participation in, or responsibility for, conduct that results in significant losses; • failing to meet appropriate standards and propriety; • reasonable evidence of misconduct or material error that would justify, or would have justified, summary termination of a contract of employment; • a material failure of risk management suffered by HSBC or a business unit in the context of Group risk management standards, policies and procedures; and • any other circumstances required by local regulatory obligations to which any member of the HSBC Group or its subsidiary is subject.

Other

Elements	Details
Shareholding guidelines	*To ensure appropriate alignment with the interest of our shareholders.*
Operation	Executive Directors are expected to satisfy the following shareholding requirement as a percentage of base salary within five years from the date of their appointment: • Group Chief Executive: 400% • Group Chief Financial Officer: 300% • Group Chief Risk Officer: 300% HSBC operates an anti-hedging policy under which individuals are not permitted to enter into any personal hedging strategies in relation to HSBC shares subject to a vesting and/or retention period.
Maximum opportunity	Not applicable.
Provisions of previous policy that will continue to apply	
2013–2015 Group Performance Share Plan ('GPSP'), LTI awards, deferred cash and share awards.	
Operation	Vesting of outstanding deferred cash and share-based awards granted in prior years will continue to form part of the remuneration policy until vesting. The awards normally vest over a period of up to seven years from the date of grant. On vesting, shares equivalent to the net number of shares that vested (after those sold to cover income tax and social security payable) will be subject to the applicable retention period set out at the time of the award. The awards will also be entitled to dividend equivalents and notional returns (for deferred cash awards), in accordance with their terms as set at the time of grant of the awards.
Maximum opportunity	The maximum opportunity is based on the award levels determined in the relevant prior year and as disclosed in the relevant Directors' remuneration report.
Performance metrics	The vesting of these awards is subject to a service condition and performance conditions as set out in the terms of the awards at the time of grant.

The Committee reserves the right to make any remuneration payments and payments for loss of office, notwithstanding that they are not in line with the policy set out above, where the terms of the payment were agreed:

- before the policy set out above or any previous policy came into effect;
- at a time where a previous policy, approved by shareholders, was in place provided the payment is in line with the terms of that policy; or
- at a time when the relevant individual was not a Director of the Company and the payment was not in consideration for the individual becoming a Director of the Company.

In addition to the specific discretions expressly set out in the policy, the incentive plans include a number of operational discretions available to the Committee, including:

- the right to grant awards in the form of conditional share awards or options (including nil-cost options);
- the right to amend a performance condition in accordance with its terms, or if anything happens that causes the Committee to consider it appropriate to do so;
- the right to settle the award in cash, based on the relevant share price, or shares as appropriate; and
- the right to adjust the award on a variation of share capital or other corporate event that affects the current or future value of the award, or alternatively, the right to vest the award early in such circumstances.

Choice of performance measures and targets

The performance measures selected for the annual incentive and LTI awards will be set on an annual basis by the Committee, taking into account the Group's strategic priorities and any feedback received from our shareholders. The following table sets out the performance measures we currently consider for inclusion in our scorecards. The Committee retains the discretion to choose other measures that are considered to be appropriate for achieving our strategic priorities and meeting any regulatory expectation.

The targets for the performance measures will be set taking into account a number of factors, including the targets set in our annual operating plan, our strategic priorities, the economic environment, market conditions and expectations, and risk appetite.

Performance measures

Measures and underpin	Example measures for annual incentive scorecard	Example measures for LTI scorecard	Rationale
Financial measures	• Profit before tax • Return on tangible equity ('RoTE') • Revenue growth to exceed growth in operating expenses ('positive jaws') • Revenue growth • Tier 1/common equity tier 1 ('CET1') metrics	• RoTE • Total shareholder return • Underpin to maintain a minimum CET1 ratio	Measures are selected to incentivise the achievement of our financial targets as set out in our strategic priorities and annual operating plan.
Strategic measures	• Increase returns from areas of strength • Turn around low return businesses • Improve customer service • Strengthen external relationships • Succession planning and diversity	• Improve environment, social and governance scores • Improve employer advocacy	Measures are selected to support the delivery of our strategic priorities.
Risk and compliance measures and/or underpin	• Achieve sustained delivery of global conduct outcomes and effective financial crime risk management • Effectively manage material operational risks in support of strategic priorities • Comply with 2018 FX DPA, the three-year deferred prosecution agreement with the US Department of Justice ('DoJ'), regarding fraudulent conduct in connection with two particular transactions in 2010 and 2011.	Underpin linked to risk and compliance performance	Measures are chosen to ensure a high level of accountability of risk and conduct, to promote an effective risk management environment and to embed a robust governance system.

Remuneration arrangement for Group employees

Our wider employee remuneration policy is driven by the Group reward strategy, which the Committee reviewed to ensure it continues to support HSBC's overall employment proposition to attract, retain and motivate the best people, who are aligned to HSBC's values and committed to maintaining a long-term career within the Group. Full details of our remuneration policy for employees are disclosed on page 244.

The Committee considers the following factors in designing the remuneration policy and determining the remuneration of executive Directors:

- Results of employee surveys on the effectiveness of our remuneration framework: This informs the Committee's decisions on remuneration of executive Directors.
- Group employees' base salary increases: The base salary increases for executive Directors take into consideration base salary increases of employees, taking into account relevant market conditions.
- Group employees' pension plans design and contribution levels: The net value of the cash in lieu of pension allowance for executive Directors will not exceed the maximum contribution (as a percentage of salary) that can be made for the majority of UK employees.
- Annual incentive eligibility and quantum for Group employees: All employees are eligible to be considered for an annual incentive award based on their performance and behavioural ratings. The variable pay for all employees, including executive Directors, is funded from a Group variable pay pool that is determined by reference to Group performance. Employees who receive an annual incentive above a certain level have a portion of their award deferred over a period of three to seven years.
- LTI awards: This is generally considered for senior management within the Group, given their proximity and ability to influence long-term performance.

Approach to recruitment remuneration – executive Directors

On the recruitment or appointment of a new executive Director, the Committee would adhere to the following principles:

- Remuneration packages should be in line with the approved policy for executive Directors.
- Remuneration packages must meet any applicable local regulatory requirements.
- Where necessary, compensation may be provided in respect of forfeiture of awards from an existing employer (buy-out awards).

Outlined in the following table are all components that would be considered for inclusion in the remuneration package of a new executive Director and, for each, the approach that would be adopted.

In the case of an internal appointment, any existing commitments will be honoured and any variable element awarded in respect of the prior role may be allowed to be paid out according to its existing terms.

Components of remuneration package of a new executive Director

Component	Approach taken to each component of remuneration
Fixed pay	The base salary and FPA will reflect the individual's role, experience and responsibility, and will be set in the context of market practice. The pension will be determined in line with policy as set out in the remuneration policy table and equivalent contributions (as a percentage of salary) made for the majority of UK employees at the time of recruitment. The Committee reserves the right to offer a pension level that may be lower than the current maximum level permitted under the policy.
Benefits	Benefits to be provided will be dependent on circumstances while in line with Group policy and the remuneration policy table, including the global mobility policy (where applicable) and local regulations.
Variable pay awards	New joiners will be eligible to be considered for variable pay awards consisting of an annual incentive and/or LTI award (or any combination of variable pay). For the year in which the individual commences providing services as an executive Director, the Committee retains the discretion to determine the proportion of variable pay to be deferred, the deferral and retention period, whether any performance conditions should be applied, and the period over which such performance should be assessed. In exercising this discretion, the Committee will take into account the circumstances in which the individual is appointed (for example, if it is promotion of an internal candidate or an external appointment), expectation of shareholders and any regulatory requirements. Total variable pay awarded for the year of joining HSBC will be limited to 535% of base salary. This limit excludes buy-out awards and is in line with the aggregate maximum variable pay opportunity set out in the remuneration policy table. Guaranteed bonuses are only permitted by exception and must be limited to the first year of service, subject to the Group deferral policy and performance requirements.
Buy-out	A buy-out may be offered if the individual holds any outstanding unvested awards that are forfeited on resignation from the previous employer. The Group buy-out policy is in line with the PRA remuneration rules, which state that both the terms and amount of any replacement awards will not be more generous than the award forfeited on departure from the former employer. A buy-out award is delivered as HSBC deferred shares with vesting and retention periods to match the terms of forfeited awards with the previous employer as closely as possible, subject to proof of forfeiture and other relevant documentation. Where the vesting time is fewer than 90 days, cash or deferred cash may be awarded for administrative purposes. Where appropriate, the Committee retains the discretion to utilise the provisions provided in the Listing Rules for the purpose of making buy-out awards.

Policy on payments for loss of office – executive Directors

The following table sets out the basis on which payments on loss of office may be made. Other than as set out in the table, there are no further obligations that could give rise to remuneration payments or payments for loss of office:

Payments on loss of office

Component of remuneration	Approach taken
Fixed pay and benefits	Executive Directors may be entitled to payments in lieu of: • notice, which may consist of base salary, FPA, pension entitlements and other contractual benefits, or an amount in lieu of; and/or • accrued but untaken holiday entitlement. Payments may be made in instalments or a lump sum, and may be subject to mitigation, and subject to applicable tax and social security deductions.
Annual incentive and LTI	In exceptional circumstances, as determined by the Committee, an executive Director may be eligible for the grant of annual and/or long-term incentives under the HSBC Share Plan based on the time worked in the performance year and on the individual's contribution.
Unvested awards	All unvested awards will be forfeited when an executive Director ceases employment voluntarily and is not deemed a good leaver. An executive Director may be considered a good leaver, under the HSBC Share Plan, if their employment ceases in specified circumstances which includes: • ill heath, injury or disability, as established to the satisfaction of the Committee; • retirement with the agreement and approval of the Committee; • the employee's employer ceasing to be a member of the Group; • redundancy with the agreement and approval of the Committee; or • any other reason at the discretion of the Committee. If an executive Director is considered a good leaver, unvested awards will normally continue to vest in line with the applicable vesting dates, subject to performance conditions, the share plan rules, and malus and clawback provisions. In the event of death, unvested awards will vest and will be released to the executive Director's estate as soon as practicable. In respect of outstanding unvested awards, the Committee may determine that good leaver status is contingent upon the Committee being satisfied that the executive has no current or future intention at the date of leaving HSBC of being employed by any competitor financial services firm. The Committee determines the list of competitor firms from time to time, and the length of time for which this restriction applies. If the Committee becomes aware of any evidence to the contrary before vesting, the award will lapse.
Post-departure benefits	Executive Directors can be provided certain benefits for up to a maximum of seven years from date of departure for those who depart under good leaver provisions under the HSBC Share Plan, in accordance with the terms of the policy. Benefits may include, but are not limited to, medical coverage, tax return preparation assistance and legal expenses. The Committee also has the discretion to extend the post-departure benefit of medical coverage to former executive Directors, up to a maximum of seven years from their date of departure.
Other	Where an executive Director has been relocated as part of their employment, the Committee retains the discretion to pay the repatriation costs. This may include, but is not restricted to, airfare, accommodation, shipment, storage, utilities, and any tax and social security that may be due in respect of such benefits. Except in the case of gross misconduct or resignation, an executive Director may also receive retirement gifts.
Legal claims	The Committee retains the discretion to make payments (including professional and outplacement fees) to mitigate against legal claims, subject to any such payments being made in accordance with the terms of an appropriate settlement agreement waiving all claims against the Group.
Change of control	In the event of a change of control, outstanding awards will be treated in line with the provisions set out in the respective plan rules.

Other directorships

Executive Directors may accept appointments as non-executive Directors of companies that are not part of HSBC if so authorised by either the Board or the Nomination & Corporate Governance Committee.

When considering a request to accept a non-executive appointment, the Board or the Nomination & Corporate Governance Committee will take into account, among other things, the expected time commitment associated with the proposed appointment. The time commitment for external appointments is also routinely reviewed to ensure that they will not compromise the Directors' commitment to HSBC.

Any remuneration receivable in respect of an external appointment of an executive Director is normally paid to the Group unless otherwise approved by the Nomination & Corporate Governance Committee or the Board.

Remuneration scenarios

The following charts show how the total value of remuneration (excluding benefits) and its composition would vary under different performance scenarios for executive Directors under the proposed policy, which will be effective from the date of the 2019 AGM, subject to shareholders' approval.

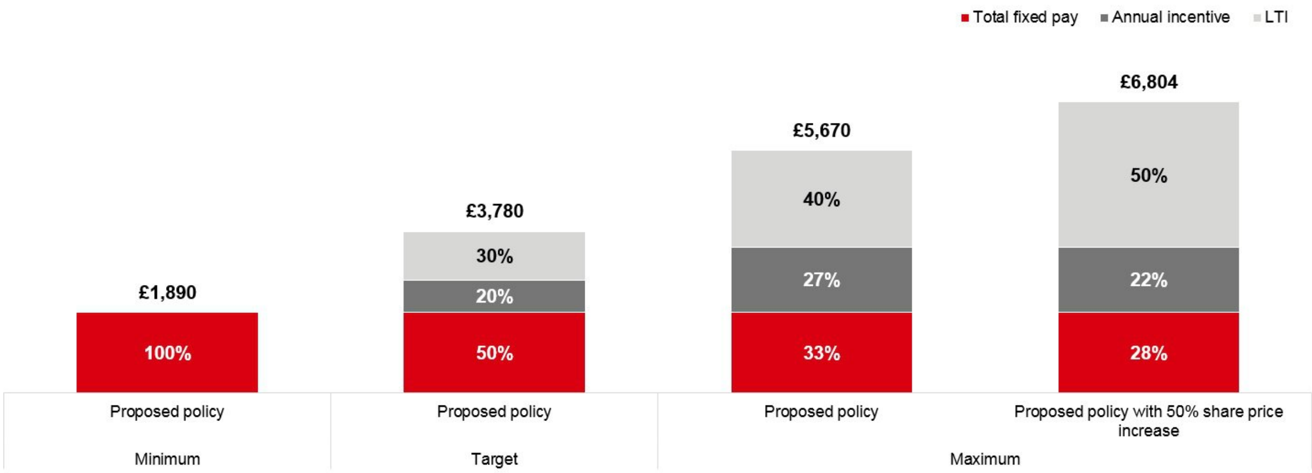
The charts set out:

- the minimum level of remuneration receivable under the policy for each performance year;
- the remuneration level for achieving target level of performance (which assumes 50% of maximum variable pay opportunity is realised); and
- the maximum level of remuneration (which assumes 100% of the variable pay opportunity is realised), as well as the maximum value assuming a 50% increase in share price for LTI awards.

The charts have been prepared using 2019 salaries and, therefore, the annual incentive and LTI opportunities have been computed as percentages of 2019 salaries.

Group Chief Executive (£000)

Group Chief Financial Officer / Group Chief Risk Officer (£000)



Remuneration policy – non-executive Directors

The Nomination & Corporate Governance Committee has reviewed and revised the time commitments required for all non-executive Directors as the Board supports HSBC through its ambitious agenda of governance reform, growth and organisational development in an environment of increasing regulatory, political and organisational complexity.

In 2018, the Board appointed Jonathan Symonds to the role of Deputy Group Chairman, following his retirement as non-executive Chairman of HSBC Bank plc. In this role, Jonathan formally deputises for the Group Chairman, takes a leadership role in relation to external high level regulatory and political relationships, and leads the Board in relation to specific projects. He performs this new role in addition to his existing roles as Senior Independent Director and Chair of the GAC. The fee for the Deputy Group Chairman reflects Jonathan's experience and the additional time he devotes to the Group in relation to this important role.

Additionally, as set out on page 217, the demands and expectations of the GRC Chair have increased significantly, leading to the Group Remuneration Committee approving an increase to Jackson Tai's fee for this position in 2018.

The following table sets out the framework that will be used to determine the fees for non-executive Directors during the term of this policy.

Elements and link to strategy	Operation	Maximum opportunity
Fees To reflect the time commitment and responsibilities of a non-executive Director of HSBC Holdings.	The policy for non-executive Directors is to pay: • base fees; • further fees for additional Board duties, including but not limited to chairmanship, membership of a committee, or acting as the Senior Independent Director and/or Deputy Chairman; and • travel allowances. Fees are paid in cash. The Board retains the discretion to pay in shares rather than cash where appropriate. The non-executive Group Chairman will be paid a fixed annual fee for all Board responsibilities based on their experience and the time commitments expected for the role, together with such other benefits as the Group Remuneration Committee may in its absolute discretion determine. A newly appointed non-executive Director would be paid in line with the policy on a time-apportioned basis in the first year as necessary. No sign-on payments are offered to non-executive Directors. The Board (excluding the non-executive Directors) has discretion to approve changes to the fees. The Board may also introduce any new component of fees for non-executive Directors, subject to the principles, parameters and other requirements set out in this remuneration policy. Certain non-executive Directors may be entitled to receive fees for their services as directors of subsidiary companies of HSBC Holdings plc. Such additional remuneration is determined by the Board of Directors of each relevant subsidiary within a framework set by the Committee.	The Board will review the amount of each component of fees periodically to assess whether, individually and in aggregate, they remain competitive and appropriate in light of changes in roles, responsibilities and/or time commitment of the non-executive Directors, and to ensure that individuals of the appropriate calibre are retained or appointed. Other than in exceptional circumstances, during the term of this policy, fees will not increase by more than 20% above the 2019 levels. Travel allowances are set at an appropriate level, taking into account the time requirement for non-executive Directors to travel to overseas meetings. Any new fees, allowance or component part (for example, for a new committee) would be set and then subject to a maximum of 20% increase for the duration of the policy.
Expenses	Any taxable or other expenses incurred in performing their role are reimbursed, as well as any related tax cost on such reimbursement.	Not applicable
Shareholding guidelines To ensure appropriate alignment with the interests of our shareholders.	Non-executive Directors, individually or with their connected persons, are expected to satisfy a shareholding guideline of 15,000 shares within five years from their appointment. The Committee reviews compliance with the guidelines annually. The Committee has full discretion in determining any consequences in cases of non-compliance.	Not applicable

The following table sets out the fees payable in 2019, subject to shareholder approval of the Directors' remuneration policy at the AGM.

Position		2019 fees £
Non-executive Group Chairman		**1,500,000**
Non-executive Director (base fee)		**127,000**
Deputy Group Chairman and Senior Independent Director		**375,000**
Senior Independent Director		**–**
Group Risk Committee	Chair	**150,000**
	Member	**40,000**
Group Audit, Group Remuneration and Financial System Vulnerabilities Committee	Chair	**75,000**
	Member	**40,000**
Nomination & Corporate Governance Committee	Chair	**–**
	Member	**33,000**

Travel allowances are also currently provided. The Committee intends to review such travel allowances during 2019, in light of the increased travel expectations for non-executive Directors to attend Board meetings. Details on any changes will be set out in the *Annual Report and Accounts 2019*.

Policy on payments on loss of office – non-executive Directors

Other than as set out above, there are no obligations in the non-executive Directors' letters of appointment that could give rise to remuneration payments or payments for loss of office. Non-executive Directors are entitled to notice under their letter of appointment.

Service contracts

Executive Directors

The length of service and notice periods of executive Directors are set at the discretion of the Committee, taking into account market practice, governance considerations, and the skills and experience of the particular candidate at that time.

	Contract date (rolling)	Notice period (Director and HSBC)
John Flint[1]	21 February 2018	12 months
Stuart Gulliver[2]	10 February 2011	12 months
Ewen Stevenson[3]	1 December 2018	12 months
Iain Mackay[4]	4 February 2011	12 months
Marc Moses	27 Nov 2014	12 months

1 *John Flint was appointed as Group Chief Executive with effect from 21 February 2018.*
2 *Stuart Gulliver stepped down from the Board on 20 February 2018 and retired from the Group on 11 October 2018.*
3 *Ewen Stevenson was appointed as executive Director and Group Chief Financial Officer of the Company on 1 January 2019, having joined the Group on 1 December 2018.*
4 *Iain Mackay stepped down as executive Director and Group Finance Director on 31 December 2018.*

Service agreements for each executive Director are available for inspection at HSBC Holdings' registered office. Consistent with the best interests of the Group, the Committee will seek to minimise termination payments. Directors may be eligible for a payment in relation to statutory rights.

The Directors' biographies are set out on pages 198 to 200, and include those directorships provided for under Capital Requirement Directive IV ('CRD IV').

Non-executive Directors

Non-executive Directors are appointed for fixed terms not exceeding three years, which may be renewed subject to their re-election by shareholders at AGMs. Non-executive Directors do not have service contracts, but are bound by letters of appointment issued for and on behalf of HSBC Holdings, which are available for inspection at HSBC Holdings' registered office. There are no obligations in the non-executive Directors' letters of appointment that could give rise to remuneration payments or payments for loss of office.

Non-executive Directors' current terms of appointment will expire as follows:

2019 AGM	2020 AGM	2021 AGM
Henri de Castries	Kathleen Casey	Mark Tucker
Irene Lee	Laura Cha	Heidi Miller
Pauline van der Meer Mohr	David Nish	
	Jonathan Symonds	
	Jackson Tai	
	Lord Evans of Weardale	

Annual report on remuneration

Remuneration Committee

Details of the roles, responsibilities and membership of the Committee are set out on page 208. During 2018, members of the Committee included Pauline van der Meer Mohr (Committee Chair), John Lipsky (until 20 April 2018), David Nish, Irene Lee (appointed on 20 April 2018) and Henri de Castries.

Activities

The Committee met six times during 2018. The following is a summary of the Committee's key activities during 2018. A copy of the Committee's terms of reference can be found on our website at www.hsbc.com/about-hsbc/corporate-governance/board-committees.

Details of the Committee's key activities

Executive Directors	All employees
• Approved Directors' remuneration report • Considered executive Director remuneration policy matters, including key principles for remuneration policy review, Directors' remuneration policy design alternatives and structure • Consulted with key shareholders and proxy advisory bodies on executive Director remuneration matters, including policy design and structure • Reviewed and approved executive Director remuneration matters • Reviewed and approved executive Directors' scorecards and pay proposals	• Approved 2017/2018 performance year pay review matters • Reviewed remuneration policy effectiveness • Received updates on notable events and regulatory and corporate governance matters • Reviewed and approved 2018 Material Risk Taker ('MRT') identification approach, outcomes of MRT review and remuneration matters for MRTs • Approved 2018 regulatory submissions • Reviewed attrition data and plans to address area of concerns

Advisers

The Committee received input and advice from different advisers on specific topics during 2018. Deloitte LLP ('Deloitte') was appointed by the Committee in 2015 as an objective, independent adviser to support the Committee on specific remuneration matters for executive Directors. The Committee made the appointment in 2015 after considering invited proposals from a number of consultancy firms. In 2018, the Committee agreed to extend Deloitte's appointment for a further period of one year. Deloitte provided benchmarking data on remuneration policy matters and independent advice to the Committee. The Committee may request ad-hoc assistance from Deloitte.

The Committee also received advice from Willis Towers Watson on market data and remuneration trends for senior management.

Deloitte also provided tax compliance and other advisory services to the Group. Willis Towers Watson also provides benchmarking data and services related to benefits administration for our Group employees. To ensure the advice from Deloitte and Willis Towers Watson was objective, the Committee required the advice to be independent and distinct from any internal review and analysis on remuneration policy matters. The Committee was satisfied the advice provided by Deloitte and Willis Towers Watson was objective and independent in 2018. Deloitte is a founding member of the Remuneration Consultants Group and voluntarily operates under the code of conduct in relation to executive remuneration consulting in the UK.

For 2018, total fees of £155,750 and £59,400 were incurred in relation to remuneration advice provided by Deloitte and Willis Towers Watson, respectively. This was based on pre-agreed fees and a time-and-materials basis.

During the year, John Flint, the Group Chief Executive, provided regular briefings to the Committee. In addition, the Committee engaged with and received updates from the following employees:

- Iain Mackay, Group Finance Director;

- Marc Moses, Group Chief Risk Officer;
- Stuart Levey, Chief Legal Officer;
- Charlie Nunn, Chief Executive Officer, Retail Banking and Wealth Management;
- Elaine Arden, Group Chief Human Resources Officer;
- Alexander Lowen, Group Head of Performance and Reward;
- Colin Bell, Group Chief Compliance Officer;
- Pam Kaur, Group Head of Internal Audit;
- Ralph Nash, Global Head of Financial Crime Compliance and Group Money Laundering Reporting Officer;
- Ruth Horgan, Global Head of Regulatory Compliance; and
- Ben Mathews, Group Company Secretary.

The Committee also received feedback and input from the Group Risk Committee and the Financial System Vulnerabilities Committee ('FSVC') on risk, conduct and compliance-related matters relevant to remuneration. No executive Directors are involved in deciding their own remuneration.

Single figure of remuneration

(Audited)

The following table shows the single figure total remuneration of each executive Director for 2018, together with comparative figures for 2017.

Single figure of remuneration

		Base salary	Fixed pay allowance	Cash in lieu of pension	Annual incentive	AML DPA award[1]	LTI[2]	Sub-total	Taxable benefits	Non-taxable benefits	Notional returns	Total
		(£000)	(£000)	(£000)	(£000)	(£000)	(£000)	(£000)	(£000)	(£000)	(£000)	(£000)
John Flint[3]	**2018**	**1,028**	**1,459**	**308**	**1,665**	**—**	**—**	**4,460**	**40**	**28**	**54**	**4,582**
	2017	—	—	—	—	—	—	—	—	—	—	—
Stuart Gulliver[4, 6]	**2018**	**171**	**241**	**51**	**282**	**1,530**	**—**	**2,275**	**65**	**6**	**41**	**2,387**
	2017	1,250	1,700	375	2,127	—	—	5,452	500	71	63	6,086
Iain Mackay[5, 6]	**2018**	**700**	**950**	**210**	**1,088**	**1,057**	**—**	**4,005**	**80**	**44**	**33**	**4,162**
	2017	700	950	210	1,334	—	—	3,194	64	37	42	3,337
Marc Moses	**2018**	**700**	**950**	**210**	**1,324**	**695**	**—**	**3,879**	**13**	**38**	**33**	**3,963**
	2017	700	950	210	1,358	—	—	3,218	16	38	42	3,314

1 *60% of the 2012 annual incentive for Stuart Gulliver and Iain Mackay disclosed in the 2012 Directors' remuneration report was deferred for five years. The vesting of these awards was subject to a service condition and satisfactory completion of the five-year deferred prosecution agreement ('AML DPA') with the US Department of Justice ('DoJ'). The AML DPA condition was satisfied in March 2018 and the awards were released to the executive Directors For Marc Moses, the value of the award attributable to services provided as an executive Director between 1 January 2014 and the vesting date has been included in the table.*
2 *The first LTI award was made in February 2017, with a performance period ending in 2019. Vesting of the first LTI award will be included in the single figure table for the financial year ending on 31 December 2019.*
3 *John Flint succeeded Stuart Gulliver as Group Chief Executive with effect from 21 February 2018 and his remuneration in the single figure table of remuneration is in respect of services provided as an executive Director. For services rendered between 1 January 2018 and 20 February 2018, he received a salary of £97,139, fixed pay allowance of £130,236, cash in lieu of pension of £28,000 and an annual incentive award of £271,000.*
4 *Stuart Gulliver stepped down from the Board on 20 February 2018 and retired from the Group on 11 October 2018. His remuneration in the single figure table of remuneration is in respect of services provided as an executive Director. Further details can be found on page 235.*
5 *Iain Mackay stepped down as executive Director and Group Finance Director on 31 December 2018.*
6 *To meet regulatory deferral requirements for 2018, 60% of the annual incentive award of Stuart Gulliver and Iain Mackay will be deferred in awards linked to HSBC's shares and will vest in five equal instalments between the third and seventh anniversary of the grant date. On vesting the awards will be subject to a one-year retention period. The deferred awards are subject to the executive Director maintaining a good leaver status during the deferral period.*

Illustration of release profile

The following chart provides an illustrative release profile for executive Directors.

Illustration of release profile

Fixed pay allowance

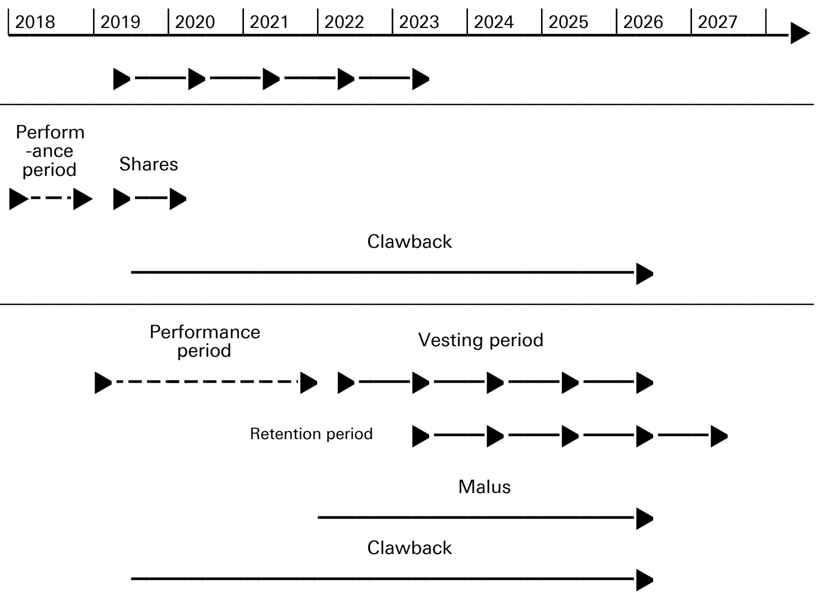
- Released in five equal annual instalments starting from March 2019.

Annual incentive

- Paid 50% in cash and 50% in immediately vested shares subject to a retention period of one year.
- Subject to clawback provisions for seven years from grant, which may be extended to 10 years in the event of an ongoing internal/regulatory investigation.

Long-term incentive

- Award subject to a three-year forward-looking performance period.
- Subject to performance outcome, awards will vest in five equal annual instalments starting from the third anniversary of the grant date.
- On vesting, shares are subject to a retention period of one year.
- Unvested awards subject to malus provisions.
- Subject to clawback provisions for seven years from grant, which may be extended to 10 years in the event of an ongoing internal/regulatory investigation.



Notes to the single figure of remuneration

(Audited)

Benefits

In the single figure of remuneration table, 'benefits' refers to all taxable benefits (gross value before payment of tax), including the provision of medical insurance, accommodation and car, club membership, as well as any tax gross-up. It also includes non-taxable benefits, including the provision of life assurance and other insurance coverage.

The values of the significant benefits in the single figure table are set out in the following table.

(Audited)

		Car benefit (UK and Hong Kong)[1]	Hong Kong bank-owned accommodation[1,2]	Tax expense on car benefit and Hong Kong bank-owned accommodation[1]	Insurance benefit (non-taxable)[1]
		(£000)	(£000)	(£000)	(£000)
Stuart Gulliver	**2018**	**–**	**–**	**–**	**–**
	2017	–	282	164	63

1 The car benefit, Hong Kong bank-owned accommodation, tax on benefits and insurance benefits for 2018 for all executive Directors are not included in the above table as they were not significant. Taxable benefits during 2018 for Stuart Gulliver as an executive Director includes £41,711 in respect of Hong Kong bank-owned accommodation and £17,117 in respect of tax expense on car benefit and Hong Kong bank-owned accommodation. Further details regarding Stuart Gulliver's benefits between 21 February 2018 and 11 October 2018 are available on page 235.

2 Taxable value determined based on the current market rental value of the bank-owned property in Hong Kong, as estimated by an external lease service provider, plus utility costs, rates, the taxable value of furniture and taking into account the business use of the property.

Notional returns

In the single figure of remuneration table above, 'notional returns' refers to the notional return on deferred cash for awards made prior to 2017.

The deferred cash portion of the annual incentive granted prior to 2017 includes a right to receive notional returns for the period between grant date and vesting date, which is determined by reference to the dividend yield on HSBC shares, calculated annually.

A payment of notional return is made annually in the same proportion as the vesting of the deferred awards on each vesting date. The amount is disclosed on a paid basis in the year in which the payment is made. No deferred cash awards have been made to executive Directors under the current policy that has been operated from the 2016 financial year.

Determining executive Directors' annual performance

(Audited)

Awards made to executive Directors reflected the Committee's assessment of each of the executive Director's performance against the objectives in their scorecards, which were agreed at the start of the year and reflect the Group's strategic priorities and risk appetite. The Committee also consulted the Group Risk Committee and took into consideration its feedback on risk and compliance matters.

In order for any annual incentive award to be made, each executive Director must achieve a required behaviour rating, which is assessed by reference to the HSBC Values. For 2018, all executive Directors achieved the required behaviour rating.

The performance achieved by executive Directors in the year is shown in the table below. For John Flint and Stuart Gulliver, the scorecard outcome, as determined below, has been applied to the maximum annual incentive opportunity on a pro-rata basis, taking into account the time spent by them in the Group Chief Executive role.

Annual assessment

	Group Chief Executive			Group Finance Director			Group Chief Risk Officer		
	Weighting (%)	Assessment (%)	Outcome (%)	Weighting (%)	Assessment (%)	Outcome (%)	Weighting (%)	Assessment (%)	Outcome (%)
Profit before tax[1]	20.00	100.00	20.00	10.00	100.00	10.00	15.00	100.00	15.00
Positive jaws	10.00	–	–	15.00	–	–	–	–	–
Revenue growth	10.00	70.00	7.00	–	–	–	–	–	–
Capital management (RoTE)	10.00	58.75	5.88	25.00	58.75	14.69	10.00	58.75	5.88
Strategic priorities									
– Financials	7.50	78.53	5.89	2.50	100.00	2.50	2.50	100.00	2.50
– Other targets	17.50	96.46	16.88	22.50	98.62	22.19	12.50	94.88	11.86
Risk and compliance	25.00	80.00	20.00	25.00	95.00	23.75	60.00	89.58	53.75
Total	100.00		75.65	100.00		73.13	100.00		88.99
Maximum annual incentive opportunity (£000)						£1,488			£1,488
– John Flint			£2,560			–			–
– Stuart Gulliver			£2,660			–			–
Annual incentive (£000)						£1,088			£1,324
– John Flint (86%)			£1,665			–			–
– Stuart Gulliver (14%)			£282			–			–

Financial performance

Annual assessment

Measure	Minimum (25% payout)	Maximum (100% payout)	Performance	Assessment
Profit before tax ($bn)[1]	US$19.7	US$22.7	US$23.3	100.00
Positive jaws (%)	Positive	1.5	(1.2)	–
Revenue growth (%)	2.0	6.0	4.4	70.00
Capital management (RoTE%)[2]	9.3	11.3	10.2	58.75
Strategic priorities[3]		Various		Various

1 *Profit before tax, as defined for Group annual bonus pool calculation. This definition excludes business disposal gains and losses, debt valuation adjustments and variable pay expense. It does however, take into account fines, penalties and costs of customer redress, which are excluded from the adjusted profit before tax. The adjusted profit before tax as per adjusted results is found on page 2.*
2 *RoTE excluding significant items and bank levy.*
3 *Strategic priorities measures include: accelerate revenue growth from our Asian franchise, grow international revenue, turn around the US business, improve customer service, strengthen external relationships, employee engagement, talent development and diversity.*

Non-financial performance

The table below provides an overview of the non-financial performance achieved by each executive Director.

Group Chief Executive

	Performance
Strategic priorities • Deliver HSBC's strategy • Turn around the US business • Accelerate revenue growth from our Asian franchise • Deliver revenue growth from our international network • Improve customer satisfaction • Strengthen the Group's external relationships • Improve employee engagement • Strengthen HSBC's leadership cadre • Improve diversity in senior leadership	• Set out strategic priorities to return HSBC to growth and create value for our shareholders. The strategy was communicated in the Strategy Update in June 2018 to investors, shareholders and employees. Execution of the strategy is underway. • RoTE in the US business at 2.7% exceeded target of 2.2%, supported by favourable expected credit losses and significant capital reductions. Commercial Banking revenue grew by 7% and transaction banking revenue in Global Banking and Markets rose 9%. • Revenue growth of 11.4% in Asia was driven by Commercial Banking as well as Retail Banking and Wealth Management, reflecting wider spreads and balance sheet growth, with double-digit revenue growth in Hong Kong, Pearl River Delta and mainland China. • Revenue growth from international clients was strong at 7.2%; transaction banking revenue grew 14%, driven by double-digit growth across Global Liquidity and Cash Management, Foreign Exchange and Securities Services. • Customer satisfaction rankings improved in key Retail Banking and Wealth Management markets (first in Mexico, Singapore and Hong Kong and second in UAE). Rankings in Commercial Banking largely remained unchanged, but required improvement with the exception of the UK (third) and Singapore (third). Customer engagement score ('CES') in Global Banking and Markets at 85 was at par with the CES of our competitors. In Global Private Banking, customer satisfaction declined by 0.8 points from a mean of 8.4/10 in 2017 to 7.6/10 in the client engagement programme survey. Action is being taken in all global businesses to drive customer service improvements, especially through investment in digital capability. • Positive feedback was received on interactions with investors and regulators, which found that they were conducted with high professional competence and embodying trust, respect and transparency. • Employer advocacy, as a measure of employee engagement, at the end of 2018 was 66% (2017: 64%), which represents the number of employees who would recommend HSBC as a great place to work. • Succession plans are in place for all critical leadership roles. • Exceeded diversity target with female representation in the senior leadership at 28.2%, and on track towards our 2020 aspirational target of 30% senior leadership positions to be held by women. • HSBC was recognised as the 'Most Innovative Investment Bank' by *The Banker*; the 'World's Best Bank for Transaction Services', the 'World's Best Bank for Corporates' and 'Asia's Best Bank for Sustainable Finance' by *Euromoney,* and 'Best Overall Global RMB Products/Services' by *Asiamoney*.
Risk and compliance • Successfully embed financial crime risk governance and management information through the completion of the Global Standards programme • Effectively manage material operational risks • Achieve and deliver sustainable global conduct outcomes • Comply with the 2018 FX DPA	• Significant progress was made to strengthen financial crime risk management across the Group, specifically, towards achieving operational effectiveness in global businesses and regions. A strong tone from the top included an aspiration to deliver industry-leading financial crime standards as part of the Group's strategy. Demonstrated excellent awareness and understanding of key financial crime risks and issues. Actively engaged at senior governance forums to strengthen risk management practices and controls. Continued focus is required to complete the transition to business-as-usual financial crime risk management, and further enhance the effectiveness of financial crime governance in some countries, in order to achieve sustainable operating maturity. • Implementation of the operational risk management framework was achieved with strong ownership and proactive prioritisation of management of key risks across the Group. However further work is required to embed the framework and associated tools and strengthen the control environment. • Showed strong commitment to continue embedding the conduct pillars and outcomes, and underpinning controls across the Group. • Additional steps were taken that were consistent with the requirements of the 2018 FX DPA with the US Department of Justice to enhance the Global Markets compliance programme and related internal controls. Areas of focus have included a strong tone from the top, updated policies and procedures to prevent violations of US law (such as fraud and market manipulation) and comprehensive risk assessment. Further enhancements and steps to comply with the DPA are ongoing.

Group Finance Director

	Performance
Strategic priorities • Deploy cloud technologies and enhance Finance operating efficiency • Streamline and embed IFRS 9 and RWA production • Deliver ring-fenced bank ('RFB') in the UK and Global Service Company ('ServCo') structures and processes • Deliver cost savings • Strengthen the Group's external relationships • Improve employee engagement • Strengthen HSBC's leadership cadre • Improve diversity in senior management	• Deployed cloud technologies for regulatory reporting of liquidity coverage ratio and net stable funding ratio in Canada and France. Implementation plans to deploy the technology in other locations are on track. The innovative capabilities of Finance are being further developed with eight key laboratories set up to deliver a real-time vision for Finance, utilising cloud technology, advanced analytics, artificial intelligence and machine learning. • Completed 2018 IFRS 9 plan with few milestones remaining and daily performance maturing, with no major downstream impact on processing time. All key activities integrated within routine processes. • Successfully established the Group's RFB – HSBC UK Bank plc ('HSBC UK') – with a separate information technology and operations infrastructure and financial, pensions and legal structures. Transfer of Retail Banking and Wealth Management and Commercial Banking customers and employees to HSBC UK was also completed. Successfully established the Group's ServCo structure in the UK in support of ring-fencing and the Recovery and Resolution Plan. • Strengthened Group's relationships and reputation with key stakeholders as evidenced by a high level of investor relations engagement and robust regulatory interactions. • Employer advocacy, as a measure of employee engagement, at the end of 2018 improved to 68% (2017: 66%). The Finance function's structure was further simplified through the global consolidation of the finance operational processes into a single Finance operations team. The function is driving forward the focus on digital leadership and capabilities across all levels. • Confirmed four key Finance 'enterprise critical roles' and ensured that the succession plans are actionable, resulting in a successor gender profile of 38% female. Development plans and support in place for all successors. • Met aspirational gender diversity target, with 28% female representation at senior management levels in Finance. Finance leadership initiatives, sponsorship of diverse networks, parental transition coaching and career development support have all helped improve gender diversity. Difference and inclusion is being addressed more broadly within Finance with an aim to increase the representation of lesbian, gay, bisexual and transgender and differently abled employees.
Risk and compliance • Effectively manage material operational risks • Achieve and deliver sustainable global conduct outcomes • Deliver commitments to regulators • Successful delivery of PRA and European Banking Authority ('EBA') stress tests and Comprehensive Capital Analysis and Review ('CCAR') capital plan	• Completed the implementation of the operational risk framework in Finance, which is actively used to monitor the effectiveness of key controls against significant accounting risks, including for Sarbanes-Oxley compliance. Made significant progress embedding the understanding of relevant roles and responsibilities through improved governance and reporting. • Improved processes for monitoring and reporting conduct outcomes for Finance, including strengthened governance meetings with an increased focus on metrics. No significant conduct issues, breaches or reportable events were identified. Internal review of conduct governance and control for Finance were rated as effective. • Delivered all regulatory updates on time and to the required standard, with queries addressed on a timely basis. PRA and EBA stress tests in 2018 were successfully submitted on time. HSBC North America Holdings Inc received a non-objection to its CCAR 2018 capital plan submitted to the Federal Reserve Board on both a qualitative and quantitative basis.

Group Chief Risk Officer

	Performance
Strategic priorities • Improve customer satisfaction • Strengthen the Group's external relationships • Turn around the US business • Improve employee engagement, strengthen HSBC's leadership cadre and improve diversity in senior management • Support innovation • Deliver cost savings	• Improved customer service satisfaction with measured progress being made across markets. Global businesses are showing delivery successes, with improvements identified for action. • Interacted regularly and successfully with regulators. The strength, quality and independence of financial risk management was recognised. An increased focus on non-financial risk management and model risk management is key to these ongoing interactions. • Supported the turnaround of the US business through active risk management oversight, focusing on a credit risk and risk remediation programme; strong forward-looking capital management through engagement and oversight of the stress testing CCAR programme; and an enhanced modelling infrastructure in support of stress testing and financial crime models. RoTE at 2.7% exceeded the target for 2018. • Delivered on the Global Risk function people initiatives. Employer advocacy, as a measure of employee engagement, increased to 68% at the end of 2018 (2017: 64%), which represents the number of employees who would recommend HSBC as a great place to work. Focused the development of our leadership talent, and achieved the diversity target, with 28.7% of senior management positions held by women. • Enhanced the focus on innovative ways of working, through the facilitation of idea generation and knowledge concept evaluation and delivery of new approaches. Education and training of Global Risk in innovation was rolled out to enable change through the use of agile methodologies and cloud technologies. • Enabled the management of costs and headcount of the Global Risk function, through close ongoing monitoring of performance.
Risk and compliance • Ensure Global Risk supports the financial crime risk target end state • Effectively manage material operational risks • Achieve and sustain the delivery of the global conduct outcomes • Deliver commitments to regulators, including compliance with the 2018 FX DPA • Successfully deliver regulatory and internal stress tests in 2018 • Manage credit and market risk, and oversee liquidity risk within Board approved risk appetite • Successfully enhance HSBC's model risk management	• Enabled effective financial crime risk management through the enterprise wide and operational risk management frameworks, with strong governance through risk management meetings and completion of financial crime risk model reviews. • Made significant progress in adopting and embedding the operational risk management framework, with active focus and engagement on the material operational risks, and increased focus on non-financial risks. • Successfully drove conduct outcomes through a strong tone from the top, and a continual monitoring of compliance on conduct regulations. Maturity levels across conduct outcomes were excellent. • Delivered all regulatory updates on time and up to the required standard, with any remedial actions tracked to timely completion. Engagements with other lead regulators gained positive feedback, including working with the Department of Justice and Federal Reserve Board to progress our commitments under the FX DPA. • Successfully delivered the 2018 annual cyclical scenario to the PRA. Submitted the biennial stress test to the EBA and the CCAR submission to the Federal Reserve Board. • Managed credit risk, market risk and liquidity risk effectively within the Group risk appetite profile and with oversight from the Group risk management meeting. • Made significant progress in model risk management during 2018, through significant appointments, ongoing employee training and key stakeholder engagements.

Long-term incentive awards

(Audited)

For the 2018 performance year, the Committee determined to grant John Flint and Marc Moses an LTI award of £3,840,000 and £2,232,000, respectively, after taking into consideration performance achieved for the financial year ended 31 December 2018 and the progress made towards achieving the strategic priorities set out in the June 2018 Strategy Update. The awards will be subject to a three-year performance period starting 1 January 2019. As the awards are not entitled to dividend equivalents per regulatory requirements, the number of shares to be awarded to executive Directors will be adjusted to reflect the expected dividend yield of the shares over the vesting period.

In line with the approach set out for our new policy and feedback received from investors, we have simplified the LTI scorecard by using fewer measures. To ensure the rewards realised by executive Directors are strongly aligned with our strategic priorities and value created for shareholders, a 75% weighting has been attached to the RoTE measure. For target payout (50% of maximum) the average RoTE over the performance period will need to be 11%, and is aligned with our target of achieving a RoTE of more than 11% by 2020. For maximum payout, the average RoTE over the performance period will need to be 12% reflecting a stretch and a continued improvement of the RoTE performance. The RoTE measure will also be subject to a CET1 underpin requiring the CET1 ratio at the end of the performance period to be above the CET1 risk tolerance level.

The scorecard also attaches a 12.5% weighting to an employer advocacy measure. This is a key indicator of employee sentiment and underpins our strategic priority to simplify our organisation and invest in future skills. The 2018 score has been used to set the threshold level of performance for this measure. The target performance level will require an improvement over the 2018 score and the maximum level requires further improvement.

Based on feedback received from investors, we have also included an environmental, social and governance measure with a 12.5% weighting. This will be assessed based on ratings issued by Sustanalytics with threshold level of performance set at receiving an 'average performer' rating and the maximum level of performance requiring an 'outperformer rating', which is the highest rating that can be achieved.

The LTI awards will also be subject to a risk and compliance underpin, which would give the Committee the discretion to adjust down the overall scorecard outcome taking into account performance against risk and compliance factors at the end of the performance period. For this purpose, the Committee will receive information on any risk management failures which have caused significant reputational damage to the Group or have an adverse impact on the financial performance of the Group. This is to ensure that the Group operates within tolerance levels set for relevant risk and compliance metrics when achieving its financial targets.

The measures and weighting that will be used to assess performance and payout are described in the following table.

To the extent performance conditions are satisfied at the end of the three-year performance period, the awards will vest in five equal annual instalments commencing from around the third anniversary of the grant date. On vesting, awards are subject to a retention period of one year.

Stuart Gulliver and Iain Mackay are not eligible to receive an LTI award in respect of 2018.

Performance conditions for LTI awards in respect of 2018

Measures	Minimum (25% payout)	Target (50% payout)	Maximum (100% payout)	Weighting %
Average RoTE (with CET1 underpin)[1]	10.0%	11.0%	12.0%	75.0
Employer advocacy[2]	65.0%	70.0%	75.0%	12.5
Environmental, social and governance rank[3]	Score to achieve an 'average performer' rating	Mid-point score between average and outperformer threshold scores	Score required to achieve an 'outperformer' rating	12.5
Total[4]				**100.0**

1 *If the CET1 ratio at the end of performance period is below the CET1 risk tolerance level set in the risk appetite statement, then the assessment for this measure will be reduced to nil.*
2 *To be assessed based on results of the latest employee Snapshot survey question 'I would recommend this company as a great place to work'*
3 *To be assessed based on results of the latest rating issued by Sustainalytics. In the event that Sustainalytics changes its approach to provide the ratings during the performance period, this may impact the assessment of the performance condition. To ensure that the performance targets/assessment approach achieves its original purpose (i.e. are no less or more difficult than when the original targets were set) the Committee retains the discretion to review and where appropriate modify the targets once further details on any updated Sustainalytics ratings approach is published.*
4 *Awards will vest on a straight-line basis for performance between the minimum, target and maximum levels of performance set in this table.*

Total pension entitlements

(Audited)

No employees who served as executive Directors during the year have a right to amounts under any HSBC final salary pension scheme for their services as executive Directors or are entitled to additional benefits in the event of early retirement. There is no retirement age set for Directors, but the normal retirement age for employees is 65.

Payments to past Directors

(Audited)

Details of payments made to Stuart Gulliver and Iain Mackay after they stepped down as executive Directors are set out in the following sections. No other payments were made to, or in respect of, former Directors in the year in excess of the minimum threshold of £50,000 set for this purpose.

Retirement arrangements for Stuart Gulliver

(Audited)

Stuart Gulliver stepped down as executive Director and Group Chief Executive on 20 February 2018 and ceased employment with the Group on 11 October 2018.

Under the terms of his service contract, and as previously disclosed, for the period between 21 February 2018 and 11 October 2018, he received a salary of £802,988, FPA of £1,089,600, cash in lieu of pension allowance of £240,897, contractual benefits totalling £321,778 and other benefits of £64,329. The value of contractual benefits includes the taxable value of £201,078 for the use of a company-provided car and Hong Kong accommodation, the tax expense of £78,201 in relation to the use of a company car and Hong Kong accommodation and insurance-related benefits of £42,499. In October 2018, he was paid cash in lieu of unused holiday entitlement, accrued during the period 2007 to 2017 for leave cancelled at the request of the Group due to urgent HSBC matters, totalling to £466,778. Stuart Gulliver also received a post-employment medical cover as per the shareholder approved policy.

Stuart Gulliver received an annual incentive award for 2018 (pro-rated for time spent in Group Chief Executive role) as set out on page 231. He did not receive an LTI award for 2018.

As disclosed in the 2017 Directors' remuneration report, and referenced here for completeness, Stuart Gulliver was granted good leaver status in respect of outstanding unvested share awards. In respect of his 2016 LTI award, performance will be measured at the end of the original performance period (i.e. 31 December 2019), with the maximum number of shares available pro-rated for time in employment (i.e. 357,911 shares after pro-ration for time and any dividend equivalents accrued in the period during the vesting period).

Stuart Gulliver will not receive:

- an LTI award for 2018 ; and
- any compensation or payment for the termination of his service contract or his ceasing to be a Director of any Group company.

Departure terms for Iain Mackay

(Audited)

Iain Mackay stepped down as executive Director and Group Finance Director of the Company on 31 December 2018 ('Departure Date').

In January 2019, he received a payment of £64,385 in lieu of his salary, FPA and cash in lieu of pension allowance for the period from 1 January 2019 to 13 January 2019.

In accordance with the Directors' remuneration policy approved by shareholders, Iain Mackay has been considered a good leaver. Accordingly, he has been made eligible to receive:

- an annual incentive award for 2018 (details are provided on page 231);
- his unvested deferred awards that are due to vest after the Departure Date, on the scheduled vesting dates, subject to the relevant terms (including post-vest retention periods, malus and, where applicable, clawback) and the achievement of any required performance condition. For this purpose, his 2016 and 2017 LTI awards will be pro-rated for the period he was employed by the Group with the maximum number of shares being as follows:
  - 2016 LTI awards: 228,817 shares (and the value of any dividend equivalents accrued during the vesting period); and
  - 2017 LTI awards: 131,796 shares; and
- certain post-departure benefits for a period of up to seven years from the Departure Date.

Iain Mackay will not receive:

- an LTI award for 2018; and
- any compensation or payment for the termination of his service contract or his ceasing to be a Director of any Group company.

Recruitment arrangements for Ewen Stevenson

Ewen Stevenson was appointed as executive Director and Group Chief Financial Officer of the Company on 1 January 2019, having joined the Group on 1 December 2018.

Ewen Stevenson's 2019 remuneration details are provided on page 242.

In accordance with our approved policy, Ewen Stevenson will be granted share awards to replace unvested RBS awards, which were forfeited as a result of him joining HSBC. The grant value of these awards is £6,464,478.

All replacement awards granted will, in general, match the performance, vesting and retention periods attached to the awards forfeited, and will be subject to any performance adjustments that would otherwise have been applied by RBS.

Ewen Stevenson will also receive an award in lieu of any variable pay award from RBS for the 2018 performance year. This will be based on his maximum opportunity of £1.6m under RBS's policy and the outcome of the 2018 scorecard, as disclosed in the 2018 annual report and accounts of RBS. This award will be granted in shares that will vest in five equal annual instalments between the third and seventh anniversary of the grant date. On vesting, the shares will be subject to a one-year retention period. Details on the value of the final award will be disclosed in the *Annual Report and Accounts 2019.*

External appointments

During 2018, executive Directors did not receive any fees from external appointments.

Scheme interests awarded during 2018

(Audited)

The table below sets out the scheme interests awarded to Directors in 2018, for performance in 2017, as disclosed in the 2017 Directors' remuneration report. No non-executive Directors received scheme interests during the financial year.

Scheme awards in 2018

(Audited)

	Type of interest awarded	Basis on which award made	Date of award	Face value awarded[1] £000	Percentage receivable for minimum performance	Number of shares awarded	End of performance period
Iain Mackay (ceased employment on 31 December 2018)	LTI deferred shares [2]	% of salary [4]	**26 February 2018**	**2,860**	**25**	**395,388**	**31 December 2020**
Marc Moses	LTI deferred shares [2]	% of salary [4]	**26 February 2018**	**2,860**	**25**	**395,388**	**31 December 2020**
John Flint (appointed on 21 February 2018)	Deferred shares [3]	See note 5	**26 February 2018**	**1,201**	**—**	**166,014**	**31 December 2017**
Stuart Gulliver (retired from the Board on 20 February 2018)	Deferred shares [3]	% of salary [6]	**26 February 2018**	**1,635**	**—**	**226,072**	**31 December 2017**

1 *The face value of the award has been computed using the actual share price of £7.234.*
2 *LTI awards are subject to a three-year forward-looking performance period and vest in five equal instalments subject to performance achieved. On vesting, awards will be subject to a one-year retention period. Awards are subject to malus during the vesting period and clawback for a maximum period of 10 years from the date of the award.*
3 *Deferred shares form part of the annual incentive, for which awards were determined based on performance achieved during the period to 31 December 2017. These awards are subject to malus during the vesting period and clawback for a maximum period of 10 years from the date of the award. The overall award level could have been 0% of the maximum opportunity if minimum performance was not achieved at the end of the performance period.*
4 *In line with regulatory requirements, scheme interests awarded during 2018 were not eligible for dividend equivalents. In accordance with the remuneration policy approved by shareholders at the 2016 AGM, the LTI award was determined at 319% of salary and the number of shares to be granted was determined by taking into account a share price discounted based on HSBC's expected dividend yield for the vesting period (i.e. £5.645).*
5 *John Flint received a discretionary annual incentive award for 2017. Of this 2017 annual incentive award 60% was deferred and 50% of the total deferred award was granted over HSBC shares. The deferred shares will vest in five equal instalments between the third and seventh anniversary of the award date, and on vesting will be subject to a one-year retention period. As the awards were not eligible for dividend equivalents, the number of shares to be granted was determined by taking into account a share price discounted based on HSBC's expected dividend yield for the vesting period (i.e. £5.645).*
6 *As previously disclosed Stuart Gulliver received a 2017 annual incentive award equivalent to 170% of salary. Of this award 60% was deferred into HSBC shares. The deferred shares will vest in five equal instalments between the third and seventh anniversary of the award date, and on vesting will be subject to a one-year retention period. As the awards were not eligible for dividend equivalents, in accordance with the remuneration policy, the number of shares to be granted was determined by taking into account a share price discounted based on HSBC's expected dividend yield for the vesting period (i.e. £5.645).*

The above table does not include details of shares issued as part of the FPA and shares issued as part of the 2017 annual incentive award that vested on grant and were not subject to any further service or performance conditions. Details of the performance measures and targets for the LTI award in respect of 2017 and 2016 are set out on page 236.

Directors' interests in shares

(Audited)

The shareholdings of all persons who were Directors in 2018, including the shareholdings of their connected persons, at 31 December 2018 (or date of retirement from the Board, if earlier) are set out below. The following table shows the comparison of shareholdings with the company shareholding guidelines. There have been no changes in the shareholdings of the Directors from 31 December 2018 to the date of this report.

Individuals are given five years from their appointment date to build up the recommended levels of shareholding. Unvested share-based incentives are not normally taken into consideration in assessing whether the shareholding requirement has been met.

The Committee reviews compliance with the shareholding requirement and has full discretion in determining if any unvested shares should be taken into consideration for assessing compliance with this requirement (taking into account investor expectations and guidelines). The Committee also has full discretion in determining any penalties for non-compliance.

HSBC operates an anti-hedging policy under which individuals are not permitted to enter into any personal hedging strategies in relation to HSBC shares subject to a vesting and/or retention period.

Shares

(Audited)

	Shareholding guidelines[2] (% of salary)	Shareholding at 31 Dec 2018, or date of retirement from the Board, if earlier[3] (% of salary)	Share interests[4] (number of shares)	Share options[5]	Shares awarded subject to deferral[1]: without performance conditions[4, 6]	Shares awarded subject to deferral[1]: with performance conditions[7]
			At 31 Dec 2018, or date of retirement from the Board, if earlier			
				Scheme interests		
Executive Directors						
Stuart Gulliver (retired on 20 February 2018) [8]	400%	**1,918%**	**3,711,169**	**–**	**2,293,071**	**738,499**
Iain Mackay (ceased employment on 31 December 2018)	300%	**663%**	**718,532**	**–**	**1,025,725**	**769,296**
John Flint (appointed on 21 February 2018)	400%	**445%**	**827,691**	**9,952**	**570,922**	**–**
Marc Moses	300%	**1,415%**	**1,533,039**	**–**	**1,019,442**	**769,296**
Group Managing Directors [9]	250,000 shares	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

1 *The gross number of shares is disclosed. A portion of these shares will be sold at vesting to cover any income tax and social security that falls due at the time of vesting.*
2 *Unvested share-based incentives are not normally counted towards compliance with the shareholding guideline.*
3 *The value of the shareholding is calculated using an average of the daily closing share prices in the three months to 31 December 2018 (£6.4589).*
4 *For variable pay awards (annual incentive and LTI), in line with regulatory requirements, any deferred shares (net of tax) which the Director becomes entitled to are subject to a retention requirement such that they must be held for a predefined period of time. To provide the executive Directors with appropriate flexibility, the Committee determined that the requirement to hold these shares could be met either by retaining the shares that vested from the underlying award (net of tax), or by separately retaining a number of shares equivalent to those that vested under the award. The Committee considers that such an arrangement results in the employee holding the same number of shares as per the original intention of the retention period, as set out in the remuneration policy, approved by shareholders in 2014.*
5 *All share options are unexercised.*
6 *Includes Group Performance Share Plan ('GPSP') awards, which were made following an assessment of performance over the relevant period ending on 31 December before the grant date, but are subject to a five-year vesting period.*
7 *LTI awards granted in February 2017 and February 2018 are subject to the performance conditions as set out in the following tables.*
8 *Stuart Gulliver's scheme interests deferred with performance conditions include an award granted in March 2013 subject to service and performance conditions. The award vested on 12 March 2018 following the Committee decision on 30 January 2018.*
9 *All Group Managing Directors are expected to meet their shareholding guideline by 2019 or within five years of the date of their appointment, whichever is later. The shareholding guidelines for this population has been updated from 250,000 shares to 250% of reference salary from 1 January 2019 to align with the approach used for executive Directors.*

The following tables detail the performance measures and targets for the LTI award granted in respect of 2017 and 2016.

Performance conditions for LTI awards in respect of 2017 (granted in 2018)

Measures	Minimum (25% payout)	Target (50% payout)	Maximum (100% payout)	Weighting %
Average return on equity (with CET1 underpin)[1]	9.0%	10.0%	11.0%	20
Cost-efficiency ratio	60.0%	58.0%	55.5%	20
Relative total shareholder return[2]	At median of the peer group.	Straight-line vesting between minimum and maximum.	At upper quartile of the peer group.	20
Risk and compliance • Achieve and sustain compliance with Global Financial Crime Compliance policies and procedures. • Achieve a sustainable adoption of Group operation risk management framework, along with its policies and practices. • Achieve and sustain delivery of global conduct outcomes and compliance with conduct of business regulatory obligations.	Performance will be assessed by the Committee based on a number of qualitative and quantitative inputs such as feedback from the Financial System Vulnerabilities Committee, Group Financial Crime Risk assessment against Financial Crime Compliance objectives, outcome of assurance and audit reviews, and achievement of the long-term Group objectives and priorities during the performance period.			25
Strategy				15
• Sustainable finance[3]	$30bn	$34bn	$37bn	
• Employee confidence[4]	65%	67%	70%	
• Customer (Based on customer recommendation in top five markets by revenue)	Improvement in recommendation in three of the top five markets for CMB, GBM and RBWM.	Improvement in recommendation in four of the top five markets for CMB, GBM and RBWM.	Improvement in recommendation in all of the top five markets for CMB, GBM and RBWM.	
Total				**100**

1 *Significant items are excluded from the profit attributable to ordinary shareholders of the company for the purpose of computing adjusted return on equity. If the CET1 ratio at the end of performance period is below the CET1 risk tolerance level set in the RAS, then the assessment for this measure will be reduced to nil.*
2 *The peer group for the 2017 award is: Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse Group, DBS Group Holdings, Deutsche Bank, J.P. Morgan Chase & Co., Lloyds Banking Group, Standard Chartered and UBS Group.*
3 *To be assessed based on cumulative financing and investment made to develop clean energy, lower-carbon technologies and projects that contribute to the delivery of the Paris Agreement and the UN sustainable development goals.*
4 *Assessed based on results of the latest employee snapshot survey question 'I am seeing the positive impact of our strategy'.*

Performance conditions for LTI awards in respect of 2016 (granted in 2017)

Measures	Minimum (25% payout)	Target (50% payout)	Maximum (100% payout)	Weighting %
Average return on equity[1]	7.0%	8.5%	10.0%	20
Cost efficiency (adjusted jaws)	Positive	1.5%	3.0%	20
Relative total shareholder return[2]	At median of the peer group.	Straight-line vesting between minimum and maximum.	At upper quartile of the peer group.	20
Global Standards including risk and compliance • Status of AML DPA.	Not applicable	Not applicable	Met all commitments to achieve closure of the AML DPA and protect HSBC from further regulatory censure for financial crime compliance failings.	25
• Achieve and sustain compliance with Global Financial Crime Compliance policies and procedures.	Performance will be assessed by the Committee based on a number of qualitative and quantitative inputs such as feedback from the Financial System Vulnerabilities Committee, Group Financial Crime Risk assessment against Financial Crime Compliance objectives, outcome of assurance and audit reviews, and achievement of the long-term Group objectives and priorities during the performance period.			
Strategy • International client revenues (Share of revenue supported by international network)	50%	51%	52%	15
• Revenue synergies (Share of revenues supported by universal banking model)	22%	23%	24%	
• Employee[3] (Results of employee survey)	65%	67%	70%	
• Customer (Based on customer recommendation in home country markets)	Rank within top three in at least two of the four RBWM and CMB customer segments in home country markets.	Rank within top three in three of the four RBWM and CMB customer segments in home country markets.	Rank within top three in all four RBWM and CMB customer segments in home country markets.	
Total				**100**

1 *Significant items are excluded from the profit attributable to ordinary shareholders of the company for the purpose of computing adjusted return on equity.*
2 *The peer group for the 2016 award is: Australia and New Zealand Banking Group, Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse Group, DBS Group Holdings, Deutsche Bank, JPMorgan Chase & Co., Lloyds Banking Group, Standard Chartered and UBS Group.*
3 *Assessed based on results of the latest employee snapshot survey question 'I am seeing the positive impact of our strategy'.*

Share options

(Audited)

	Date of award	Exercise price	Exercisable		At 1 Jan 2018, or date of appointment, if later	Granted in year	Exercised in year	At 31 Dec 2018
		£	from[1]	until				
John Flint (appointed 21 February 2018)	22 Sep 15	4.0472	1 Nov 18	30 Apr 19	**4,447**	–	–	**4,447**
	21 Sep 18	5.4490	1 Nov 23	30 Apr 24	–	**5,505**	–	**5,505**
Iain Mackay (ceased employment on 31 December 2018)	23 Sep 14	5.1887	1 Nov 17	30 Apr 18	**3,469**	–	**3,469**	–

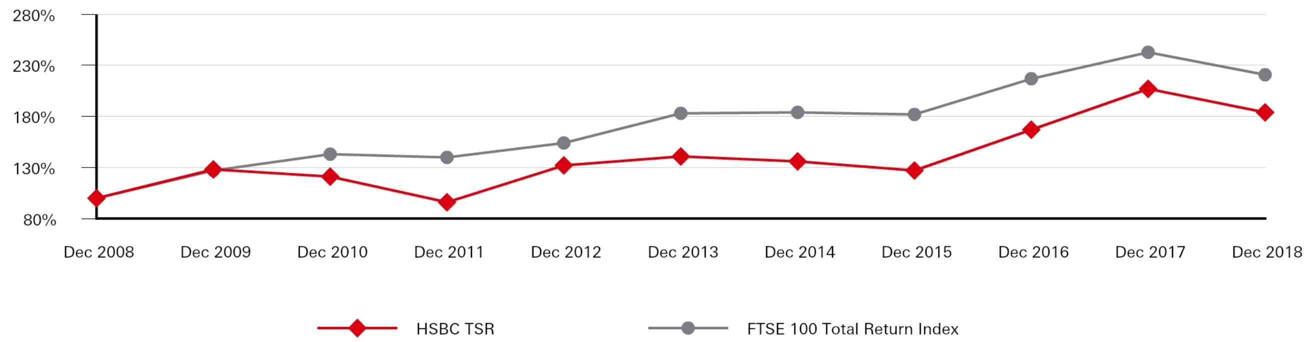
1 *May be advanced to an earlier date in certain circumstances, such as retirement.*

The above awards were made under HSBC UK Sharesave, an all-employee share plan under which eligible employees may be granted options to acquire HSBC Holdings ordinary shares. The exercise price is determined by reference to the average market value of HSBC Holdings ordinary shares on the five business days immediately preceding the invitation date, then applying a discount of 20%. Employees may make contributions of up to £500 each month over a period of three or five years. The market value per ordinary share at 31 December 2018 was £6.469. Market value is the mid-market price derived from the London Stock Exchange Daily Official List on the relevant date. Under the Securities and Futures Ordinance of Hong Kong, the options are categorised as unlisted physically settled equity derivatives.

Summary of shareholder return and Group Chief Executive remuneration

The following graph shows the total shareholder return ('TSR') performance against the FTSE 100 Total Return Index for the 10-year period that ended on 31 December 2018. The FTSE 100 Total Return Index has been chosen as this is a recognised broad equity market index of which HSBC Holdings is a member. The single figure remuneration for the Group Chief Executive over the past 10 years, together with the outcomes of the respective annual incentive and long-term incentive awards, is presented in the following table.

HSBC TSR and FTSE 100 Total Return Index



	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	
Group Chief Executive	Michael Geoghegan	Michael Geoghegan	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	**Stuart Gulliver**	**John Flint**
Total single figure £000	7,580	7,932	8,047	7,532	8,033	7,619	7,340	5,675	6,086	**2,387**	**4,582**
Annual incentive[1] (% of maximum)	94%	82%	58%	52%	49%	54%	45%	64%	80%	**76%**	**76%**
Long-term incentive[1,2,3] (% of maximum)	25%	19%	50%	40%	49%	44%	41%	—%	—%	**100%**	**–%**

1 *The 2012 annual incentive figure for Stuart Gulliver used for this table includes 60% of the annual incentive disclosed in the 2012 Directors' remuneration report, which was deferred for five years and subject to service conditions and satisfactory completion of the five-year deferred prosecution agreement with the US Department of Justice, entered into in December 2012 ('AML DPA') as determined by the Committee. The AML DPA performance condition has been met, and as such, this award has now been released. This award vested in 2018 and the value of the award at vesting has been included in the 2018 single figure of remuneration and included as long-term incentive for 2018.*

2 *Long-term incentive awards are included in the single figure for the year in which the performance period is deemed to be substantially completed. For GPSP awards this is the end of the financial year preceding the date of grant (GPSP awards shown in 2011 to 2015 therefore relate to awards granted in 2012 to 2016). For performance share awards that were awarded before introduction of GPSP, the value of awards that vested subject to satisfaction of performance conditions attached to those awards are included at the end of the third financial year following the date of grant (for example, performance share awards shown in 2010 relates to awards granted in 2008).*

3 *The GPSP was replaced by the LTI in 2016 and the value for GPSP is nil for 2016 as no GPSP award was made for 2016. LTI awards have a three-year performance period and the first LTI award was made in February 2017. The value of the LTI awards expected to vest will be included in the total single figure of the year in which the performance period ends. Stuart Gulliver was not eligible for an LTI award in respect of 2017 and 2018 given his announced retirement.*

Comparison of Group Chief Executive and all-employee pay

The following charts compare the changes in Group Chief Executive pay to changes in employee pay between 2017 and 2018, and provide a breakdown of total staff pay relative to the amount paid out in dividends.

Percentage change in remuneration between 2017 and 2018

	Group Chief Executive	Employee group
Base salary[1]	-4%	6%
Benefits[2, 3]	-76%	-1%
Annual incentive[4]	-8%	2%

1 *Employee group consists of local full-time UK employees as representative of employees from different businesses and functions across the Group. The changes for the Group Chief Executive are based on the annualised base salary of the current and former Group Chief Executive to provide a meaningful comparison.*

2 *The change in the value of the benefit is due to the change in the value of the benefit as reported in the single figure table for the current and former Group Chief Executive.*

3 *For benefits, the employee group consists of UK employees, which was deemed the most appropriate comparison for the Group Chief Executive given varying local requirements.*

4 *For annual incentive, the employee group consists of all employees globally. The change is based on annual incentive pool as disclosed on page 33 and staff numbers are based on full-time equivalents at the financial year-end. The percentage change in annual incentive award of the Group Chief Executive is primarily driven by the difference in the 2017 and 2018 scorecard outcome, reflecting performance achieved in those years, and change in annual incentive maximum opportunity for John Flint and Stuart Gulliver, based on their annualised salary. Details of the 2018 total single figure of remuneration for the Group Chief Executive are on page 230.*

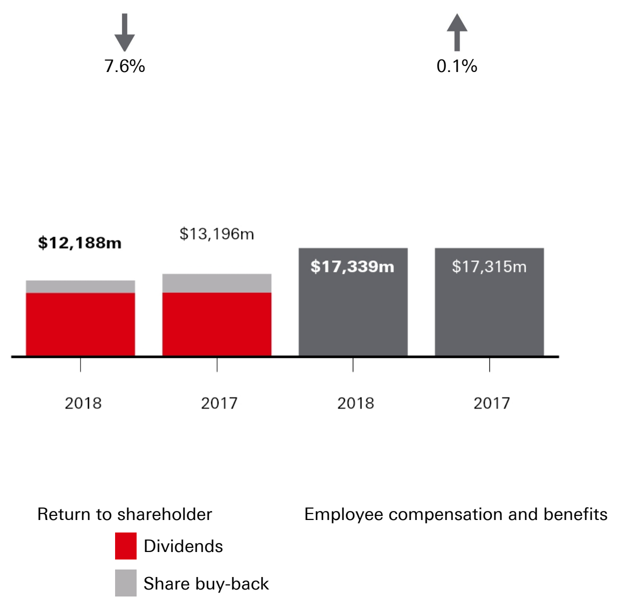
Relative importance of spend on pay

The following chart shows the change in:

- total staff pay between 2017 and 2018; and
- dividends paid out in respect of 2017 and 2018.

In 2018, we returned a total of $2bn to shareholders through share buy-backs.

Relative importance of spend on pay



Pay ratio

The following table shows on the ratio between the total pay of the Group Chief Executive and the median pay of our UK employees.

Pay ratio for 2018

	At median
Pay ratio	118:1

We considered compensation of over 40,000 employees (other than the Group Chief Executive) providing services in the UK as at 31 December 2018. We estimated our median compensation using:

- full-time equivalent fixed pay, which includes salary and allowances;
- 2018 variable pay award, including notional returns paid during 2018;
- gains realised from exercising awards granted under HSBC Sharesave and all other employee share plans;
- value of benefits (including pension contributions); and
- the value of the AML DPA award that vested in 2018.

The value of the benefits have been computed as a percentage of salary. Benefits that are one-off benefits and are provided on a temporary basis to employees currently on secondment to the UK have not been included in calculating the above ratios as these are not permanent in nature and in some cases, depending on individual circumstances, may not truly reflect a benefit to the employee.

The above ratio has been calculated based on the annualised fixed and variable pay for John Flint as we consider this a better basis for a year-on-year comparison for 2019 when the regulations for disclosing the above ratios come into force. The total remuneration of John Flint does not include a value for an LTI award as the performance period for the first LTI award granted to John Flint ends on 31 December 2021. Therefore, to the extent performance conditions are satisfied for an LTI award, the relevant value for John Flint will be reported in the Directors' remuneration report for 2021. In a year in which a value for an LTI award is included in the single figure table of remuneration, the above ratios could be higher.

Given the different business mix, size of the business, methodologies for computing the median pay, estimates and assumptions used by other companies to calculate their respective pay ratios, as well as differences in employment and compensation practices between companies, the ratios reported above may not be comparable to that reported by other listed peers on the FTSE 100 and our international peers.

Non-executive Directors

(Audited)

The following table shows the total fees and benefits of non-executive Directors for 2018, together with comparative figures for 2017.

Fees and benefits

(Audited)		Fees[1]		Benefits[2]		Total	
(£000)	*Footnotes*	**2018**	2017	**2018**	2017	**2018**	2017
Phillip Ameen (Retired on 20 April 2018)	*3*	**154**	474	**6**	12	**160**	486
Kathleen Casey	*4, 13*	**171**	174	**23**	16	**194**	190
Henri de Castries	*13*	**161**	132	**4**	5	**165**	137
Laura Cha	*5, 6, 14*	**255**	269	**13**	22	**268**	291
Lord Evans of Weardale	*6, 13, 14*	**200**	215	**2**	8	**202**	223
Joachim Faber (Retired on 20 April 2018)		**38**	162	**3**	9	**41**	171
Irene Lee	*7, 13*	**361**	300	**5**	8	**366**	308
John Lipsky (Retired on 20 April 2018)		**66**	199	**–**	25	**66**	224
Heidi Miller	*8, 13*	**573**	571	**9**	18	**582**	589
David Nish	*13*	**187**	158	**11**	18	**198**	176
Jonathan Symonds	*9, 14*	**653**	639	**1**	2	**654**	641
Jackson Tai	*10, 13*	**228**	194	**47**	43	**275**	237
Mark Tucker	*11*	**1,500**	500	**97**	318	**1,597**	818
Pauline van der Meer Mohr	*12, 14*	**239**	239	**17**	16	**256**	255
Total		**4,786**	4,226	**238**	520	**5,024**	4,746
Total ($000)		**6,383**	5,636	**317**	693	**6,700**	6,329

1 Fees include a travel allowance of £4,000 for non-UK-based non-executive Directors.
2 Benefits include taxable expenses such as accommodation, travel and subsistence relating to attendance at Board and other meetings at HSBC Holdings' registered office. Amounts disclosed have been grossed up using a tax rate of 45%, where relevant.
3 Includes fees of £106,000 in 2018 (£330,000 in 2017) as a Director and Chair of the Audit Committee of HSBC North America Holdings Inc.
4 Resigned as a member of the Financial System Vulnerabilities Committee.
5 Appointed as a member of the Financial System Vulnerabilities Committee on 20 April 2018. Includes fees of £80,000 in 2018 (£75,000 in 2017) as a Director, Deputy Chairman and member of the Nomination Committee of The Hongkong and Shanghai Banking Corporation Limited.
6 The Philanthropic and Community Investment Oversight Committee was demised during 2018.
7 Appointed as a member of the Group Remuneration Committee on 20 April 2018. Includes fees of £210,000 in 2018 (£187,000 in 2017) as a Director, and member of the Audit Committee and the Risk Committee of The Hongkong and Shanghai Banking Corporation Limited and as a Director, member of the Audit Committee and Chair of the Risk Committee of Hang Seng Bank Limited.
8 Includes fees of £412,000 in 2018 (£427,000 in 2017) as Chair of HSBC North America Holdings Inc.
9 Appointed as Deputy Group Chairman on 6 August 2018 and appointed as a member of the Group Risk Committee on 20 April 2018. Includes fees of £240,000 (£382,000 in 2017) as non-executive Chair of HSBC Bank plc, from which he stepped down on 6 August 2018.
10 Appointed as a member of the Group Audit Committee on 1 December 2018. Appointed as Chair of the GRC on 28 April 2017. As set out in the statement from the Chair of the Group Remuneration Committee, the fee for GRC Chair was increased to £120,000 on 1 December 2018, taking into account the increase in the expectations of the role of the GRC Chair from a regulatory perspective and the expanded oversight role of the Group Risk Committee following the re-assignment of the work previously undertaken by the Conduct & Values Committee and the Financial System Vulnerabilities Committee.
11 The Group Chairman's benefits in 2018 included £10,200 in respect of life assurance and £15,426 in respect of healthcare insurance, as approved by the Group Remuneration Committee.
12 Appointed a member of the Group Risk Committee on 20 April 2018.
13 Appointed as a member of the Nomination & Corporate Governance Committee on 20 April 2018.
14 Conduct and Values Committee was demised during 2018.

The following table sets out the base fee and further fees for additional Board duties such as chairmanship or membership of a committee received by directors in 2018.

Position		2018 fees £
Non-executive Group Chairman [1]		**1,500,000**
Non-executive Director (base fee)		**110,000**
Deputy Group Chairman [2]		**40,000**
Senior Independent Director [2]		**54,000**
Group Risk Committee [3]	Chair	**60,000**
	Member	**30,000**
Group Audit, Group Remuneration and Financial System Vulnerabilities Committee	Chair	**60,000**
	Member	**30,000**
Nomination & Corporate Governance Committee	Chair	**40,000**
	Member	**25,000**

1 Group Chairman does not receive a base fee or any other fees in respect of chairmanship of any other committee.
2 The fees for the Deputy Group Chairman and Senior Independent Director were combined and increased to £375,000 with effect from 1 August 2018.
3 The fee for the Group Risk Committee Chair was increased to £120,000 with effect from 1 December 2018.

Non-executive Directors’ interests in shares

(Audited)

The shareholdings of persons who were non-executive Directors in 2018, including the shareholdings of their connected persons, at 31 December 2018, or date of cessation as a Director, if earlier, are set out below. The following table shows the comparison of shareholdings to the company shareholding guidelines.

Shares

	Shareholding guidelines (number of shares)	**Share interests (number of shares)**
Phillip Ameen (retired on 20 April 2018)	15,000	**5,000**
Kathleen Casey	15,000	**9,635**
Laura Cha	15,000	**10,200**
Henri de Castries	15,000	**18,064**
Lord Evans of Weardale	15,000	**12,892**
Joachim Faber (retired on 20 April 2018)	15,000	**93,221**
Irene Lee	15,000	**11,172**
John Lipsky (retired on 20 April 2018)	15,000	**16,165**
Heidi Miller	15,000	**4,420**
David Nish	15,000	**50,000**
Jonathan Symonds	15,000	**43,821**
Jackson Tai	15,000	**56,075**
Mark Tucker	15,000	**288,381**
Pauline van der Meer Mohr	15,000	**15,000**

Voting results from Annual General Meeting

The following table summarises the voting results at our AGM.

Annual General Meeting voting results

	For[1]	**Against[1]**	**Withheld**
Remuneration report (2018 AGM)	**97.00%**	**3.00%**	**–**
	10,062,767,783	**311,311,586**	**31,562,311**
Remuneration policy (2016 AGM)	96.05%	3.95%	–
	8,887,168,002	365,908,568	35,165,873

1 *Votes cast.*

Implementation of remuneration policy in 2019 for executive Directors

The following table summarises how each element of pay will be implemented in 2019.

Implementation of remuneration policy in 2019

	Summary of operation	**Group Chief Executive**	**Group Chief Financial Officer**	**Group Chief Risk Officer**
Base salary (£)	**3.3% increase with effect from 1 March 2019**	**1,240,000**	**723,000**	**723,000**
Fixed pay allowance (£)	**No change**	**1,700,000**	**950,000**	**950,000**
Cash in lieu of pension	**No change**	**30% of base salary**		
Benefits	**No change**	**Same benefit provisions will be made available to executive Directors**		
Annual incentive	**No change in maximum opportunity**	**Maximum opportunity will be 215% of base salary**		
Long-term incentive	**No change in maximum opportunity**	**Maximum opportunity will be 320% of base salary**		

Annual incentive scorecards

The weightings and performance measures for the 2019 annual incentive award for executive Directors are disclosed below. The performance targets for the annual incentive are commercially sensitive and it would be detrimental to the Group’s interests to disclose them at the start of the financial year. Subject to commercial sensitivity, we will disclose the targets for a given year in the *Annual Report and Accounts* for that year in the Directors’ remuneration report.

2019 annual incentive scorecards

Executive Directors will be eligible for an annual incentive award of up to 215% of base salary.

2019 annual incentive scorecards measures and weightings

Measures	**Group Chief Executive[1]** %	**Group Chief Financial Officer** %	**Group Chief Risk Officer** %
Profit before tax ($bn)	**10.0**	**10.0**	**10.0**
RoTE	**5.0**	**8.3**	**3.3**
Revenue growth	**10.0**	**–**	**–**
Positive jaws	**5.0**	**10.0**	**–**
Capital metrics	**5.0**	**16.7**	**6.7**
Strategic priorities	**30.0**	**20.0**	**15.0**
Risk and compliance	**25.0**	**25.0**	**45.0**
Personal objectives	**10.0**	**10.0**	**20.0**
Total	**100.0**	**100.0**	**100.0**

1 *Strategic priorities includes financial/quantitative metrics with a 25% weighting.*

Long-term incentives

Details of the performance measures and targets for LTI awards to be made in 2019, in respect of 2018, are provided on page 234.

The performance measures and targets for awards to be made in respect of 2019, granted in 2020, will be provided in the *Annual Report and Accounts 2019*.

Additional remuneration disclosures

This section provides disclosures required under the Hong Kong Ordinances, Hong Kong Listing Rules, the US Securities and Exchange Commission Form 20-F and the Pillar 3 remuneration disclosures.

Payments on loss of office

The table below sets out the basis on which payments on loss of office may be made. Other than as set out in the table, there are no further obligations which could give rise to remuneration payments or payments for loss of office.

Component of remuneration	Approach taken
Fixed pay and benefits	Executive Directors may be entitled to payments in lieu of: • notice, which shall consist of base salary, pension entitlements and other contractual benefits, or an amount in lieu of; and/or • accrued but untaken holiday entitlement.
Annual incentives and long-term incentives	In exceptional circumstances as determined by the Committee, an executive Director may be eligible for annual incentives and long-term incentives based on the time worked in the performance year and on the individual executive Director's contribution.
Unvested deferred awards	All unvested awards will be forfeited when an executive Director ceases employment voluntarily and is not deemed a good leaver. An executive Director may be considered a good leaver at the discretion of the Committee, and the following will apply: • unvested awards will continue to vest in line with the applicable vesting dates, subject to the original performance conditions, the share plan rules, malus and clawback provisions; or • vested shares, subject to retention, will be released to the executive Director on cessation of employment. In the event of death, unvested awards will vest and will be released to the executive Director's estate as soon as practicable. In respect of outstanding unvested awards, for an individual to be considered as a good leaver, the Committee needs to be satisfied that the executive has no current or future intention at the date of leaving HSBC of being employed by any competitor financial services firm. The Committee determines the list of competitor firms and length of time this restriction applies. If the Committee becomes aware of any evidence to the contrary before vesting, the award will lapse. If the executive Director is not deemed a good leaver for purposes of the GPSP, vested shares, subject to retention, will be released to the executive Director in three equal tranches on each of the first, second and third anniversary of cessation of employment.
Repatriation	Where an executive Director has been relocated as part of their employment, the Committee retains the discretion to pay the repatriation costs. These may include, but are not restricted to airfare, accommodation, shipment, storage, utilities, and any tax and social security that may be due in respect of such benefits.
Post-departure benefits	Applicable for the duration of the clawback period, up to a maximum of seven years from date of departure for those who depart under good leaver provisions under the HSBC Share Plan and subject to non-compete provisions, in accordance with the terms of the policy. Benefits may include medical coverage, tax return preparation assistance and legal expenses for the duration of the clawback period. The Committee also has the discretion to extend the post-departure benefit of medical coverage to former executive Directors up to a maximum of seven years from their date of departure.
Legal claims	The Committee retains the discretion to make payments (including professional and outplacement fees) to mitigate against legal claims, subject to any such payments being made in accordance with the terms of an appropriate agreement waiving all claims against the Group.
Change of control	In the event of a change of control, outstanding awards will be treated in line with the provisions set out in the respective plan rules.

Employee compensation and benefits

Executive Directors

The details of compensation paid to executive Directors for the year ended 31 December 2018 are set out below.

Emoluments

	John Flint[1]		Stuart Gulliver[2]		Iain Mackay		Marc Moses	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
	£000	£000	**£000**	£000	**£000**	£000	**£000**	£000
Basic salaries, allowances and benefits in kind	**2,863**	—	**534**	3,896	**1,984**	1,961	**1,911**	1,914
Pension contributions	**—**	—	**—**	—	**—**	—	**—**	—
Performance-related pay paid or receivable[3]	**5,505**	—	**282**	2,127	**1,088**	3,566	**3,556**	3,590
Inducements to join paid or receivable	**—**	—	**—**	—	**—**	—	**—**	—
Compensation for loss of office	**—**	—	**—**	—	**—**	—	**—**	—
Notional return on deferred cash	**54**	—	**41**	63	**33**	42	**33**	42
Total	**8,422**	—	**857**	6,086	**3,105**	5,569	**5,500**	5,546
Total ($000)	**11,232**	—	**1,143**	7,834	**4,141**	7,168	**7,335**	7,139

1 *John Flint succeeded Stuart Gulliver as Group Chief Executive with effect from 21 February 2018 and his remuneration in this table is in respect of services provided as an executive Director.*
2 *Details of payments made to Stuart Gulliver after he stepped down from the Board on 20 February 2018 are provided on page 235.*
3 *Includes the value of the deferred and LTI awards at grant.*

The aggregate amount of Directors' emoluments (including both executive Directors and non-executive Directors) for the year ended 31 December 2018 was $30,550,208. As per our policy, benefits in kind may include, but are not limited to, the provision of medical insurance, income protection insurance, health assessment, life assurance, club membership, tax assistance, Hong Kong accommodation, car benefit, travel assistance and relocation costs (including any tax due on these benefits, where applicable). Post-employment medical insurance benefit was provided to former Directors, Douglas Flint of £4,563 ($6,085), Alexander Flockhart of £5,463 ($7,286), and Stuart Gulliver of £2,840 ($3,787) during the year ended 31 December 2018. Amounts are converted into US dollars based on the average year-to-date exchange rates for the respective year.

Emoluments of senior management and five highest paid employees

The following table sets out the details of emoluments paid to senior management (in this case, executive Directors and Group Managing Directors of the Group) for the year ended 31 December 2018, or for the period of appointment in 2018 as a Director or Group Managing Director. Details of the remuneration paid to the five highest paid employees, comprising two executive Directors and three Group Managing Directors of the Group, for the year ended 31 December 2018, are also presented.

Emoluments

	Five highest paid employees	Senior management
	£000	£000
Basic salaries, allowances and benefits in kind	14,982	39,285
Pension contributions	10	188
Performance-related pay paid or receivable[1]	19,696	40,519
Inducements to join paid or receivable	—	—
Compensation for loss of office	—	—
Total	**34,688**	**79,992**
Total ($000)	**46,260**	**106,678**

1 *Includes the value of deferred shares awards at grant.*

Emoluments by bands

Hong Kong dollars	US dollars	Number of highest paid employees	Number of senior management
$2,000,001 – $2,500,000	$255,182 – $318,978	—	1
$16,000,001 – $16,500,000	$2,041,457 – $2,105,253	—	1
$17,000,001 – $17,500,000	$2,169,048 – $2,232,844	—	1
$24,500,001 – $25,000,000	$3,125,981 – $3,189,777	—	1
$27,500,001 – $28,000,000	$3,508,754 – $3,572,550	—	1
$32,000,001 – $32,500,000	$4,082,914 – $4,146,710	—	2
$33,500,001 – $34,000,000	$4,274,301 – $4,338,096	—	1
$34,500,001 – $35,000,000	$4,401,892 – $4,465,687	—	1
$35,500,001 – $36,000,000	$4,529,483 – $4,593,278	—	1
$38,000,001 – $38,500,000	$4,848,461 – $4,912,256	—	1
$39,500,001 – $40,000,000	$5,039,847 – $5,103,643	—	1
$41,500,001 – $42,000,000	$5,295,029 – $5,358,825	—	1
$46,000,001 – $46,500,000	$5,869,189 – $5,932,984	—	1
$50,000,001 – $50,500,000	$6,379,553 – $6,443,349	—	1
$57,000,001 – $57,500,000	$7,272,691 – $7,336,486	1	1
$58,000,001 – $58,500,000	$7,400,282 – $7,464,077	1	1
$69,500,001 – $70,000,000	$8,867,579 – $8,931,374	1	1
$84,000,001 – $84,500,000	$10,717,649 – $10,781,445	1	1
$93,000,001 – $93,500,000	$11,865,969 – $11,929,764	1	1

Pillar 3 remuneration disclosures

Remuneration for all employees

Remuneration policy overview and governance

Our remuneration strategy is designed to reward competitively the achievement of long-term sustainable performance, and attract and motivate the very best people, regardless of gender, ethnicity, age, disability or any other factor unrelated to performance or experience with the Group. We believe that remuneration is an important tool for instilling the right behaviours, and driving and encouraging actions that are aligned to organisational values and the long-term interests of our stakeholders.

Our remuneration strategy, as approved by the Group Remuneration Committee, is based on the following principles:

- An alignment to performance at all levels (individual, business and Group) taking into account both 'what' has been achieved and 'how' it has been achieved. The 'how' helps ensure that performance is sustainable in the longer term, consistent with HSBC's values and risk and compliance standards.
- Being informed, but not driven by, market position and practice. Market benchmarks are sourced through independent specialists and provide an indication of the range of pay levels and employee benefits provided by our competitors.
- Considering the full-market range when making pay decisions for employees, taking into account the individual's and the Group's performance in any given year. An individual's pay will vary depending upon their performance.
- Compliance with relevant regulation across all of our countries and territories.

Based on these principles, our approach to determining remuneration is based on the following objectives:

- Offering our employees a competitive total reward package. This includes market competitive fixed pay levels, which ensure our employees are able to meet their basic day-to-day needs.

- Maintaining an appropriate balance between fixed pay, variable pay and employee benefits, taking into consideration an employee’s seniority, role, individual performance and the market.
- Ensuring variable pay is awarded on a discretionary basis and dependent upon Group, business and individual performance.
- Offering employee benefits that are valued by a diverse workforce, appropriate at the local market level and support HSBC’s commitment to employee well-being.
- Promoting employee share ownership through variable pay deferral or voluntary enrolment in an all-employee share plan.
- Linking reward packages to performance and behaviour with no bias towards an individual’s ethnicity, gender, age, or any other characteristic.

The remuneration policy applies for all employees on a Group-wide basis.

Governance and role of relevant stakeholders

The Committee is responsible for setting the principles, parameters and governance framework for the Group‘s remuneration policy applicable to all Group employees. The Committee also reviews the effectiveness and compliance of the Group's reward strategy.

All members of the Committee are independent non-executive Directors of HSBC Holdings plc. Details of the roles, responsibility and membership of the Committee, including other committees and senior management that the Committee engages with, are set out on page 208. Activities and advisers used by the Committee are detailed on page 229.

The Committee reviewed the Group's remuneration policy in 2018 and made no material changes to the policy and its implementation for 2018.

Link between risk, performance and reward

Our remuneration practices promote sound and effective risk management while supporting our business objectives.

The key features of our remuneration framework, which (subject to compliance with local laws and regulations) help enable us to achieve alignment between risk, performance and reward, are detailed in the following table.

Alignment between risk and reward

Framework elements	Application
Variable pay pool and individual performance scorecard	The Group variable pay pool is expected to move in line with Group performance. We also use a countercyclical funding methodology, with both a floor and a ceiling, and the payout ratio reducing as performance increases to avoid pro-cyclicality. The floor recognises that even in challenging times, remaining competitive is important. The ceiling recognises that at higher levels of performance it is not always necessary to continue to increase the variable pay pool, thereby limiting the risk of inappropriate behaviour to drive financial performance. The main quantitative and qualitative performance and risk metrics used for assessment of performance include: • Group and business unit performance: An evaluation of overall Group and business unit performance provided by Finance is considered by the Group Remuneration Committee when determining the Group variable pay pool and the variable pay pool for each business unit. Where performance in a year is weak, as measured by profits, this will have a direct and proportionate impact on the pool. Judgement is exercised to ensure that the pool is adjusted for appropriate current and future risks taking into consideration performance against the risk appetite statement ('RAS'), annual operating plan and global conduct outcomes. Fines, penalties and provisions for customer redress are automatically included in the Committee's definition of profit. • Individual performance: Assessment of performance is made with reference to a balanced scorecard of clear and relevant objectives. Risk and compliance objectives are included in the performance scorecard of senior management and a mandatory global risk objective is included in the scorecard of all other employees. All employees receive a behaviour rating as well as a performance rating, which ensures performance is assessed not only on what is achieved but also on how it is achieved. Therefore, variable pay of individuals is expected to reflect Group performance, their individual behaviour rating and performance rating determined against their performance objectives for the year, which are aligned to the Group's strategic actions, risk objectives and adherence to the HSBC Values.
Remuneration for Control Function staff	• The performance and reward of individuals in Control Functions, including risk and compliance employees, are assessed according to a balanced scorecard of objectives specific to the functional role they undertake. This is to ensure their remuneration is determined independent of the performance of the business areas they control. • The Committee is responsible for approving the remuneration recommendations for the Group Chief Risk Officer and senior management in Control Functions. • Group policy is for Control Functions staff to report into their respective function. Remuneration decisions for senior functional roles are led by, and must carry the approval of, the global function head. • The variable pay pool for Control Functions is determined centrally, without influence from the relevant business areas. • Remuneration is carefully benchmarked with the market and internally to ensure it is set at an appropriate level.
Variable pay adjustments and conduct recognition	• Variable pay awards may be adjusted downwards in circumstances including: – detrimental conduct, including conduct that brings HSBC into disrepute; – involvement in events resulting in significant operational losses, or events that have caused or have the potential to cause significant harm to HSBC; and – non-compliance with the HSBC Values and other mandatory requirements or policies. • Rewarding positive conduct may take the form of use of our global recognition programme, At Our Best, or positive adjustments to variable pay awards. These are used where exceptional behaviours have been demonstrated that go beyond the normal course of an employee's responsibilities. This can also happen when an employee sets an outstanding example of the HSBC Values.
Malus	Malus can be made to unvested deferred awards granted in prior years. It may be applied in circumstances including: • detrimental conduct, including conduct that brings the business into disrepute; • past performance being materially worse than originally reported; • restatement, correction or amendment of any financial statements; and • improper or inadequate risk management.
Clawback	Clawback can be applied to vested or paid awards granted to Material Risk Takers ('MRTs') on or after 1 January 2015 for a period of seven years. From 2016 onwards, this period may be extended to 10 years for employees under the PRA's Senior Managers Regime in the event of ongoing internal/regulatory investigation at the end of the seven-year period. Clawback may be applied in circumstances including: • participation in, or responsibility for, conduct that results in significant losses; • failing to meet appropriate standards and propriety; • reasonable evidence of misconduct or material error that would justify, or would have justified, summary termination of a contract of employment; and • a material failure of risk management suffered by HSBC or a business unit in the context of Group risk-management standards, policies and procedures.
Sales incentives	• We generally do not operate commission-based sales plans.
Identification of MRTs	• Individuals are identified as MRTs if they perform certain specified roles or activities for our regulated entities, or if their total compensation exceeds certain threshold. The variable pay awards of MRTs are deferred over a period of three to seven years to ensure alignment between the payout realised by them and the long-term performance of the Group. Details of the variable pay structure, the deferral and retention period applied to MRTs, in accordance with the applicable local regulations, are detailed in the following table.

Remuneration structure

Total compensation (fixed pay and variable pay) is the key focus of our remuneration framework, with variable pay differentiated by performance and adherence to the HSBC Values. The key features and design characteristics of our remuneration framework that apply on a Group-wide basis, subject to compliance with local laws, are set out below:

Overview of remuneration structure for employees

Remuneration components and objectives	Application
Fixed pay Attract and retain employees by paying market competitive pay for the role, skills and experience required for the business.	• Fixed pay may include salary, fixed pay allowance, cash in lieu of pension and other cash allowances in accordance with local market practices. These pay elements are categorised as fixed pay as they are based on predetermined criteria, are non-discretionary, are transparent and are not reduced based on performance. • Fixed pay represents a higher proportion of total compensation for more junior employees. • All elements of fixed pay are fixed and may change to reflect an individual's position, role or grade, cost of living in the country, individual skills, competencies, capabilities and experience, as may be evidenced by sustained strong performance of the individual. • Fixed pay is generally delivered in cash on a monthly basis. However, the fixed pay allowance of executive Directors is delivered in shares.
Benefits Ensure market competitiveness and provide benefits in accordance with local market practice.	• Benefits may include, but are not limited to, the provision of a pension, medical insurance, life insurance, health assessment and relocation allowances.
Annual incentive Incentivise and reward performance based on annual financial and non-financial measures consistent with the medium- to long-term strategy, stakeholder interests and adherence to HSBC Values.	• All employees are eligible to be considered for a discretionary variable pay award. Individual awards are determined on the basis of individual performance against their performance objectives for the year, which are aligned to the Group's strategic actions, a global risk objective, and adherence to the HSBC Values and business principles. • There is a process to identify behavioural transgressions for all employees during the year to ensure compliance with Group policies and procedures, and other expected behaviours. Such transgressions are taken into consideration in determining any current year adjustments to variable pay. • Annual incentives represent a higher proportion of total compensation for more senior employees and will be more closely aligned to Group and business performance as seniority increases. • Variable pay awards for all Group employees identified as MRTs under European Union Regulatory Technical Standard 604/2014 are limited to 200% of fixed pay.[1] • All awards are subject to malus and awards granted to employees identified as MRTs are subject to clawback (see section on variable pay adjustment, malus and clawback). • Awards are generally paid in cash and shares. For MRTs, at least 50% of the awards are in shares and/or where required by regulations, in units linked to asset management funds. • A portion of the annual incentive award may be deferred and vest over a period of three years, five years or seven years.
Deferral Alignment with the medium- to long-term strategy, stakeholder interests and adherence to the HSBC Values.	• A deferral approach is applicable to all employees across the Group to defer a portion of annual incentive awards above a specified threshold. The deferred variable pay is delivered through HSBC shares. Vesting of deferred awards will be annually over a three-year period with 33% vesting on the first and second anniversaries of grant and 34% on the third anniversary. • For MRTs identified in accordance with the PRA and Financial Conduct Authority ('FCA') remuneration rules, awards are generally subject to a minimum 40% deferral (60% for awards of £500,000 or more) over a minimum period of three years[2]. A longer deferral period is applied for certain MRTs as follows: – five years for individuals identified in a risk-manager MRT role under the PRA and FCA remuneration rules. This reflects the deferral period prescribed by both the PRA and the European Banking Authority ('EBA') for individuals performing key senior roles with the Group; or – seven years for individuals in PRA-designated senior management functions, being the deferral period mandated by the PRA as reflecting the typical business cycle period. • Individuals based outside the UK who have not been identified at the Group level as an MRT, but who are identified as MRTs under local regulations, are generally subject to a three-year deferral period. In Germany, a five-year deferral period is applied for members of the local management board and individuals in managerial roles reporting into the management board. In Malta, a five-year deferral period is applied for executive Committee members. Local MRTs are also subject to a minimum deferral rates discussed above, except in China (where a minimum deferral rate of 50% is applied for the Chief Executive Officer in China), Germany (where a minimum deferral rate of 60% is applied for members of the local management board and individuals in managerial roles reporting into the management board) and Oman (where a minimum deferral rate of 45% is applied). • Where an employee is subject to two sets of regulations, the requirement that is specific to the sector and/or country in which the individual is working is applied, subject to meeting the minimum requirements applicable under each regulation. • All deferred awards are subject to malus provisions, subject to compliance with local laws. Awards granted to MRTs on or after 1 January 2015 are also subject to clawback. • HSBC operates an anti-hedging policy for all employees. This prohibits employees from entering into any personal hedging strategies in respect of HSBC securities.
Deferral instruments Alignment with the medium- to long-term strategy, stakeholder interests and adherence to the HSBC Values.	• For all employees, other than MRTs identified in accordance with the PRA and FCA remuneration rules or other similar local rules, the underlying instrument for all deferred awards is HSBC shares to ensure alignment between the long-term interest of our employees and the interest of shareholders. • For Group and local MRTs, excluding executive Directors where deferral is typically in the form of shares only, a minimum of 50% of the deferred awards is in HSBC shares and the balance is deferred into cash. In accordance with local regulatory requirements, for local MRTs in Poland, 50% of the deferred awards are delivered in an instrument linked to the performance of the local entity and the balance in deferred cash. For local MRTs in Brazil and Oman, 100% of the deferred amount is delivered in shares or linked to the value of shares. • For some employees in our asset management business, where required by the regulations applicable to asset management entities within the Group, at least 50% of the deferred awards is linked to fund units reflective of funds managed by those entities, with the remaining portion of deferred awards being in the form of deferred cash awards.

Overview of remuneration structure for employees (continued)

Remuneration components and objectives	Application
Post-vesting retention period Ensure appropriate alignment with shareholders.	• Variable pay awards made in HSBC shares or linked to relevant fund units granted to MRTs, identified in accordance with the PRA and FCA remuneration rules, are generally subject to a one-year retention period post-vesting. Local MRTs (except those in Brazil, France, Oman and Russia) are also generally subject to a one-year retention period post-vesting. For local MRTs in Brazil, France and Russia, a six-month retention period is applied. No retention period is applied for local MRTs in Oman. • MRTs who are subject to a five-year deferral period, except senior management or individuals in PRA- and FCA-designated senior management functions, have a six-month retention period applied to their awards.
Long-term incentive awards ('LTI') Align the medium- to long-term strategy with stakeholder interests and adherence to the HSBC Values.	• Only executive Directors are eligible to be considered for an LTI award. See details on page 234.
Shareholding requirement Align interests of senior management with shareholders' interests.	• All executive Directors and Group Managing Directors of HSBC Holdings are subject to a minimum shareholding requirement. Details are set out on page 236. • The minimum shareholding requirement must be achieved by 2019 or within five years of their appointment, whichever is later.
Buy-out awards Support recruitment of talent.	• Buy-out awards may be offered if an individual holds any outstanding unvested awards that are forfeited on resignation from the previous employer. • The terms of the buy-out awards will not be more generous than the terms attached to the awards forfeited on cessation of employment with the previous employer.
Guaranteed variable remuneration Support recruitment of talent.	• Guaranteed variable remuneration is awarded in exceptional circumstances for new hires, and is limited to the individual's first year of employment only. • The exceptional circumstances where HSBC would offer a guaranteed variable remuneration would typically involve a critical new hire and would also depend on factors such as the seniority of the individual, whether the new hire candidate has any competing offers and the timing of the hire during the performance year.
Severance payments Adhere to contractual agreements with involuntary leavers.	• Where an individual's employment is terminated involuntarily for gross misconduct then, subject to compliance with local laws, the Group's policy is not to make any severance payment in such cases. For such individuals, all outstanding unvested awards are forfeited. • For other cases of involuntary termination of employment, any severance that may be determined to be paid to an individual will take into consideration the performance of the individual, contractual notice period, applicable local laws and circumstances of the case. • Where an individual's employment is terminated involuntarily (except where an individual is dismissed for gross misconduct), all outstanding unvested awards will normally continue to vest in line with the applicable vesting dates. Where relevant, any performance conditions attached to the awards, and malus and clawback provisions, will remain applicable to those awards. • Severance amounts awarded to MRTs are considered as fixed pay where such amounts include: (i) payments of fixed remuneration that would have been payable during the notice and/or consultation period; (ii) statutory severance payments; (iii) payments determined in accordance with any approach applicable in the relevant jurisdictions; and (iv) payments made to settle a potential or actual dispute.

1 *Shareholders approved the increase in the maximum ratio between the fixed and variable components of total remuneration from 1:1 to 1:2 at the 2014 Annual General Meeting held on 23 May 2014 (98% in favour). The Group has also used the discount rate of 15.3% for individuals with seven-year deferral period and 7.7% for individuals with five-year deferral period. This discount rate was used for four MRTs in UK and one MRT in Hong Kong.*

2 *HSBC does not dis-apply any remuneration rules on proportionality grounds. However, in accordance with the terms of the PRA and FCA remuneration rules, and subject to compliance with local regulations, the deferral requirement for MRTs is not applied to individuals where their total compensation is £500,000 or less and variable pay is not more than 33% of total compensation. For these individuals, the Group standard deferral applies.*

Material Risk Takers

We identify individuals as Material Risk Takers ('MRTs') based on the qualitative and quantitative criteria set out in the Regulatory Technical Standard ('RTS') EU 604/2014. We also identify MRTs based on additional criteria developed internally. The following key principles underpin HSBC's identification process:

- MRTs are identified at Group, HSBC Bank plc (consolidated) and HSBC UK Bank plc level.
- MRTs are also identified at other solo regulated entity level as required by the regulations.
- When identifying an MRT, HSBC considers an employee's role within its matrix management structure. The global business and functions that an individual works within takes precedence, followed by the geographical location in which they work.

In addition to applying the qualitative and quantitative criteria specified in the RTS, we also identified additional MRTs based on our own internal criteria, which included compensation thresholds and individuals in certain roles and grades who otherwise would not be identified as MRTs under the criteria prescribed in the RTS.

The list of MRTs, and any exclusions from it, is reviewed by Chief Risk Officers and Chief Operating Officers of the relevant global functions and businesses. The overall results are reviewed by the Group Chief Risk Officer.

The Group Remuneration Committee reviews the methodology, key decisions regarding identification, and approves the results of the identification exercise, including proposed MRT exclusions.

Management body and senior management

For the purpose of the Pillar 3 remunerations disclosures, executive Directors and non-executive Directors are considered to be members of the management body. Members of the Group Management Board other than the executive Directors are considered as senior management. No guaranteed bonus, sign-on or severance payments were made to this population for the year ended 31 December 2018.

Remuneration disclosures

The following tables set out the remuneration disclosures for individuals identified as MRTs for HSBC Holdings plc. Remuneration information for individuals who are only identified as MRTs at HSBC Bank plc, HSBC UK Bank plc or other solo-regulated entity levels are included, where relevant, in those entities' disclosures.

The 2018 variable pay information included in the following tables is based on the market value of awards granted to MRTs. For share awards, the market value is based on HSBC Holdings plc's share price at the date of grant (unless indicated otherwise). For cash awards, it is the value of awards expected to be paid to the individual over the deferral period.

Remuneration – fixed and variable amounts

	Executive Directors	Non-executive Directors	Senior management	Total
Number of MRTs	4	11	16	31
	$m	$m	$m	$m
Total fixed	13.8	6.3	36.4	56.5
Cash-based[1]	6.7	6.3	36.4	49.4
– *of which: deferred cash*	—	—	—	—
Share-based	7.1	—	—	7.1
– *of which: deferred shares*	—	—	—	—
Total variable[2]	16.8	—	44.7	61.5
Cash-based	2.5	—	21.1	23.6
– *of which: deferred cash*	*12.8* is not here; —	—	*12.8*	*12.8*
Share-based[3]	14.3	—	23.6	37.9
– *of which: deferred shares*[3]	*11.8*	—	*15.3*	*27.1*
Other forms[3]	—	—	—	—
– *of which: deferred*[3]	—	—	—	—
Total remuneration	30.6	6.3	81.1	118.0

1 *Cash-based fixed remuneration is paid immediately.*
2 *Variable pay awarded in respect of 2018. In accordance with shareholder approval received on 23 May 2014 (98% in favour), for each MRT the variable component of remuneration for any one year is limited to 200% of fixed component of the total remuneration.*
3 *Share-based awards are made in HSBC shares. Vested shares are subject to a retention period of up to one year.*

Deferred remuneration at 31 December[1]

	Executive Directors $m	Non-executive Directors $m	Senior management $m	Total $m
Cash				
Total outstanding deferred remuneration[2]	2.7	—	24.4	27.1
– *of which:*				
Unvested	*2.7*	—	*24.4*	*27.1*
Total amount of outstanding deferred and retained remuneration exposed to ex post *explicit and/or implicit adjustment*	*2.7*	—	*24.4*	27.1
Total amount of amendment during the year due to *ex post* implicit adjustment	—	—	—	—
Total amount of amendment during the year due to *ex post* explicit adjustment[3]	—	—	—	—
Total amount of deferred remuneration paid out in the financial year	4.6	—	12.4	17.0
Shares				
Total outstanding deferred remuneration[2]	60.7	—	57.1	117.8
– *of which:*				
Unvested	*56.5*	—	*48.7*	*105.2*
Total amount of outstanding deferred and retained remuneration exposed to ex post *explicit and/or implicit adjustment*	*60.7*	—	*57.1*	*117.8*
Total amount of amendment during the year due to *ex post* implicit adjustment	(10.9)	—	(9.7)	(20.6)
Total amount of amendment during the year due to *ex post* explicit adjustment[3]	—	—	—	—
Total amount of deferred remuneration paid out in the financial year[4]	21.8	—	31.3	53.1
Other forms				
Total outstanding deferred remuneration[2]	—	—	—	—
– *of which:*				
Unvested	—	—	—	—
Total amount of outstanding deferred and retained remuneration exposed to ex post *explicit and/or implicit adjustment*	—	—	—	—
Total amount of amendment during the year due to *ex post* implicit adjustment	—	—	—	—
Total amount of amendment during the year due to *ex post* explicit adjustment[3]	—	—	—	—
Total amount of deferred remuneration paid out in the financial year[4]	—	—	—	—

1 *This table provides details of balances and movements during performance year 2018. For details of variable pay awards granted for 2018, please refer to the remuneration tables above. Deferred remuneration is made in cash and/or shares. Share-based awards are made in HSBC shares.*
2 *Includes unvested deferred awards, and vested deferred awards subject to retention period as at 31 December 2018.*
3 *Includes any amendments due to malus or clawback. Page 246 provides details of in-year variable pay adjustments.*
4 *Shares are considered as paid when they vest. Vested shares are valued using the sale price or the closing share price on the business day immediately preceding the vesting day.*

Other MRTs (non-senior management)

Remuneration – fixed and variable amounts

	Investment banking	Retail banking	Asset management	Corporate functions	Independent control functions	All other	Total
Number of MRTs	628	167	27	144	151	64	1,181
	$m	$m	$m	$m	$m	$m	$m
Total fixed	388.6	90.6	17.9	77.6	60.9	40.9	676.5
Cash-based[1]	388.6	90.6	17.9	77.6	60.9	40.9	676.5
– *of which: deferred cash*	–	–	–	–	–	–	–
Share-based	–	–	–	–	–	–	–
– *of which: deferred shares*	–	–	–	–	–	–	–
Total variable[2]	385.6	83.1	17.0	75.1	45.8	39.5	646.1
Cash-based	188.1	40.6	8.4	37.0	23.1	19.4	316.6
– *of which: deferred cash*	*95.9*	*20.1*	*4.1*	*17.9*	*9.6*	*10.4*	*158.0*
Share-based[3]	197.5	42.5	4.6	38.1	22.6	20.1	325.4
– *of which: deferred shares[3]*	*106.7*	*22.6*	*2.4*	*20.0*	*11.1*	*11.5*	*174.3*
Other forms[3]	–	–	4.0	–	0.1	–	4.1
– *of which: deferred shares[3]*	–	–	*2.4*	–	–	–	*2.4*
Total remuneration	774.2	173.7	34.9	152.7	106.7	80.4	1,322.6

1 *Cash-based fixed remuneration is paid immediately.*
2 *Variable pay awarded in respect of 2018. In accordance with shareholder approval received on 23 May 2014 (98% in favour), for each MRT the variable component of remuneration for any one year is limited to 200% of the fixed component of the total remuneration.*
3 *Share-based awards are made in HSBC shares and/or linked to notional fund units in the HSBC World Selection Balanced Portfolio. Vested shares are subject to a retention period of up to one year.*

Guaranteed bonus, sign-on and severance payments

	Investment banking	Retail banking	Asset management	Corporate functions	Independent control functions	All other	Total
Guaranteed bonus and sign-on payments[1]							
Made during year ($m)	20.1	1.7	–	1.8	–	–	23.6
Number of beneficiaries	22	2	–	3	–	–	27
Severance payments[2]							
Awarded during year ($m)	17.8	5.7	–	0.9	1.0	1.8	27.2
Number of beneficiaries	18	9	–	2	4	4	37
Highest such award to a single person ($m)	5.4	2.6	–	0.6	0.3	0.8	–
Paid during year ($m)	14.0	5.3	–	0.4	1.0	1.6	22.3
Number of beneficiaries	18	8	–	2	4	3	35

1 *No sign-on payments were made in 2018. A guaranteed bonus is awarded in exceptional circumstances for new hires, and in the first year only. The circumstances where HSBC would offer a guaranteed bonus would typically involve a critical new-hire, and would also depend on factors such as the seniority of the individual, whether the new-hire candidate has any competing offers and the timing of the hire during the performance year.*
2 *Includes payments such as payment in lieu of notice, statutory severance, outplacement service, legal fees, ex-gratia payments and settlements (excludes pre-existing benefit entitlements triggered on terminations).*

Deferred remuneration at 31 December[1]

	Investment banking	Retail banking	Asset management	Corporate functions	Independent control functions	All other	Total
	$m	$m	$m	$m	$m	$m	$m
Cash							
Total outstanding deferred remuneration[2]	**170.2**	**33.6**	**8.7**	**26.9**	**14.8**	**17.8**	**272.0**
– *of which:*							
Unvested	***170.2***	***33.6***	***8.7***	***26.9***	***14.8***	***17.8***	***272.0***
Total amount of outstanding deferred and retained remuneration exposed to ex post *explicit and/or implicit adjustment*	***170.2***	***33.6***	***8.7***	***26.9***	***14.8***	***17.8***	***272.0***
Total amount of amendment during the year due to *ex post* implicit adjustment	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Total amount of amendment during the year due to *ex post* explicit adjustment[3]	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Total amount of deferred remuneration paid out in the financial year	**71.3**	**13.4**	**4.4**	**10.6**	**5.3**	**8.5**	**113.5**
Shares							
Total outstanding deferred remuneration[2]	**252.3**	**46.5**	**8.7**	**52.5**	**22.0**	**30.6**	**412.6**
– *of which:*							
Unvested	***219.2***	***41.1***	***7.5***	***46.2***	***20.8***	***24.3***	***359.1***
Total amount of outstanding deferred and retained remuneration exposed to ex post *explicit and/or implicit adjustment*	***252.3***	***46.5***	***8.7***	***52.5***	***22.0***	***30.6***	***412.6***
Total amount of amendment during the year due to *ex post* implicit adjustment	**(39.2)**	**(7.2)**	**(1.4)**	**(7.4)**	**(3.5)**	**(4.9)**	**(63.6)**
Total amount of amendment during the year due to *ex post* explicit adjustment[3]	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Total amount of deferred remuneration paid out in the financial year[4]	**199.5**	**40.3**	**7.9**	**37.2**	**20.9**	**19.8**	**325.6**
Other forms							
Total outstanding deferred remuneration[2]	**–**	**–**	**4.0**	**–**	**0.1**	**–**	**4.1**
– *of which:*							
Unvested	***–***	***–***	***2.7***	***–***	***–***	***–***	***2.7***
Total amount of outstanding deferred and retained remuneration exposed to ex post *explicit and/or implicit adjustment*	***–***	***–***	***4.0***	***–***	***0.1***	***–***	***4.1***
Total amount of amendment during the year due to *ex post* implicit adjustment	**–**	**–**	**(0.3)**	**–**	**–**	**–**	**(0.3)**
Total amount of amendment during the year due to *ex post* explicit adjustment[3]	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Total amount of deferred remuneration paid out in the financial year[4]	**–**	**–**	**1.9**	**–**	**0.1**	**–**	**2.0**

1 *This table provides details of movements during performance year 2018. For details of variable pay awards granted for 2018, please refer to both the remuneration tables above. Deferred remuneration is made in cash and/or shares. Share-based awards are made in HSBC shares and/or linked to notional fund units in the HSBC World Selection Balanced Portfolio.*
2 *Includes unvested deferred awards, and vested deferred awards subject to retention period as at 31 December 2018.*
3 *Includes any amendments due to malus or clawback. Page 246 provides details of in-year variable pay adjustments.*
4 *Shares are considered as paid when they vest. Vested shares are valued using the sale price or the closing share price on the business day immediately preceding the vesting day.*

MRTs' remuneration by band[1]

	Management body	All other	Total
€0 – 1,000,000	**9**	**804**	**813**
€1,000,000 – 1,500,000	**1**	**214**	**215**
€1,500,000 – 2,000,000	**1**	**87**	**88**
€2,000,000 – 2,500,000	**–**	**36**	**36**
€2,500,000 – 3,000,000	**–**	**21**	**21**
€3,000,000 – 3,500,000	**–**	**10**	**10**
€3,500,000 – 4,000,000	**1**	**5**	**6**
€4,000,000 – 4,500,000	**1**	**12**	**13**
€4,500,000 – 5,000,000	**–**	**3**	**3**
€5,000,000 – 6,000,000	**–**	**3**	**3**
€6,000,000 – 7,000,000	**1**	**1**	**2**
€7,000,000 – 8,000,000	**–**	**–**	**–**
€8,000,000 – 9,000,000	**–**	**–**	**–**
€9,000,000 – 10,000,000	**–**	**1**	**1**
€10,000,000 – 11,000,000	**–**	**–**	**–**
€11,000,000 – 12,000,000	**1**	**–**	**1**

1 *Table prepared in euros in accordance with Article 450 of the European Union Capital Requirements Regulation, using the exchange rates published by the European Commission for financial programming and budget for December of the reported year as published on its website.*

Report of the Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of HSBC Holdings plc

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of HSBC Holdings plc and its subsidiaries (the "Company") as of 31 December 2018 and 31 December 2017, and the related consolidated income statements, consolidated statements of comprehensive income, consolidated statements of cash flows and consolidated statements of changes in equity for each of the three years in the period ended 31 December 2018, including the related notes (collectively referred to as the 'financial statements'). We also have audited the Company's internal control over financial reporting as of 31 December 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of 31 December 2018 and 31 December 2017, and the results of its operations and its cash flows for each of the three years in the period ended 31 December 2018 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board and in conformity with International Financial Reporting Standards as adopted by the European Union. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of 31 December 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the COSO.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, the Company changed the manner in which it accounts for financial instruments in 2018.

Basis for Opinions

The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in management's assessment of internal controls over financial reporting on page 209 of the *Annual Report and Accounts 2018*. Our responsibility is to express opinions on the Company's financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the US federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorisations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorised acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

We have served as the Company's auditor since 2015.

/s/ PricewaterhouseCoopers LLP

London, United Kingdom

19 February 2019

Financial statements

Consolidated income statement

for the year ended 31 December

	Notes	2018 $m	2017 $m	2016 $m
Net interest income		**30,489**	28,176	29,813
– interest income		**49,609**	40,995	42,414
– interest expense		**(19,120)**	(12,819)	(12,601)
Net fee income	2	**12,620**	12,811	12,777
– fee income		**16,044**	15,853	15,669
– fee expense		**(3,424)**	(3,042)	(2,892)
Net income from financial instruments held for trading or managed on a fair value basis	3	**9,531**	8,426	7,521
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss	3	**(1,488)**	2,836	1,262
Changes in fair value of long-term debt and related derivatives	3	**(97)**	155	(1,997)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	3	**695**	N/A	N/A
Gains less losses from financial investments		**218**	1,150	1,385
Dividend income		**75**	106	95
Net insurance premium income	4	**10,659**	9,779	9,951
Other operating income/(expense)		**885**	337	(971)
Total operating income		**63,587**	63,776	59,836
Net insurance claims and benefits paid and movement in liabilities to policyholders	4	**(9,807)**	(12,331)	(11,870)
Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions		**53,780**	51,445	47,966
Change in expected credit losses and other credit impairment charges		**(1,767)**	N/A	N/A
Loan impairment charges and other credit risk provisions		**N/A**	(1,769)	(3,400)
Net operating income		**52,013**	49,676	44,566
Employee compensation and benefits	6	**(17,373)**	(17,315)	(18,089)
General and administrative expenses		**(15,353)**	(15,707)	(16,473)
Depreciation and impairment of property, plant and equipment		**(1,119)**	(1,166)	(1,229)
Amortisation and impairment of intangible assets		**(814)**	(696)	(777)
Goodwill impairment of Global Private Banking – Europe	21	**—**	—	(3,240)
Total operating expenses		**(34,659)**	(34,884)	(39,808)
Operating profit	5	**17,354**	14,792	4,758
Share of profit in associates and joint ventures	18	**2,536**	2,375	2,354
Profit before tax		**19,890**	17,167	7,112
Tax expense	8	**(4,865)**	(5,288)	(3,666)
Profit for the year		**15,025**	11,879	3,446
Attributable to:				
– ordinary shareholders of the parent company		**12,608**	9,683	1,299
– preference shareholders of the parent company		**90**	90	90
– other equity holders		**1,029**	1,025	1,090
– non-controlling interests		**1,298**	1,081	967
Profit for the year		**15,025**	11,879	3,446
		$	$	$
Basic earnings per ordinary share	10	**0.63**	0.48	0.07
Diluted earnings per ordinary share	10	**0.63**	0.48	0.07

Consolidated statement of comprehensive income

for the year ended 31 December

	2018	2017	2016
	$m	$m	$m
Profit for the year	**15,025**	11,879	3,446
Other comprehensive income/(expense)			
Items that will be reclassified subsequently to profit or loss when specific conditions are met:			
Available-for-sale investments	**N/A**	146	(299)
– fair value gains	**N/A**	1,227	475
– fair value gains reclassified to the income statement	**N/A**	(1,033)	(895)
– amounts reclassified to the income statement in respect of impairment losses	**N/A**	93	71
– income taxes	**N/A**	(141)	50
Debt instruments at fair value through other comprehensive income	**(243)**	N/A	N/A
– fair value losses	**(168)**	N/A	N/A
– fair value gain transferred to the income statement on disposal	**(95)**	N/A	N/A
– expected credit losses recognised in the income statement	**(94)**	N/A	N/A
– income taxes	**114**	N/A	N/A
Cash flow hedges	**19**	(192)	(68)
– fair value losses	**(267)**	(1,046)	(297)
– fair value losses reclassified to the income statement	**317**	833	195
– income taxes and other movements	**(31)**	21	34
Share of other comprehensive income/(expense) of associates and joint ventures	**(64)**	(43)	54
– share for the year	**(64)**	(43)	54
Exchange differences	**(7,156)**	9,077	(8,092)
– foreign exchange gains reclassified to income statement on disposal of a foreign operation	**—**	—	1,894
– other exchange differences	**(7,156)**	8,939	(9,791)
– income tax attributable to exchange differences	**—**	138	(195)
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of defined benefit asset/liability	**(329)**	2,419	7
– before income taxes[7]	**(388)**	3,440	(84)
– income taxes	**59**	(1,021)	91
Changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**2,847**	(2,024)	N/A
– before income taxes	**3,606**	(2,409)	N/A
– income taxes	**(759)**	385	N/A
Equity instruments designated at fair value through other comprehensive income	**(27)**	N/A	N/A
– fair value losses	**(71)**	N/A	N/A
– income taxes	**44**	N/A	N/A
Effects of hyperinflation	**283**	N/A	N/A
Other comprehensive income/(expense) for the year, net of tax	**(4,670)**	9,383	(8,398)
Total comprehensive income/(expense) for the year	**10,355**	21,262	(4,952)
Attributable to:			
– ordinary shareholders of the parent company	**8,083**	18,914	(6,968)
– preference shareholders of the parent company	**90**	90	90
– other equity holders	**1,029**	1,025	1,090
– non-controlling interests	**1,153**	1,233	836
Total comprehensive income/(expense) for the year	**10,355**	21,262	(4,952)

For footnotes, see page 261.

Consolidated balance sheet

		At		
		31 Dec	1 Jan	31 Dec
		2018	2018[1]	2017
	Notes	**$m**	$m	$m
Assets				
Cash and balances at central banks		**162,843**	180,621	180,624
Items in the course of collection from other banks		**5,787**	6,628	6,628
Hong Kong Government certificates of indebtedness		**35,859**	34,186	34,186
Trading assets	11	**238,130**	254,410	287,995
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	14	**41,111**	39,746	N/A
Financial assets designated at fair value	14	**N/A**	N/A	29,464
Derivatives	15	**207,825**	219,818	219,818
Loans and advances to banks		**72,167**	82,559	90,393
Loans and advances to customers		**981,696**	949,737	962,964
Reverse repurchase agreements – non-trading		**242,804**	201,553	201,553
Financial investments	16	**407,433**	383,499	389,076
Prepayments, accrued income and other assets	22	**110,571**	114,777	67,191
Current tax assets		**684**	1,006	1,006
Interests in associates and joint ventures	18	**22,407**	21,802	22,744
Goodwill and intangible assets	21	**24,357**	23,374	23,453
Deferred tax assets	8	**4,450**	4,714	4,676
Total assets		**2,558,124**	2,518,430	2,521,771
Liabilities and equity				
Liabilities				
Hong Kong currency notes in circulation		**35,859**	34,186	34,186
Deposits by banks		**56,331**	64,492	69,922
Customer accounts		**1,362,643**	1,360,227	1,364,462
Repurchase agreements – non-trading		**165,884**	130,002	130,002
Items in the course of transmission to other banks		**5,641**	6,850	6,850
Trading liabilities	23	**84,431**	80,864	184,361
Financial liabilities designated at fair value	24	**148,505**	144,006	94,429
Derivatives	15	**205,835**	216,821	216,821
Debt securities in issue	25	**85,342**	66,536	64,546
Accruals, deferred income and other liabilities	26	**97,380**	99,926	45,907
Current tax liabilities		**718**	928	928
Liabilities under insurance contracts	4	**87,330**	85,598	85,667
Provisions	27	**2,920**	4,295	4,011
Deferred tax liabilities	8	**2,619**	1,614	1,982
Subordinated liabilities	28	**22,437**	25,861	19,826
Total liabilities		**2,363,875**	2,322,206	2,323,900
Equity				
Called up share capital	32	**10,180**	10,160	10,160
Share premium account	32	**13,609**	10,177	10,177
Other equity instruments		**22,367**	22,250	22,250
Other reserves		**1,906**	6,643	7,664
Retained earnings		**138,191**	139,414	139,999
Total shareholders' equity		**186,253**	188,644	190,250
Non-controlling interests	31	**7,996**	7,580	7,621
Total equity		**194,249**	196,224	197,871
Total liabilities and equity		**2,558,124**	2,518,430	2,521,771

1 *Balances at 1 January 2018 have been prepared in accordance with accounting policies referred to on page 263. 31 December 2017 balances have not been re-presented. Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

The accompanying notes on pages 263 to 348, and the audited sections in: 'Global businesses and regions' on pages 64 to 85; 'Risk' on pages 100 to 192; 'Capital' on pages 193 to 196; and 'Directors' remuneration report' on pages 217 to 252 form an integral part of these financial statements.

These financial statements were approved by the Board of Directors on 19 February 2019 and signed on its behalf by:

Mark E Tucker
Group Chairman

Ewen Stevenson
Group Chief Financial Officer

Consolidated statement of cash flows

for the year ended 31 December

	2018	2017	2016
	$m	$m	$m
Profit before tax	**19,890**	17,167	7,112
Adjustments for non-cash items:			
Depreciation and amortisation	**1,933**	1,862	5,212
Net (gain)/loss from investing activities	**(126)**	(1,152)	(1,215)
Share of profits in associates and joint ventures	**(2,536)**	(2,375)	(2,354)
(Gain)/Loss on disposal of subsidiaries, businesses, associates and joint ventures	**–**	(79)	1,743
Change in expected credit losses gross of recoveries and other credit impairment charges	**2,280**	N/A	N/A
Loan impairment losses gross of recoveries and other credit risk provisions	**N/A**	2,603	4,090
Provisions including pensions	**1,944**	917	2,482
Share-based payment expense	**450**	500	534
Other non-cash items included in profit before tax	**(1,303)**	(381)	(207)
Elimination of exchange differences[1]	**7,299**	(21,289)	15,364
Changes in operating assets and liabilities			
Change in net trading securities and derivatives	**10,716**	(10,901)	4,395
Change in loans and advances to banks and customers	**(44,071)**	(108,984)	52,868
Change in reverse repurchase agreements – non-trading	**(40,499)**	(37,281)	(13,138)
Change in financial assets designated and otherwise mandatorily measured at fair value	**(1,515)**	(5,303)	(1,235)
Change in other assets	**4,047**	(6,570)	(6,591)
Change in deposits by banks and customer accounts	**(5,745)**	102,211	(8,918)
Change in repurchase agreements – non-trading	**35,882**	41,044	8,558
Change in debt securities in issue	**18,806**	(1,369)	(23,034)
Change in financial liabilities designated at fair value	**4,500**	8,508	17,802
Change in other liabilities	**(2,644)**	13,514	8,792
Dividends received from associates	**910**	740	689
Contributions paid to defined benefit plans	**(332)**	(685)	(726)
Tax paid	**(3,417)**	(3,175)	(3,264)
Net cash from operating activities	**6,469**	(10,478)	68,959
Purchase of financial investments	**(383,454)**	(357,264)	(457,084)
Proceeds from the sale and maturity of financial investments	**370,357**	418,352	430,085
Net cash flows from the purchase and sale of property, plant and equipment	**(1,196)**	(1,167)	(1,151)
Net cash flows from disposal of customer and loan portfolios	**(204)**	6,756	9,194
Net investment in intangible assets	**(1,848)**	(1,285)	(906)
Net cash flow on disposal of subsidiaries, businesses, associates and joint ventures[2]	**4**	165	4,802
Net cash from investing activities	**(16,341)**	65,557	(15,060)
Issue of ordinary share capital and other equity instruments	**6,001**	5,196	2,024
Cancellation of shares	**(1,998)**	(3,000)	–
Net sales/(purchases) of own shares for market-making and investment purposes	**133**	(67)	523
Purchase of treasury shares	**–**	–	(2,510)
Redemption of preference shares and other equity instruments	**(6,078)**	–	(1,825)
Subordinated loan capital issued	**–**	–	2,622
Subordinated loan capital repaid[3]	**(4,077)**	(3,574)	(595)
Dividends paid to shareholders of the parent company and non-controlling interests	**(10,762)**	(9,005)	(9,157)
Net cash from financing activities	**(16,781)**	(10,450)	(8,918)
Net increase/(decrease) in cash and cash equivalents	**(26,653)**	44,629	44,981
Cash and cash equivalents at 1 Jan	**337,412**	274,550	243,863
Exchange differences in respect of cash and cash equivalents	**(9,677)**	18,233	(14,294)
Cash and cash equivalents at 31 Dec[4]	**301,082**	337,412	274,550
Cash and cash equivalents comprise:			
– cash and balances at central banks	**162,843**	180,624	128,009
– items in the course of collection from other banks	**5,787**	6,628	5,003
– loans and advances to banks of one month or less	**47,878**	82,771	77,318
– reverse repurchase agreements with banks of one month or less	**59,602**	58,850	55,551
– treasury bills, other bills and certificates of deposit less than three months	**30,613**	15,389	14,646
– less: items in the course of transmission to other banks	**(5,641)**	(6,850)	(5,977)
Cash and cash equivalents at 31 Dec[4]	**301,082**	337,412	274,550

Interest received was $45,291m (2017: $41,676m; 2016: $42,586m), interest paid was $14,172m (2017: $10,962m; 2016: $12,027m) and dividends received were $1,702m (2017: $2,225m; 2016: $475m).

1 *Adjustment to bring changes between opening and closing balance sheet amounts to average rates. This is not done on a line-by-line basis, as details cannot be determined without unreasonable expense.*
2 *In July 2016, we completed the disposal of operations in Brazil resulting in a net cash inflow of $4.8bn.*
3 *Subordinated liabilities changes during the year are attributable to repayments of $(4.1)bn (2017: $(3.6)bn; 2016: $(0.6)bn) of securities. Non-cash changes during the year included foreign exchange (loss)/gain $(0.6)bn (2017: $(0.6)bn; 2016: $2.1bn) and fair value losses of $(1.4)bn (2017: $(1.2)bn; 2016: $(0.3)bn).*
4 *At 31 December 2018, $26,282m (2017: $39,830m; 2016: $35,501m) was not available for use by HSBC, of which $19,755m (2017: $21,424m; 2016: $21,108m) related to mandatory deposits at central banks.*

Consolidated statement of changes in equity

for the year ended 31 December

				Other reserves						
	Called up share capital and share premium	Other equity instru-ments[2,3]	Retained earnings[4,5]	Financial assets at FVOCI reserve[8]	Cash flow hedging reserve	Foreign exchange reserve	Merger and other reserves[6]	Total share-holders' equity	Non-controlling interests	Total equity
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
As at 31 Dec 2017	**20,337**	**22,250**	**139,999**	**(350)**	**(222)**	**(19,072)**	**27,308**	**190,250**	**7,621**	**197,871**
Impact on transition to IFRS 9	**—**	**—**	**(585)**	**(1,021)**	**—**	**—**	**—**	**(1,606)**	**(41)**	**(1,647)**
At 1 Jan 2018	**20,337**	**22,250**	**139,414**	**(1,371)**	**(222)**	**(19,072)**	**27,308**	**188,644**	**7,580**	**196,224**
Profit for the year	**—**	**—**	**13,727**	**—**	**—**	**—**	**—**	**13,727**	**1,298**	**15,025**
Other comprehensive income (net of tax)	**—**	**—**	**2,765**	**(245)**	**16**	**(7,061)**	**—**	**(4,525)**	**(145)**	**(4,670)**
– debt instruments at fair value through other comprehensive income	**—**	**—**	**—**	**(245)**	**—**	**—**	**—**	**(245)**	**2**	**(243)**
– equity instruments designated at fair value through other comprehensive income	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(27)**	**(27)**
– cash flow hedges	**—**	**—**	**—**	**—**	**16**	**—**	**—**	**16**	**3**	**19**
– changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**—**	**—**	**2,847**	**—**	**—**	**—**	**—**	**2,847**	**—**	**2,847**
– remeasurement of defined benefit asset/liability[7]	**—**	**—**	**(301)**	**—**	**—**	**—**	**—**	**(301)**	**(28)**	**(329)**
– share of other comprehensive income of associates and joint ventures	**—**	**—**	**(64)**	**—**	**—**	**—**	**—**	**(64)**	**—**	**(64)**
– effects of hyperinflation	**—**	**—**	**283**	**—**	**—**	**—**	**—**	**283**	**—**	**283**
– exchange differences	**—**	**—**	**—**	**—**	**—**	**(7,061)**	**—**	**(7,061)**	**(95)**	**(7,156)**
Total comprehensive income for the year	**—**	**—**	**16,492**	**(245)**	**16**	**(7,061)**	**—**	**9,202**	**1,153**	**10,355**
Shares issued under employee remuneration and share plans	**721**	**—**	**(610)**	**—**	**—**	**—**	**—**	**111**	**—**	**111**
Shares issued in lieu of dividends and amounts arising thereon	**—**	**—**	**1,494**	**—**	**—**	**—**	**—**	**1,494**	**—**	**1,494**
Capital securities issued	**—**	**5,968**	**—**	**—**	**—**	**—**	**—**	**5,968**	**—**	**5,968**
Dividends to shareholders	**—**	**—**	**(11,547)**	**—**	**—**	**—**	**—**	**(11,547)**	**(710)**	**(12,257)**
Redemption of securities	**—**	**(5,851)**	**(237)**	**—**	**—**	**—**	**—**	**(6,088)**	**—**	**(6,088)**
Transfers[9]	**—**	**—**	**(2,200)**	**—**	**—**	**—**	**2,200**	**—**	**—**	**—**
Cost of share-based payment arrangements	**—**	**—**	**450**	**—**	**—**	**—**	**—**	**450**	**—**	**450**
Cancellation of shares[10, 11]	**2,731**	**—**	**(4,998)**	**—**	**—**	**—**	**269**	**(1,998)**	**—**	**(1,998)**
Other movements	**—**	**—**	**(67)**	**84**	**—**	**—**	**—**	**17**	**(27)**	**(10)**
At 31 Dec 2018	**23,789**	**22,367**	**138,191**	**(1,532)**	**(206)**	**(26,133)**	**29,777**	**186,253**	**7,996**	**194,249**
At 1 Jan 2017	22,715	17,110	136,795	(477)	(27)	(28,038)	27,308	175,386	7,192	182,578
Profit for the year	—	—	10,798	—	—	—	—	10,798	1,081	11,879
Other comprehensive income (net of tax)	—	—	328	131	(194)	8,966	—	9,231	152	9,383
– available-for-sale investments	—	—	—	131	—	—	—	131	15	146
– cash flow hedges	—	—	—	—	(194)	—	—	(194)	2	(192)
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	(2,024)	—	—	—	—	(2,024)	—	(2,024)
– remeasurement of defined benefit asset/liability[7]	—	—	2,395	—	—	—	—	2,395	24	2,419
– share of other comprehensive income of associates and joint ventures	—	—	(43)	—	—	—	—	(43)	—	(43)
– exchange differences	—	—	—	—	—	8,966	—	8,966	111	9,077
Total comprehensive income for the year	—	—	11,126	131	(194)	8,966	—	20,029	1,233	21,262
Shares issued under employee remuneration and share plans	622	—	(566)	—	—	—	—	56	—	56
Shares issued in lieu of dividends and amounts arising thereon	—	—	3,206	—	—	—	—	3,206	—	3,206
Capital securities issued	—	5,140	—	—	—	—	—	5,140	—	5,140
Dividends to shareholders	—	—	(11,551)	—	—	—	—	(11,551)	(660)	(12,211)
Cost of share-based payment arrangements	—	—	500	—	—	—	—	500	—	500
Cancellation of shares[1]	(3,000)	—	—	—	—	—	—	(3,000)	—	(3,000)
Other movements	—	—	489	(4)	(1)	—	—	484	(144)	340
At 31 Dec 2017	20,337	22,250	139,999	(350)	(222)	(19,072)	27,308	190,250	7,621	197,871

Consolidated statement of changes in equity (Continued)

	Called up share capital and share premium	Other equity instru-ments[2,3]	Retained earnings[4,5]	Other reserves: Financial assets at FVOCI reserve[8]	Other reserves: Cash flow hedging reserve	Other reserves: Foreign exchange reserve	Other reserves: Merger and other reserves[6]	Total share-holders' equity	Non-controlling interests	Total equity
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2016	22,263	15,112	143,976	(189)	34	(20,044)	27,308	188,460	9,058	197,518
Profit for the year	—	—	2,479	—	—	—	—	2,479	967	3,446
Other comprehensive income (net of tax)	—	—	59	(271)	(61)	(7,994)	—	(8,267)	(131)	(8,398)
– available-for-sale investments	—	—	—	(271)	—	—	—	(271)	(28)	(299)
– cash flow hedges	—	—	—	—	(61)	—	—	(61)	(7)	(68)
– remeasurement of defined benefit asset/liability	—	—	5	—	—	—	—	5	2	7
– share of other comprehensive income of associates and joint ventures	—	—	54	—	—	—	—	54	—	54
– foreign exchange reclassified to income statement on disposal of a foreign operation	—	—	—	—	—	1,894	—	1,894	—	1,894
– exchange differences	—	—	—	—	—	(9,888)	—	(9,888)	(98)	(9,986)
Total comprehensive income for the year	—	—	2,538	(271)	(61)	(7,994)	—	(5,788)	836	(4,952)
Shares issued under employee remuneration and share plans	452	—	(425)	—	—	—	—	27	—	27
Shares issued in lieu of dividends and amounts arising thereon	—	—	3,040	—	—	—	—	3,040	—	3,040
Net increase in treasury shares[1]	—	—	(2,510)	—	—	—	—	(2,510)	—	(2,510)
Capital securities issued	—	1,998	—	—	—	—	—	1,998	—	1,998
Dividends to shareholders	—	—	(11,279)	—	—	—	—	(11,279)	(919)	(12,198)
Cost of share-based payment arrangements	—	—	534	—	—	—	—	534	—	534
Other movements	—	—	921	(17)	—	—	—	904	(1,783)	(879)
At 31 Dec 2016	22,715	17,110	136,795	(477)	(27)	(28,038)	27,308	175,386	7,192	182,578

1 *For further details, refer to Note 32. In February 2017, HSBC announced a share buy-back of up to $1.0bn, which was completed in April 2017. In July 2017, HSBC announced a share buy-back of up to $2.0bn, which was completed in November 2017. Shares bought back from these two buy-back programmes have been cancelled. In August 2016, HSBC announced a share buy-back of up to $2.5bn, which was completed in December 2016 and resulted in a net increase in shares held in treasury.*

2 *During 2018, HSBC Holdings issued $4,150m, £1,000m and SGD750m of perpetual subordinated contingent convertible capital securities on which there were $60m of external issuance costs, $49m of intra-Group issuance costs and $11m of tax benefits. In 2017, HSBC Holdings issued $3,000m, SGD1,000m and €1,250m of perpetual subordinated contingent convertible capital securities, on which there were $14m of external issuance costs, $37m of intra-Group issuance costs and $10m of tax benefits. In 2016, HSBC Holdings issued $2,000m of perpetual subordinated contingent convertible capital securities, after issuance costs of $6m and tax benefits of $4m. Under IFRSs these issuance costs and tax benefits are classified as equity.*

3 *During 2018, HSBC Holdings redeemed $2,200m 8.125% perpetual subordinated capital securities and its $3,800m 8.000% perpetual subordinated capital securities, Series 2, on which there were $172m of external issuance costs and $23m of intra-Group issuance costs wound down.*

4 *At 31 December 2018, retained earnings included 379,926,645 treasury shares (2017: 360,590,019; 2016: 353,356,251). In addition, treasury shares are also held within HSBC's Insurance business retirement funds for the benefit of policyholders or beneficiaries within employee trusts for the settlement of shares expected to be delivered under employee share schemes or bonus plans, and the market-making activities in Global Markets.*

5 *Cumulative goodwill amounting to $5,138m has been charged against reserves in respect of acquisitions of subsidiaries prior to 1 January 1998, including $3,469m charged against the merger reserve arising on the acquisition of HSBC Bank plc. The balance of $1,669m has been charged against retained earnings.*

6 *Statutory share premium relief under Section 131 of the Companies Act 1985 (the 'Act') was taken in respect of the acquisition of HSBC Bank plc in 1992, HSBC France in 2000 and HSBC Finance Corporation in 2003, and the shares issued were recorded at their nominal value only. In HSBC's consolidated financial statements, the fair value differences of $8,290m in respect of HSBC France and $12,768m in respect of HSBC Finance Corporation were recognised in the merger reserve. The merger reserve created on the acquisition of HSBC Finance Corporation subsequently became attached to HSBC Overseas Holdings (UK) Limited ('HOHU'), following a number of intra-Group reorganisations. During 2009, pursuant to Section 131 of the Companies Act 1985, statutory share premium relief was taken in respect of the rights issue and $15,796m was recognised in the merger reserve. The merger reserve includes a deduction of $614m in respect of costs relating to the rights issue, of which $149m was subsequently transferred to the income statement. Of this $149m, $121m was a loss arising from accounting for the agreement with the underwriters as a contingent forward contract. The merger reserve excludes the loss of $344m on a forward foreign exchange contract associated with hedging the proceeds of the rights issue.*

7 *During 2018, an actuarial gain of $1,180m has arisen as a result of the remeasurement of the defined benefit pension obligation of the HSBC Bank (UK) Pension Scheme. During 2017, an actuarial gain of $1,730m has arisen as a result of the remeasurement of the defined benefit pension obligation of the HSBC Bank (UK) Pension Scheme. Refer to Note 6 for further detail.*

8 *The $350m at 31 December 2017 represents the IAS 39 available-for-sale fair value reserve as at 31 December 2017.*

9 *Permitted transfers from the merger reserve to retained earnings were made when the investment in HSBC Overseas Holdings (UK) Limited was previously impaired. A part reversal of this impairment results in a transfer from retained earnings back to the merger reserve of $2,200m.*

10 *This includes a re-presentation of the cancellation of shares to retained earnings and capital redemption reserve in respect of the 2017 share buy-back, under which retained earnings have been reduced by $3,000m, called up capital and share premium increased by $2,731m and other reserves increased by $269m.*

11 *For further details refer to Note 32 .In May 2018, HSBC announced a share buy-back of up to $2.0bn, which was completed in August 2018.*

HSBC Holdings income statement

for the year ended 31 December

	Notes	2018 $m	2017 $m	2016 $m
Net interest expense		**(1,112)**	(383)	(424)
– interest income		**2,193**	2,185	1,380
– interest expense		**(3,305)**	(2,568)	(1,804)
Fee (expense)/income		**—**	2	(1)
Net income from financial instruments held for trading or managed on a fair value basis	3	**245**	(181)	119
Changes in fair value of long-term debt and related derivatives	3	**(77)**	103	(49)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	3	**43**	—	—
Gains less losses from financial investments		**4**	154	—
Dividend income from subsidiaries[1]		**55,304**	10,039	10,436
Other operating income		**960**	769	696
Total operating income		**55,367**	10,503	10,777
Employee compensation and benefits	6	**(37)**	(54)	(570)
General and administrative expenses		**(4,507)**	(4,911)	(4,014)
Reversal of impairment/(impairment) of subsidiaries[2]		**2,064**	(63)	—
Total operating expenses		**(2,480)**	(5,028)	(4,584)
Profit before tax		**52,887**	5,475	6,193
Tax (charge)/credit		**(62)**	64	402
Profit for the year		**52,825**	5,539	6,595

1 *2018 includes $44,893m (2017:nil) return on capital from HSBC Finance (Netherlands) resulting from restructuring the Group's Asia operation to meet resolution and recovery requirements. This amount does not form part of distributable reserves.*

2 *2018 includes a $2,200m (2017:nil) part reversal of the impairment previously recognised against HSBC Holdings investment in HSBC Overseas Holdings (UK) Limited. This amount does not form part of distributable reserves.*

HSBC Holdings statement of comprehensive income

for the year ended 31 December

	2018 $m	2017 $m	2016 $m
Profit for the year	**52,825**	5,539	6,595
Other comprehensive income/(expense)			
Items that will be reclassified subsequently to profit or loss when specific conditions are met:			
Financial investments in HSBC undertakings	**—**	(53)	(72)
– fair value gains/(losses)	**—**	(70)	(83)
– income taxes	**—**	17	11
Items that will not be reclassified subsequently to profit or loss:			
Changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**865**	(828)	(896)
– before income taxes	**1,090**	(1,007)	(1,030)
– income taxes	**(225)**	179	134
Other comprehensive income for the year, net of tax	**865**	(881)	(968)
Total comprehensive income for the year	**53,690**	4,658	5,627

HSBC Holdings balance sheet

	Notes	31 Dec 2018 $m	1 Jan 2018[2] $m	31 Dec 2017 $m
Assets				
Cash and balances with HSBC undertakings		**3,509**	1,985	1,985
Loans and advances to HSBC undertakings designated and otherwise mandatorily measured at fair value		**23,513**	16,208	11,944
Derivatives	15	**707**	2,388	2,388
Loans and advances to HSBC undertakings		**56,144**	76,627	76,627
Financial investments in HSBC undertakings		**—**	—	4,264
Prepayments, accrued income and other assets		**126**	369	369
Current tax assets		**594**	379	379
Investments in subsidiaries[1]		**160,231**	92,930	92,930
Intangible assets		**357**	293	293
Deferred tax assets		**—**	380	555
Total assets at 31 Dec		**245,181**	191,559	191,734
Liabilities and equity				
Liabilities				
Amounts owed to HSBC undertakings		**949**	2,571	2,571
Financial liabilities designated at fair value	24	**25,049**	25,488	30,890
Derivatives	15	**2,159**	3,082	3,082
Debt securities in issue	25	**50,800**	34,258	34,258
Accruals, deferred income and other liabilities		**994**	1,344	1,269
Subordinated liabilities	28	**17,715**	20,139	15,877
Deferred tax liabilities		**162**	—	—
Total liabilities		**97,828**	86,882	87,947
Equity				
Called up share capital	32	**10,180**	10,160	10,160
Share premium account		**13,609**	10,177	10,177
Other equity instruments		**22,231**	22,107	22,107
Other reserves		**39,899**	37,381	37,440
Retained earnings		**61,434**	24,852	23,903
Total equity		**147,353**	104,677	103,787
Total liabilities and equity at 31 Dec		**245,181**	191,559	191,734

1 *2018 includes a $56,587m (2017:nil) capital injection to HSBC Asia Holdings Overseas Limited.*
2 *Balances at 1 January 2018 have been prepared in accordance with accounting policies referred to on page 263. 31 December 2017 balances have not been re-presented. Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

The accompanying notes on pages 263 to 348, and the audited sections in: 'Global businesses and regions' on pages 64 to 85, 'Risk' on pages 100 to 192, 'Capital' on pages 193 to 196 and 'Directors' remuneration report' on pages 217 to 252 form an integral part of these financial statements.

These financial statements were approved by the Board of Directors on 19 February 2019 and signed on its behalf by:

Mark E Tucker
Group Chairman

Ewen Stevenson
Group Chief Financial Officer

HSBC Holdings statement of cash flows

for the year ended 31 December

	2018	2017	2016 (Restated)[2]
	$m	$m	$m
Profit before tax	**52,887**	5,475	6,193
Adjustments for non-cash items:	**(46,878)**	(17)	48
– depreciation, amortisation and impairment/expected credit losses	**70**	33	10
– share-based payment expense	**–**	(2)	34
– other non-cash items included in profit before tax[1]	**(46,948)**	(48)	4
Changes in operating assets and liabilities			
Change in loans to HSBC undertakings	**5,745**	(1,122)	(36,437)
Change in loans and advances to HSBC undertakings designated and otherwise mandatorily measured at fair value	**(7,305)**	(11,944)	–
Change in financial investments in HSBC undertakings	**–**	(1,775)	612
Change in net trading securities and net derivatives	**758**	(2,183)	3,066
Change in other assets	**231**	134	(239)
Change in debt securities in issue	**(1,094)**	1,020	(1,633)
Change in financial liabilities designated at fair value	**(740)**	954	(1,229)
Change in other liabilities	**(1,883)**	721	(693)
Tax received	**301**	443	646
Net cash from operating activities	**2,022**	(8,294)	(29,666)
Purchase of financial investments	**–**	–	–
Proceeds from the sale and maturity of financial investments	**–**	1,165	610
Net cash outflow from acquisition of or increase in stake of subsidiaries	**(8,992)**	(89)	(2,073)
Repayment of capital from subsidiaries	**3,627**	4,070	3,920
Net investment in intangible assets	**(121)**	(150)	(109)
Net cash from investing activities	**(5,486)**	4,996	2,348
Issue of ordinary share capital and other equity instruments	**6,652**	5,647	2,381
Redemption of other equity instruments	**(6,093)**	–	–
Purchase of treasury shares	**–**	–	(2,510)
Cancellation of shares	**(1,998)**	(3,000)	–
Subordinated loan capital issued	**–**	–	2,636
Subordinated loan capital repaid	**(1,972)**	(1,184)	(1,781)
Debt securities issued	**19,513**	11,433	32,080
Debt securities repaid	**(1,025)**	–	–
Dividends paid on ordinary shares	**(8,693)**	(6,987)	(7,059)
Dividends paid to holders of other equity instruments	**(1,360)**	(1,359)	(1,180)
Net cash from financing activities	**5,024**	4,550	24,567
Net increase/(decrease) in cash and cash equivalents	**1,560**	1,252	(2,751)
Cash and cash equivalents at 1 January	**4,949**	3,697	6,448
Cash and cash equivalents at 31 Dec	**6,509**	4,949	3,697
Cash and cash equivalents comprise:			
– cash at bank with HSBC undertakings	**3,509**	1,985	247
– loans and advances to banks of one month or less	**3,000**	2,964	3,450

Interest received was $2,116m (2017: $2,103m; 2016: $1,329m) Interest paid was $3,379m (2017: $2,443m; 2016: $1,791m) and dividends received were $10,411m (2017: $10,039m; 2016: $10,412m)

1 *2018 includes $44,893m (2017:nil) return on capital from HSBC Finance (Netherlands) resulting from restructuring the Group's Asia operation to meet resolution and recovery requirements.*
2 *The 2016 comparative figure for cash and cash equivalents was amended in 2017 to include loans and advances to HSBC undertakings of one month or less duration.*

HSBC Holdings statement of changes in equity

for the year ended 31 December

					Other reserves			
	Called up share capital	Share premium	Other equity instruments	Retained earnings[1,3]	Financial assets at FVOCI reserve	Other paid-in capital[2]	Merger and other reserves[3]	Total share-holders' equity
	$m	$m	$m	$m	$m	$m	$m	$m
At 31 Dec 2017	**10,160**	**10,177**	**22,107**	**23,903**	**59**	**2,254**	**35,127**	**103,787**
Impact on transition to IFRS 9		**—**	**—**	**949**	**(59)**		**—**	**890**
At 1 Jan 2018	**10,160**	**10,177**	**22,107**	**24,852**	**—**	**2,254**	**35,127**	**104,677**
Profit for the year	**—**	**—**	**—**	**52,825**	**—**	**—**	**—**	**52,825**
Other comprehensive income (net of tax)	**—**	**—**	**—**	**865**	**—**	**—**	**—**	**865**
– changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**—**	**—**	**—**	**865**	**—**	**—**	**—**	**865**
Total comprehensive income for the year	**—**	**—**	**—**	**53,690**	**—**	**—**	**—**	**53,690**
Shares issued under employee share plans	**42**	**679**	**—**	**—**	**—**	**—**	**—**	**721**
Shares issued in lieu of dividends and amounts arising thereon	**83**	**(83)**	**—**	**1,494**	**—**	**—**	**—**	**1,494**
Cancellation of shares[4]	**(105)**	**2,836**	**—**	**(4,998)**	**—**	**—**	**269**	**(1,998)**
Capital securities issued	**—**	**—**	**5,967**	**—**	**—**	**—**	**—**	**5,967**
Dividends to shareholders	**—**	**—**	**—**	**(11,547)**	**—**	**—**	**—**	**(11,547)**
Redemption of capital securities	—	—	**(5,843)**	**(236)**	—	—	**—**	**(6,079)**
Transfers[5]	—	—	—	**(2,200)**	—	—	**2,200**	—
Other movements	**—**	**—**	**—**	**379**	**—**	**46**	**3**	**428**
At 31 Dec 2018	**10,180**	**13,609**	**22,231**	**61,434**	**—**	**2,300**	**37,599**	**147,353**
At 1 Jan 2017	10,096	12,619	17,004	27,656	112	2,244	35,127	104,858
Profit for the year	—	—	—	5,539	—	—	—	5,539
Other comprehensive income (net of tax)	—	—	—	(828)	(53)	—	—	(881)
– available-for-sale investments	—	—	—	—	(53)	—	—	(53)
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	—	(828)	—	—	—	(828)
Total comprehensive income for the year	—	—	0	4,711	(53)	—	—	4,658
Shares issued under employee share plans	38	584	—	(52)	—	—	—	570
Shares issued in lieu of dividends and amounts arising thereon	190	(190)	—	3,205	—	—	—	3,205
Cancellation of shares	(164)	(2,836)	—	—	—	—	—	(3,000)
Capital securities issued	—		5,103	—	—	—	—	5,103
Dividends to shareholders	—	—	—	(11,551)	—	—	—	(11,551)
Cost of share-based payment arrangements	—	—	—	(2)	—	—	—	(2)
Other movements			—	(64)		10		(54)
At 31 Dec 2017	10,160	10,177	22,107	23,903	59	2,254	35,127	103,787
At 1 Jan 2016	9,842	12,421	15,020	32,224	183	2,597	35,127	107,414
Profit for the year	—	—	—	6,595	—	—	—	6,595
Other comprehensive income (net of tax)	—	—	—	(896)	(72)	—	—	(968)
– available-for-sale investments	—	—	—	—	(72)	—	—	(72)
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	—	(896)	—	—	—	(896)
Total comprehensive income for the year	—	—	—	5,699	(72)	—	—	5,627
Shares issued under employee share plans	35	417	—	(51)	—	—	—	401
Shares issued in lieu of dividends and amounts arising thereon	219	(219)	—	3,040	—	—	—	3,040
Net increase in treasury shares	—	—	—	(2,510)	—	—	—	(2,510)
Capital securities issued	—		1,984	—	—	—	—	1,984
Dividends to shareholders	—	—	—	(11,279)	—	—	—	(11,279)
Cost of share-based payment arrangements	—	—	—	34	—	—	—	34
Other movements	—	—	—	499	1	(353)	—	147
At 31 Dec 2016	10,096	12,619	17,004	27,656	112	2,244	35,127	104,858

Dividends per ordinary share at 31 December 2018 were $0.51 (2017: $0.51; 2016: $0.51).

1 *At 31 December 2018, retained earnings includes 326,503,319 ($2,546m) of treasury shares (2017: 326,843,840 ($2,542m); 2016: 325,499,152 ($2,499m)). Treasury shares are held to fund employee share plans.*
2 *Other paid-in capital arises from the exercise and lapse of share options granted to employees of HSBC Holdings subsidiaries.*
3 *HSBC Holdings distributable reserves at 31 December 2018 of $30,705m (2017: $38,031m) represents realised profits included in retained earnings of $14,974m (2017: $22,300m) and in merger reserve of $15,731m (2017: $15,731m). The distributable reserves are lower than retained earnings of $61,434m (2017: $23,903m). In 2018, income of $44,893m (2017:nil) generated from restructuring the Group's Asia operation to meet resolution and recovery requirements does not form part of distributable reserves.*
4 *This includes a re-presentation of the cancellation of shares to retained earnings and capital redemption reserve in respect of the 2017 share buy-back, under which retained earnings has been reduced by $3,000m, share premium increased by $2,836m and other reserves increased by $164m.*
5 *Permitted transfers from the merger reserve to retained earnings were made when the investment in HSBC Overseas Holdings (UK) Limited was previously impaired. A part reversal of this impairment results in a transfer from retained earnings back to the merger reserve of $2,200m.*

Notes on the Financial Statements

1 Basis of preparation and significant accounting policies

1.1 Basis of preparation

(a) Compliance with International Financial Reporting Standards

The consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings have been prepared in accordance with International Financial Reporting Standards ('IFRSs') as issued by the International Accounting Standards Board ('IASB'), including interpretations issued by the IFRS Interpretations Committee, and as endorsed by the European Union ('EU'). At 31 December 2018, there were no unendorsed standards effective for the year ended 31 December 2018 affecting these consolidated and separate financial statements, and HSBC's application of IFRSs results in no differences between IFRSs as issued by the IASB and IFRSs as endorsed by the EU.

Standards adopted during the year ended 31 December 2018

HSBC has adopted the requirements of IFRS 9 'Financial Instruments' from 1 January 2018, with the exception of the provisions relating to the presentation of gains and losses on financial liabilities designated at fair value, which were adopted from 1 January 2017. This includes the adoption of 'Prepayment Features with Negative Compensation (Amendments to IFRS 9)', which is effective for annual periods beginning on or after 1 January 2019 with early adoption permitted. The effect of its adoption is not significant. IFRS 9 includes an accounting policy choice to remain with IAS 39 hedge accounting, which HSBC has exercised. The classification and measurement, and impairment requirements, are applied retrospectively by adjusting the opening balance sheet at the date of initial application. As permitted by IFRS 9, HSBC has not restated comparatives. Adoption reduced net assets at 1 January 2018 by $1,647m as set out in Note 37 of the *Annual Report and Accounts 2018*.

In addition, HSBC has adopted the requirements of IFRS 15 'Revenue from contracts with customers' and a number of interpretations and amendments to standards, which have had an insignificant effect on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings.

IFRS 9 transitional requirements

The transitional requirements of IFRS 9 necessitated a review of the designation of financial instruments at fair value. IFRS 9 requires that the designation is revoked where there is no longer an accounting mismatch at 1 January 2018 and permits designations to be revoked or additional designations created at 1 January 2018 if there are accounting mismatches at that date. As a result:

- fair value designations for financial liabilities were revoked where the accounting mismatch no longer exists, as required by IFRS 9; and
- fair value designations were revoked for certain long-dated securities where accounting mismatches continue to exist, but where HSBC has revoked the designation as permitted by IFRS 9 since it will better mitigate the accounting mismatch by undertaking fair value hedge accounting.

The results of these changes are included in the reconciliation set out in Note 37.

Changes in accounting policy

While not necessarily required by the adoption of IFRS 9, the following voluntary changes in accounting policy and presentation were made as a result of reviews carried out in conjunction with its adoption. The effect of presentational changes at 1 January 2018 is included in the reconciliation set out in Note 37, and comparatives have not been restated.

- We considered market practices for the presentation of certain financial liabilities, which contain both deposit and derivative components. We concluded that it would be appropriate to change the accounting policy and presentation of 'trading customer accounts and other debt securities in issue', to better align with the presentation of similar financial instruments by peers. This therefore provides more relevant information about the effect of these financial liabilities on our financial position and performance. As a result, rather than being classified as held for trading, we designate these financial liabilities as at fair value through profit or loss since they are managed and their performance evaluated on a fair value basis. A further consequence of this change in presentation is that the effects of changes in the liabilities' credit risk are presented in 'Other comprehensive income', with the remaining effect presented in profit or loss in accordance with Group accounting policy adopted in 2017 (following the adoption of the requirements in IFRS 9 relating to the presentation of gains and losses on financial liabilities designated at fair value).
- Cash collateral, margin and settlement accounts have been reclassified from 'Trading assets' and 'Loans and advances to banks and customers' to 'Prepayments, accrued income and other assets' and from 'Trading liabilities' and 'Deposits by banks' and 'Customer accounts' to 'Accruals, deferred income and other liabilities'. The change in presentation for financial assets is in accordance with IFRS 9 and the change in presentation for financial liabilities is considered to provide more relevant information, given the change in presentation for the financial assets. The change in presentation for financial liabilities has had no effect on the measurement of these items and therefore on retained earnings or profit for any period.
- Certain stock borrowing assets have been reclassified from 'Loans and advances to banks and customers' to 'Trading assets'. The change in measurement is a result of the determination of the global business model for this activity and will align the presentation throughout the Group.
- Prior to 2018, foreign exchange exposure on some financial instruments designated at fair value was presented in the same line in the income statement as the underlying fair value movement on these instruments. In 2018, we have grouped the presentation of the entire effect of foreign exchange exposure in profit or loss and presented it within 'Net income from financial instruments held for trading or managed on a fair value basis'. Comparative data has been re-presented.

(b) Differences between IFRSs and Hong Kong Financial Reporting Standards

There are no significant differences between IFRSs and Hong Kong Financial Reporting Standards in terms of their application to HSBC, and consequently there would be no significant differences had the financial statements been prepared in accordance with Hong Kong Financial Reporting Standards. The 'Notes on the financial statements', taken together with the 'Report of the Directors', include the aggregate of all disclosures necessary to satisfy IFRSs and Hong Kong reporting requirements.

(c) Future accounting developments

Minor amendments to IFRSs

The IASB has published a number of minor amendments to IFRSs that are effective from 1 January 2019, some of which have been endorsed for use in the EU. HSBC expects they will have an insignificant effect, when adopted, on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings.

Major new IFRSs

The IASB has published IFRS 16 'Leases' and IFRS 17 'Insurance Contracts'. IFRS 16 has been endorsed for use in the EU and IFRS 17 has not yet been endorsed. In addition, an amendment to IAS 12 'Income Taxes' has not yet been endorsed.

IFRS 16 'Leases'

IFRS 16 'Leases' has an effective date for annual periods beginning on or after 1 January 2019. IFRS 16 results in lessees accounting for most leases within the scope of the standard in a manner similar to the way in which finance leases are currently accounted for under IAS 17 'Leases'. Lessees will recognise a right of use ('ROU') asset and a corresponding financial liability on the balance sheet. The asset will be amortised over the length of the lease, and the financial liability measured at amortised cost. Lessor accounting remains substantially the same as under IAS 17. The Group expects to adopt the standard using a modified retrospective approach where the cumulative effect of initially applying it is recognised as an adjustment to the opening balance of retained earnings and comparatives are not restated. The implementation is expected to increase assets by approximately $5bn and increase financial liabilities by the same amount with no effect on net assets or retained earnings.

IFRS 17 'Insurance Contracts'

IFRS 17 'Insurance Contracts' was issued in May 2017, and sets out the requirements that an entity should apply in accounting for insurance contracts it issues and reinsurance contracts it holds. IFRS 17 is currently effective from 1 January 2021. However, the IASB is considering delaying the mandatory implementation date by one year and may make additional changes to the standard. The Group is in the process of implementing IFRS 17. Industry practice and interpretation of the standard is still developing and there may be changes to it, therefore the likely impact of its implementation remains uncertain.

Amendment to IAS 12 'Income Taxes'

An amendment to IAS 12 was issued in December 2017 as part of the annual improvement cycle. The amendment clarifies that an entity should recognise the tax consequences of dividends where the transactions or events that generated the distributable profits are recognised. This amendment is effective for annual reporting periods beginning on or after 1 January 2019 and is applied to the income tax consequences of distributions recognised on or after the beginning of the earliest comparative period. As a result of its application, the income tax consequences of distributions on certain capital securities classified as equity will be presented in profit or loss rather than directly in equity. If the amendment had been applied in 2018, the impact for the year ended 31 December 2018 would have been a $261m increase in profit after tax (2017: $224m) with no effect on equity.

(d) Foreign currencies

HSBC's consolidated financial statements are presented in US dollars because the US dollar and currencies linked to it form the major currency bloc in which HSBC transacts and funds its business. The US dollar is also HSBC Holdings' functional currency because the US dollar and currencies linked to it are the most significant currencies relevant to the underlying transactions, events and conditions of its subsidiaries, as well as representing a significant proportion of its funds generated from financing activities.

Transactions in foreign currencies are recorded at the rate of exchange on the date of the transaction. Assets and liabilities denominated in foreign currencies are translated at the rate of exchange at the balance sheet date, except non-monetary assets and liabilities measured at historical cost, which are translated using the rate of exchange at the initial transaction date. Exchange differences are included in other comprehensive income or in the income statement depending on where the gain or loss on the underlying item is recognised.

In the consolidated financial statements, the assets, liabilities and results of foreign operations, whose functional currency is not US dollars, are translated into the Group's presentation currency at the reporting date. Exchange differences arising are recognised in other comprehensive income. On disposal of a foreign operation, exchange differences previously recognised in other comprehensive income are reclassified to the income statement.

(e) Presentation of information

Certain disclosures required by IFRSs have been included in the sections marked as ('Audited') in this *Annual Report and Accounts* as follows:

- segmental disclosures are included in the 'Report of the Directors: Financial summary' on pages 34 to 91;
- disclosures concerning the nature and extent of risks relating to insurance contracts and financial instruments are included in the 'Report of the Directors: Risk' on pages 100 to 192;
- capital disclosures are included in the 'Report of the Directors: Capital' on pages 193 to 196; and
- disclosures relating to HSBC's securitisation activities and structured products are included in the 'Report of the Directors: Risk' on pages 100 to 192.

In accordance with the policy to provide disclosures that help investors and other stakeholders understand the Group's performance, financial position and changes to them, the information provided in the 'Notes on the financial statements' and the 'Report of the Directors' goes beyond the minimum levels required by accounting standards, statutory and regulatory requirements and listing rules. In addition, HSBC follows the UK Finance Disclosure Code ('the UKF Disclosure Code'). The UKF Disclosure Code aims to increase the quality and comparability of UK banks' disclosures and sets out five disclosure principles together with supporting guidance agreed in 2010. In line with the principles of the UKF Disclosure Code, HSBC assesses good practice recommendations issued from time to time by relevant regulators and standard setters, and will assess the applicability and relevance of such guidance, enhancing disclosures where appropriate.

(f) Critical accounting estimates and judgements

The preparation of financial information requires the use of estimates and judgements about future conditions. In view of the inherent uncertainties and the high level of subjectivity involved in the recognition or measurement of items, highlighted as the 'critical accounting estimates and judgements' in section 1.2 below, it is possible that the outcomes in the next financial year could differ from those on which management's estimates are based. This could result in materially different estimates and judgements from those reached by management for the purposes of these financial statements. Management's selection of HSBC's accounting policies that contain critical estimates and judgements reflects the materiality of the items to which the policies are applied and the high degree of judgement and estimation uncertainty involved.

(g) Segmental analysis

HSBC's Chief Operating Decision Maker is the Group Chief Executive, who is supported by the rest of the Group Management Board ('GMB'), which operates as a general management committee under the direct authority of the Board. Operating segments are reported in a manner consistent with the internal reporting provided to the Group Chief Executive and the GMB.

Measurement of segmental assets, liabilities, income and expenses is in accordance with the Group's accounting policies. Segmental income and expenses include transfers between segments, and these transfers are conducted at arm's length. Shared costs are included in segments on the basis of the actual recharges made.

(h) Going concern

The financial statements are prepared on a going concern basis, as the Directors are satisfied that the Group and parent company have the resources to continue in business for the foreseeable future. In making this assessment, the Directors have considered a wide range of information relating to present and future conditions, including future projections of profitability, cash flows and capital resources.

1.2 Summary of significant accounting policies

(a) Consolidation and related policies

Investments in subsidiaries

Where an entity is governed by voting rights, HSBC consolidates when it holds – directly or indirectly – the necessary voting rights to pass resolutions by the governing body. In all other cases, the assessment of control is more complex and requires judgement of other factors, including having exposure to variability of returns, power to direct relevant activities, and whether power is held as agent or principal.

Business combinations are accounted for using the acquisition method. The amount of non-controlling interest is measured either at fair value or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets. This election is made for each business combination.

HSBC Holdings' investments in subsidiaries are stated at cost less impairment losses.

Goodwill

Goodwill is allocated to cash-generating units ('CGUs') for the purpose of impairment testing, which is undertaken at the lowest level at which goodwill is monitored for internal management purposes. HSBC's CGUs are based on geographical regions subdivided by global business, except for Global Banking and Markets, for which goodwill is monitored on a global basis.

Impairment testing is performed at least once a year, or whenever there is an indication of impairment, by comparing the recoverable amount of a CGU with its carrying amount.

Goodwill is included in a disposal group if the disposal group is a CGU to which goodwill has been allocated or it is an operation within such a CGU. The amount of goodwill included in a disposal group is measured on the basis of the relative values of the operation disposed of and the portion of the CGU retained.

Critical accounting estimates and judgements

The review of goodwill for impairment reflects management's best estimate of the future cash flows of the CGUs and the rates used to discount these cash flows, both of which are subject to uncertain factors as follows:

- The future cash flows of the CGUs are sensitive to the cash flows projected for the periods for which detailed forecasts are available and to assumptions regarding the long-term pattern of sustainable cash flows thereafter. Forecasts are compared with actual performance and verifiable economic data, but they reflect management's view of future business prospects at the time of the assessment.
- The rates used to discount future expected cash flows can have a significant effect on their valuation, and are based on the costs of capital assigned to individual CGUs. The cost of capital percentage is generally derived from a capital asset pricing model, which incorporates inputs reflecting a number of financial and economic variables, including the risk-free interest rate in the country concerned and a premium for the risk of the business being evaluated. These variables are subject to fluctuations in external market rates and economic conditions beyond management's control. They are therefore subject to uncertainty and require the exercise of significant judgement.

The accuracy of forecast cash flows is subject to a high degree of uncertainty in volatile market conditions. In such circumstances, management re-tests goodwill for impairment more frequently than once a year when indicators of impairment exist. This ensures that the assumptions on which the cash flow forecasts are based continue to reflect current market conditions and management's best estimate of future business prospects.

HSBC sponsored structured entities

HSBC is considered to sponsor another entity if, in addition to ongoing involvement with the entity, it had a key role in establishing that entity or in bringing together relevant counterparties so the transaction that is the purpose of the entity could occur. HSBC is generally not considered a sponsor if the only involvement with the entity is merely administrative.

Interests in associates and joint arrangements

Joint arrangements are investments in which HSBC, together with one or more parties, has joint control. Depending on HSBC's rights and obligations, the joint arrangement is classified as either a joint operation or a joint venture. HSBC classifies investments in entities over which it has significant influence, and that are neither subsidiaries nor joint arrangements, as associates.

HSBC recognises its share of the assets, liabilities and results in a joint operation. Investments in associates and interests in joint ventures are recognised using the equity method. The attributable share of the results and reserves of joint ventures and associates is included in the consolidated financial statements of HSBC based on either financial statements made up to 31 December or pro-rated amounts adjusted for any material transactions or events occurring between the date the financial statements are available and 31 December.

Investments in associates and joint ventures are assessed at each reporting date and tested for impairment when there is an indication that the investment may be impaired. Goodwill on acquisitions of interests in joint ventures and associates is not tested separately for impairment, but is assessed as part of the carrying amount of the investment.

Critical accounting estimates and judgements

Impairment testing of investments in associates involves significant judgement in determining the value in use, and in particular estimating the present values of cash flows expected to arise from continuing to hold the investment. The most significant judgements relate to the impairment testing of our investment in Bank of Communications Co. Limited ('BoCom'). Key assumptions used in estimating BoCom's value in use, the sensitivity of the value in use calculation to different assumptions and a sensitivity analysis that shows the changes in key assumptions that would reduce the excess of value in use over the carrying amount (the 'headroom') to nil are described in Note 18.

(b) Income and expense

Operating income

Interest income and expense

Interest income and expense for all financial instruments, excluding those classified as held for trading or designated at fair value, are recognised in 'Interest income' and 'Interest expense' in the income statement using the effective interest method. However, as an exception to this, interest on debt securities issued by HSBC that are designated under the fair value option and on derivatives managed in conjunction with those debt securities is included in interest expense.

Interest on credit-impaired financial assets is recognised using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss.

Non-interest income and expense

HSBC generates fee income from services provided at a fixed price over time, such as account service and card fees, or when HSBC delivers a specific transaction at a point in time, such as broking services and import/export services. With the exception of certain fund management and performance fees, all other fees are generated at a fixed price. Fund management and performance fees can be variable depending on the size of the customer portfolio and HSBC's performance as fund manager. Variable fees are recognised when all uncertainties are resolved. Fee income is generally earned from short-term contracts with payment terms that do not include a significant financing component.

HSBC acts as principal in the majority of contracts with customers, with the exception of broking services. For most brokerage trades, HSBC acts as agent in the transaction and recognises broking income net of fees payable to other parties in the arrangement.

HSBC recognises fees earned on transaction-based arrangements at a point in time when we have fully provided the service to the customer. Where the contract requires services to be provided over time, income is recognised on a systematic basis over the life of the agreement.

Where HSBC offers a package of services that contains multiple non-distinct performance obligations, such as those included in account service packages, the promised services are treated as a single performance obligation. If a package of services contains distinct performance obligations, such as those including both account and insurance services, the corresponding transaction price is allocated to each performance obligation based on the estimated stand-alone selling prices.

Dividend income is recognised when the right to receive payment is established. This is the ex-dividend date for listed equity securities, and usually the date when shareholders approve the dividend for unlisted equity securities.

Net income/(expense) from financial instruments measured at fair value through profit or loss includes the following:

- 'Net income from financial instruments held for trading or managed on a fair value basis': This comprises net trading income, which includes all gains and losses from changes in the fair value of financial assets and financial liabilities held for trading, together with the related interest income, expense and dividends. It also includes all gains and losses from changes in the fair value of derivatives that are managed in conjunction with financial assets and liabilities measured at fair value through profit or loss.
- 'Net income/(expense)from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss': This includes interest income, interest expense and dividend income in respect of financial assets and liabilities measured at fair value through profit or loss; and those derivatives managed in conjunction with the above that can be separately identifiable from other trading derivatives.
- 'Changes in fair value of long-term debt and related derivatives': Interest paid on the external long-term debt and interest cash flows on related derivatives is presented in interest expense.
- 'Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss': This includes interest on instruments that fail the solely payments of principal and interest ('SPPI') test, see (d) below.

The accounting policies for insurance premium income are disclosed in Note 1.2(j).

(c) Valuation of financial instruments

All financial instruments are initially recognised at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of a financial instrument on initial recognition is generally its transaction price (that is, the fair value of the consideration given or received). However, if there is a difference between the transaction price and the fair value of financial instruments whose fair value is based on a quoted price in an active market or a valuation technique that uses only data from observable markets, HSBC recognises the difference as a trading gain or loss at inception (a 'day 1 gain or loss'). In all other cases, the entire day 1 gain or loss is deferred and recognised in the income statement over the life of the transaction until the transaction matures, is closed out, the valuation inputs become observable or HSBC enters into an offsetting transaction.

The fair value of financial instruments is generally measured on an individual basis. However, in cases where HSBC manages a group of financial assets and liabilities according to its net market or credit risk exposure, the fair value of the group of financial instruments is measured on a net basis but the underlying financial assets and liabilities are presented separately in the financial statements, unless they satisfy the IFRS offsetting criteria.

Critical accounting estimates and judgements

The majority of valuation techniques employ only observable market data. However, certain financial instruments are classified on the basis of valuation techniques that feature one or more significant market inputs that are unobservable, and for them the measurement of fair value is more judgemental. An instrument in its entirety is classified as valued using significant unobservable inputs if, in the opinion of management, greater than 5% of the instrument's valuation is driven by unobservable inputs. 'Unobservable' in this context means that there is little or no current market data available from which to determine the price at which an arm's length transaction would be likely to occur. It generally does not mean that there is no data available at all upon which to base a determination of fair value (consensus pricing data may, for example, be used).

(d) Financial instruments measured at amortised cost

Financial assets that are held to collect the contractual cash flows and which contain contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest are measured at amortised cost. Such financial assets include most loans and advances to banks and customers and some debt securities. In addition, most financial liabilities are measured at amortised cost. HSBC accounts for regular way amortised cost financial instruments using trade date accounting. The carrying value of these financial assets at initial recognition includes any directly attributable transactions costs. If the initial fair value is lower than the cash amount advanced, such as in the case of some leveraged finance and syndicated lending activities, the difference is deferred and recognised over the life of the loan through the recognition of interest income.

HSBC may commit to underwriting loans on fixed contractual terms for specified periods of time. When the loan arising from the lending commitment is expected to be held for trading, the commitment to lend is recorded as a derivative. When HSBC intends to hold the loan, the loan commitment is included in the impairment calculations set out below.

Non-trading reverse repurchase, repurchase and similar agreements

When debt securities are sold subject to a commitment to repurchase them at a predetermined price ('repos'), they remain on the balance sheet and a liability is recorded in respect of the consideration received. Securities purchased under commitments to resell ('reverse repos') are not recognised on the balance sheet and an asset is recorded in respect of the initial consideration paid. Non-trading repos and reverse repos are measured at amortised cost. The difference between the sale and repurchase price or between the purchase and resale price is treated as interest and recognised in net interest income over the life of the agreement.

Contracts that are economically equivalent to reverse repo or repo agreements (such as sales or purchases of debt securities entered into together with total return swaps with the same counterparty) are accounted for similarly to, and presented together with, reverse repo or repo agreements.

(e) Financial assets measured at fair value through other comprehensive income

Financial assets held for a business model that is achieved by both collecting contractual cash flows and selling and which contain contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest are measured at fair value through other comprehensive income ('FVOCI'). These comprise primarily debt securities. They are recognised on the trade date when HSBC enters into contractual arrangements to purchase and are normally derecognised when they are either sold or redeemed. They are subsequently remeasured at fair value and changes therein (except for those relating to impairment, interest income and foreign currency exchange gains and losses) are recognised in other comprehensive income until the assets are sold. Upon disposal, the cumulative gains or losses in other comprehensive income are recognised in the income statement as 'Gains less losses from financial instruments'. Financial assets measured at FVOCI are included in the impairment calculations set out below and impairment is recognised in profit or loss.

(f) Equity securities measured at fair value with fair value movements presented in other comprehensive income

The equity securities for which fair value movements are shown in other comprehensive income are business facilitation and other similar investments where HSBC holds the investments other than to generate a capital return. Gains or losses on the derecognition of these equity securities are not transferred to profit or loss. Otherwise, equity securities are measured at fair value through profit or loss (except for dividend income which is recognised in profit or loss).

(g) Financial instruments designated at fair value through profit or loss

Financial instruments, other than those held for trading, are classified in this category if they meet one or more of the criteria set out below and are so designated irrevocably at inception:

- the use of the designation removes or significantly reduces an accounting mismatch;
- a group of financial assets and liabilities or a group of financial liabilities is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy; and
- the financial liability contains one or more non-closely related embedded derivatives.

Designated financial assets are recognised when HSBC enters into contracts with counterparties, which is generally on trade date, and are normally derecognised when the rights to the cash flows expire or are transferred. Designated financial liabilities are recognised when HSBC enters into contracts with counterparties, which is generally on settlement date, and are normally derecognised when extinguished. Subsequent changes in fair values are recognised in the income statement in 'Net income from financial instruments held for trading or managed on a fair value basis' or 'Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss'.

Under the above criterion, the main classes of financial instruments designated by HSBC are:

- Long-term debt issues: The interest and/or foreign exchange exposure on certain fixed-rate debt securities issued has been matched with the interest and/or foreign exchange exposure on certain swaps as part of a documented risk management strategy.
- Financial assets and financial liabilities under unit-linked and non-linked investment contracts: a contract under which HSBC does not accept significant insurance risk from another party is not classified as an insurance contract, other than investment contracts with discretionary participation features ('DPF'), but is accounted for as a financial liability. Customer liabilities under linked and certain non-linked investment contracts issued by insurance subsidiaries are determined based on the fair value of the assets held in the linked funds. If no fair value designation was made for the related assets, at least some of the assets would otherwise be measured at either fair value through other comprehensive income or amortised cost. The related financial assets and liabilities are managed and reported to management on a fair value basis. Designation at fair value of the financial assets and related liabilities allows changes in fair values to be recorded in the income statement and presented in the same line.

(h) Derivatives

Derivatives are financial instruments that derive their value from the price of underlying items such as equities, interest rates or other indices. Derivatives are recognised initially and are subsequently measured at fair value through profit or loss. Derivatives are classified as assets when their fair value is positive or as liabilities when their fair value is negative. This includes embedded derivatives in financial liabilities, which are bifurcated from the host contract when they meet the definition of a derivative on a stand-alone basis.

Where the derivatives are managed with debt securities issued by HSBC that are designated at fair value, the contractual interest is shown in 'Interest expense' together with the interest payable on the issued debt.

Hedge accounting

When derivatives are not part of fair value designated relationships, if held for risk management purposes they are designated in hedge accounting relationships where the required criteria for documentation and hedge effectiveness are met. HSBC uses these derivatives or, where allowed, other non-derivative hedging instruments in fair value hedges, cash flow hedges or hedges of net investments in foreign operations as appropriate to the risk being hedged.

Fair value hedge

Fair value hedge accounting does not change the recording of gains and losses on derivatives and other hedging instruments, but results in recognising changes in the fair value of the hedged assets or liabilities attributable to the hedged risk that would not otherwise be recognised in the income statement. If a hedge relationship no longer meets the criteria for hedge accounting, hedge accounting is discontinued; the cumulative adjustment to the carrying amount of the hedged item is amortised to the income statement on a recalculated effective interest rate, unless the hedged item has been derecognised, in which case it is recognised in the income statement immediately.

Cash flow hedge

The effective portion of gains and losses on hedging instruments is recognised in other comprehensive income; the ineffective portion of the change in fair value of derivative hedging instruments that are part of a cash flow hedge relationship is recognised immediately in the income statement within 'Net income from financial instruments held for trading or managed on a fair value basis'. The accumulated gains and losses recognised in other comprehensive income are reclassified to the income statement in the same periods in which the hedged item affects profit or loss. When a hedge relationship is discontinued, or partially discontinued, any cumulative gain or loss recognised in other comprehensive income remains in equity until the forecast transaction is recognised in the income statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss previously recognised in other comprehensive income is immediately reclassified to the income statement.

Net investment hedge

Hedges of net investments in foreign operations are accounted for in a similar way to cash flow hedges. The effective portion of gains and losses on the hedging instrument is recognised in other comprehensive income; other gains and losses are recognised immediately in the income statement. Gains and losses previously recognised in other comprehensive income are reclassified to the income statement on the disposal, or part disposal, of the foreign operation.

Derivatives that do not qualify for hedge accounting

Non-qualifying hedges are derivatives entered into as economic hedges of assets and liabilities for which hedge accounting was not applied.

Critical accounting estimates and judgements

As a result of the request received by the Financial Stability Board from the G20, a fundamental review and reform of the major interest rate benchmarks is under way across the world's largest financial markets. The process of replacing existing benchmark interbank offered rates ('Ibors') with alternative risk-free rates ('RFRs') is at different stages, and is progressing at different speeds, across several major jurisdictions. There is therefore uncertainty as to the timing and the methods of transition for many financial products affected by these changes, and whether some existing benchmarks will continue to be supported in some way.

As a result of these developments, significant accounting judgement is involved in determining whether certain hedge accounting relationships that hedge the variability of cash flows and interest rate risk due to changes in Ibors continue to qualify for hedge accounting as at 31 December 2018. Management's judgement is that those existing hedge accounting relationships continue to be supported at the 2018 year-end. Even though there are plans to replace those rates with economically similar rates based on new RFRs over the next few years, there is widespread continued reliance on Ibors in market pricing structures for long-term products with maturities over the hedged horizons that extend beyond the timescales for replacing Ibors. In addition there is a current absence of term structures on the new RFRs. This judgement will be kept under review in future as markets based on the new RFRs develop, taking into consideration any specific accounting guidance that may be developed to deal with these unusual circumstances. The IASB has commenced the due process for providing clarification on how the guidance for hedge accounting in IAS 39 'Financial Instruments: Recognition and Measurement' and IFRS 9: 'Financial Instruments' should be applied in these circumstances, which were not contemplated when the standards were published.

(i) Impairment of amortised cost and FVOCI financial assets

Expected credit losses ('ECL') are recognised for loans and advances to banks and customers, non-trading reverse repurchase agreements, other financial assets held at amortised cost, debt instruments measured at FVOCI, and certain loan commitments and financial guarantee contracts. At initial recognition, allowance (or provision in the case of some loan commitments and financial guarantees) is required for ECL resulting from default events that are possible within the next 12 months, or less, where the remaining life is less than 12 months ('12-month ECL'). In the event of a significant increase in credit risk, allowance (or provision) is required for ECL resulting from all possible default events over the expected life of the financial instrument ('lifetime ECL'). Financial assets where 12-month ECL is recognised are considered to be 'stage 1'; financial assets that are considered to have experienced a significant increase in credit risk are in 'stage 2'; and financial assets for which there is objective evidence of impairment so are considered to be in default or otherwise credit impaired are in 'stage 3'. Purchased or originated credit-impaired financial assets ('POCI') are treated differently, as set out below.

Credit impaired (stage 3)

HSBC determines that a financial instrument is credit impaired and in stage 3 by considering relevant objective evidence, primarily whether:

- contractual payments of either principal or interest are past due for more than 90 days;
- there are other indications that the borrower is unlikely to pay, such as when a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition; and
- the loan is otherwise considered to be in default.

If such unlikeliness to pay is not identified at an earlier stage, it is deemed to occur when an exposure is 90 days past due, even where regulatory rules permit default to be defined based on 180 days past due. Therefore the definitions of credit impaired and default are aligned as far as possible so that stage 3 represents all loans that are considered defaulted or otherwise credit impaired.

Interest income is recognised by applying the effective interest rate to the amortised cost amount, i.e. gross carrying amount less ECL allowance.

Write-off

Financial assets (and the related impairment allowances) are normally written off, either partially or in full, when there is no realistic prospect of recovery. Where loans are secured, this is generally after receipt of any proceeds from the realisation of security. In circumstances where the net realisable value of any collateral has been determined and there is no reasonable expectation of further recovery, write-off may be earlier.

Renegotiation

Loans are identified as renegotiated and classified as credit impaired when we modify the contractual payment terms due to significant credit distress of the borrower. Renegotiated loans remain classified as credit impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows and retain the designation of renegotiated until maturity or derecognition.

A loan that is renegotiated is derecognised if the existing agreement is cancelled and a new agreement is made on substantially different terms, or if the terms of an existing agreement are modified such that the renegotiated loan is a substantially different financial instrument. Any new loans that arise following derecognition events in these circumstances are considered to be POCI and will continue to be disclosed as renegotiated loans.

Other than originated credit-impaired loans, all other modified loans could be transferred out of stage 3 if they no longer exhibit any evidence of being credit impaired and, in the case of renegotiated loans, there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows over the minimum observation period, and there are no other indicators of impairment. These loans could be transferred to stage 1 or 2 based on the mechanism as described below by comparing the risk of a default occurring at the reporting date (based on the modified contractual terms) and the risk of a default occurring at initial recognition (based on the original, unmodified contractual terms). Any amount written off as a result of the modification of contractual terms would not be reversed.

Loan modifications that are not credit impaired

Loan modifications that are not identified as renegotiated are considered to be commercial restructuring. Where a commercial restructuring results in a modification (whether legalised through an amendment to the existing terms or the issuance of a new loan contract) such that HSBC's rights to the cash flows under the original contract have expired, the old loan is derecognised and the new loan is recognised at fair value. The rights to cash flows are generally considered to have expired if the commercial restructure is at market rates and no payment-related concession has been provided.

Significant increase in credit risk (stage 2)

An assessment of whether credit risk has increased significantly since initial recognition is performed at each reporting period by considering the change in the risk of default occurring over the remaining life of the financial instrument. The assessment explicitly or implicitly compares the risk of default occurring at the reporting date compared with that at initial recognition, taking into account reasonable and supportable information, including information about past events, current conditions and future economic conditions. The assessment is unbiased, probability-weighted, and to the extent relevant, uses forward-looking information consistent with that used in the measurement of ECL. The analysis of credit risk is multifactor. The determination of whether a specific factor is relevant and its weight compared with other factors depends on the type of product, the characteristics of the financial instrument and the borrower, and the geographical region. Therefore, it is not possible to provide a single set of criteria that will determine what is considered to be a significant increase in credit risk, and these criteria will differ for different types of lending, particularly between retail and wholesale. However, unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when 30 days past due. In addition, wholesale loans that are individually assessed, typically corporate and commercial customers, and included on a watch or worry list, are included in stage 2.

For wholesale portfolios, the quantitative comparison assesses default risk using a lifetime probability of default ('PD') which encompasses a wide range of information including the obligor's customer risk rating ('CRR'), macroeconomic condition forecasts and credit transition probabilities. For origination CRRs up to 3.3, significant increase in credit risk is measured by comparing the average PD for the remaining term estimated at origination with the equivalent estimation at the reporting date. The quantitative measure of significance varies depending on the credit quality at origination as follows:

Origination CRR	Significance trigger - PD to increase by
0.1–1.2	15bps
2.1–3.3	30bps

For CRRs greater than 3.3 that are not impaired, a significant increase in credit risk is considered to have occurred when the origination PD has doubled. The significance of changes in PD was informed by expert credit risk judgement, referenced to historical credit migrations and to relative changes in external market rates.

For loans originated prior to the implementation of IFRS 9, the origination PD does not include adjustments to reflect expectations of future macroeconomic conditions since these are not available without the use of hindsight. In the absence of this data, origination PD must be approximated assuming through-the-cycle ('TTC') PDs and TTC migration probabilities, consistent with the instrument's underlying modelling approach and the CRR at origination. For these loans, the quantitative comparison is supplemented with additional CRR deterioration-based thresholds, as set out in the table below:

Origination CRR	Additional significance criteria – number of CRR grade notches deterioration required to identify as significant credit deterioration (stage 2) (> or equal to)
0.1	5 notches
1.1–4.2	4 notches
4.3–5.1	3 notches
5.2–7.1	2 notches
7.2–8.2	1 notch
8.3	0 notch

Further information about the 23-grade scale used for CRR can be found on page 119.

For certain portfolios of debt securities where external market ratings are available and credit ratings are not used in credit risk management, the debt securities will be in stage 2 if their credit risk increases to the extent they are no longer considered investment grade. Investment grade is where the financial instrument has a low risk of incurring losses, the structure has a strong capacity to meet its contractual cash flow obligations in the near term, and adverse changes in economic and business conditions in the longer term may, but will not necessarily, reduce the ability of the borrower to fulfil their contractual cash flow obligations.

For retail portfolios, default risk is assessed using a reporting date 12-month PD derived from credit scores, which incorporates all available information about the customer. This PD is adjusted for the effect of macroeconomic forecasts for periods longer than 12 months and is considered to be a reasonable approximation of a lifetime PD measure. Retail exposures are first segmented into homogeneous portfolios, generally by country, product and brand. Within each portfolio, the stage 2 accounts are defined as accounts with an adjusted 12-month PD greater than the average 12-month PD of loans in that portfolio 12 months before they become 30 days past due. The expert credit risk judgement is that no prior increase in credit risk is significant. This portfolio-specific threshold identifies loans with a PD higher than would be expected from loans that are performing as originally expected, and higher than what would have been acceptable at origination. It therefore approximates a comparison of origination to reporting date PDs.

Unimpaired and without significant increase in credit risk – (stage 1)

ECL resulting from default events that are possible within the next 12 months (12-month ECL) are recognised for financial instruments that remain in stage 1.

Purchased or originated credit impaired

Financial assets that are purchased or originated at a deep discount that reflects the incurred credit losses are considered to be POCI. This population includes the recognition of a new financial instrument following a renegotiation where concessions have been granted for economic or contractual reasons relating to the borrower's financial difficulty that otherwise would not have been considered. The amount of change-in-lifetime ECL is recognised in profit or loss until the POCI is derecognised, even if the lifetime ECL are less than the amount of ECL included in the estimated cash flows on initial recognition.

Movement between stages

Financial assets can be transferred between the different categories (other than POCI) depending on their relative increase in credit risk since initial recognition. Financial instruments are transferred out of stage 2 if their credit risk is no longer considered to be significantly increased since initial recognition based on the assessments described above. Except for renegotiated loans, financial instruments are transferred out of stage 3 when they no longer exhibit any evidence of credit impairment as described above. Renegotiated loans that are not POCI will continue to be in stage 3 until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, observed over a minimum one-year period and there are no other indicators of impairment. For loans that are assessed for impairment on a portfolio basis, the evidence typically comprises a history of payment performance against the original or revised terms, as appropriate to the circumstances. For loans that are assessed for impairment on an individual basis, all available evidence is assessed on a case-by-case basis.

Measurement of ECL

The assessment of credit risk and the estimation of ECL are unbiased and probability-weighted, and incorporate all available information that is relevant to the assessment including information about past events, current conditions and reasonable and supportable forecasts of future events and economic conditions at the reporting date. In addition, the estimation of ECL should take into account the time value of money.

In general, HSBC calculates ECL using three main components: a probability of default, a loss given default ('LGD') and the exposure at default ('EAD').

The 12-month ECL is calculated by multiplying the 12-month PD, LGD and EAD. Lifetime ECL is calculated using the lifetime PD instead. The 12-month and lifetime PDs represent the probability of default occurring over the next 12 months and the remaining maturity of the instrument respectively.

The EAD represents the expected balance at default, taking into account the repayment of principal and interest from the balance sheet date to the default event together with any expected drawdowns of committed facilities. The LGD represents expected losses on the EAD given the event of default, taking into account, among other attributes, the mitigating effect of collateral value at the time it is expected to be realised and the time value of money.

HSBC leverages the Basel II IRB framework where possible, with recalibration to meet the differing IFRS 9 requirements as set out in the following table:

Model	Regulatory capital	IFRS 9
PD	• Through the cycle (represents long-run average PD throughout a full economic cycle) • The definition of default includes a backstop of 90+ days past due, although this has been modified to 180+ days past due for some portfolios, particularly UK and US mortgages	• Point in time (based on current conditions, adjusted to take into account estimates of future conditions that will impact PD) • Default backstop of 90+ days past due for all portfolios
EAD	• Cannot be lower than current balance	• Amortisation captured for term products
LGD	• Downturn LGD (consistent losses expected to be suffered during a severe but plausible economic downturn) • Regulatory floors may apply to mitigate risk of underestimating downturn LGD due to lack of historical data • Discounted using cost of capital • All collection costs included	• Expected LGD (based on estimate of loss given default including the expected impact of future economic conditions such as changes in value of collateral) • No floors • Discounted using the original effective interest rate of the loan • Only costs associated with obtaining/selling collateral included
Other		• Discounted back from point of default to balance sheet date

While 12-month PDs are recalibrated from Basel II models where possible, the lifetime PDs are determined by projecting the 12-month PD using a term structure. For the wholesale methodology, the lifetime PD also takes into account credit migration, i.e. a customer migrating through the CRR bands over its life.

The ECL for wholesale stage 3 is determined on an individual basis using a discounted cash flow ('DCF') methodology. The expected future cash flows are based on the credit risk officer's estimates as at the reporting date, reflecting reasonable and supportable assumptions and projections of future recoveries and expected future receipts of interest. Collateral is taken into account if it is likely that the recovery of the outstanding amount will include realisation of collateral based on the estimated fair value of collateral at the time of expected realisation, less costs for obtaining and selling the collateral. The cash flows are discounted at a reasonable approximation of the original effective interest rate. For significant cases, cash flows under four different scenarios are probability-weighted by reference to the three economic scenarios applied more generally by the Group and the judgement of the credit risk officer in relation to the likelihood of the workout strategy succeeding or receivership being required. For less significant cases, the effect of different economic scenarios and work-out strategies is approximated and applied as an adjustment to the most likely outcome.

Period over which ECL is measured

Expected credit loss is measured from the initial recognition of the financial asset. The maximum period considered when measuring ECL (be it 12-month or lifetime ECL) is the maximum contractual period over which HSBC is exposed to credit risk. For wholesale overdrafts, credit risk management actions are taken no less frequently than on an annual basis and therefore this period is to the expected date of the next substantive credit review. The date of the substantive credit review also represents the initial recognition of the new facility. However, where the financial instrument includes both a drawn and undrawn commitment and the contractual ability to demand repayment and cancel the undrawn commitment does not serve to limit HSBC's exposure to credit risk to the contractual notice period, the contractual period does not determine the maximum period considered. Instead, ECL is measured over the period HSBC remains exposed to credit risk that is not mitigated by credit risk management actions. This applies to retail overdrafts and credit cards, where the period is the average time taken for stage 2 exposures to default or close as performing accounts, determined on a portfolio basis and ranging from between two and six years. In addition, for these facilities it is not possible to identify the ECL on the loan commitment component separately from the financial asset component. As a result, the total ECL is recognised in the loss allowance for the financial asset unless the total ECL exceeds the gross carrying amount of the financial asset, in which case the ECL is recognised as a provision.

Forward-looking economic inputs

HSBC will in general apply three forward-looking global economic scenarios determined with reference to external forecast distributions representative of our view of forecast economic conditions, the consensus economic scenario approach. This approach is considered sufficient to calculate unbiased expected loss in most economic environments. They represent a most likely outcome (the Central scenario) and two, less likely, outer scenarios referred to as the Upside and Downside scenarios. The Central scenario is the basis for the annual operating planning process and, with regulatory modifications, will also be used in enterprise-wide stress tests. The Upside and Downside scenarios are constructed following a standard process supported by a scenario narrative reflecting the Group's current top and emerging risks and by consulting external and internal subject matter experts. The relationship between the outer scenarios and Central scenario will generally be fixed with the Central scenario being assigned a weighting of 80% and the Upside and Downside scenarios 10% each, with the difference between the Central and outer scenarios in terms of economic severity being informed by the spread of external forecast distributions among professional industry forecasts. The outer scenarios are economically plausible, internally consistent states of the world and will not necessarily be as severe as scenarios used in stress testing. The period of forecasts is five years for the Central scenario. Upside and Downside scenarios use distributional forecasts for the first two years, after which they converge to the Central forecasts. The spread between the Central and outer scenarios is grounded on consensus distributions of projected gross domestic product of the following economies: UK, France, Hong Kong, mainland China, US and Canada. The economic factors include, but are not limited to, gross domestic product, unemployment, interest rates, inflation and commercial property prices across all the countries and territories in which HSBC operates.

In general, the consequences of the assessment of credit risk and the resulting ECL outputs will be probability-weighted using the standard probability weights. This probability weighting may be applied directly or the effect of the probability weighting determined on a periodic basis, at least annually, and then applied as an adjustment to the outcomes resulting from the central economic forecast. The central economic forecast is updated quarterly.

HSBC recognises that the consensus economic scenario approach using three scenarios will be insufficient in certain economic environments. Additional analysis may be requested at management's discretion, including the production of extra scenarios. If conditions warrant, this could result in alternative scenarios and probability weightings being applied in arriving at the ECL.

Critical accounting estimates and judgements

In determining ECL, management is required to exercise judgement in defining what is considered to be a significant increase in credit risk and in making assumptions and estimates to incorporate relevant information about past events, current conditions and forecasts of economic conditions. Judgement has been applied in determining the lifetime and point of initial recognition of revolving facilities.

The PD, LGD and EAD models, which support these determinations are reviewed regularly in light of differences between loss estimates and actual loss experience, but given that IFRS 9 requirements have only just been applied, there has been little time available to make these comparisons. Therefore, the underlying models and their calibration, including how they react to forward-looking economic conditions, remain subject to review and refinement. This is particularly relevant for lifetime PDs, which have not been previously used in regulatory modelling, and for the incorporation of 'Upside scenarios', that have not generally been subject to experience gained through stress testing.

The exercise of judgement in making estimations requires the use of assumptions that are highly subjective and very sensitive to the risk factors, in particular to changes in economic and credit conditions across a large number of geographical areas. Many of the factors have a high degree of interdependency and there is no single factor to which loan impairment allowances as a whole are sensitive. The sections marked as audited on pages 133 to 139, 'Measurement uncertainty and sensitivity analysis of ECL estimates,' set out the assumptions underlying the Central scenario and information about how scenarios are developed in relation to the Group's top and emerging risks and its judgements, informed by consensus forecasts of professional industry forecasters. The sensitivity of ECL to different economic scenarios is illustrated by recalculating the ECL for selected portfolios as if 100% weighting had been assigned to each scenario.

(j) Insurance contracts

A contract is classified as an insurance contract where HSBC accepts significant insurance risk from another party by agreeing to compensate that party on the occurrence of a specified uncertain future event. An insurance contract may also transfer financial risk, but is accounted for as an insurance contract if the insurance risk is significant. In addition, HSBC issues investment contracts with discretionary participation features ('DPF '), which are also accounted for as insurance contracts as required by IFRS 4 'Insurance Contracts'.

Net insurance premium income

Premiums for life insurance contracts are accounted for when receivable, except in unit-linked insurance contracts where premiums are accounted for when liabilities are established.

Reinsurance premiums are accounted for in the same accounting period as the premiums for the direct insurance contracts to which they relate.

Net insurance claims and benefits paid and movements in liabilities to policyholders

Gross insurance claims for life insurance contracts reflect the total cost of claims arising during the year, including claim handling costs and any policyholder bonuses allocated in anticipation of a bonus declaration.

Maturity claims are recognised when due for payment. Surrenders are recognised when paid or at an earlier date on which, following notification, the policy ceases to be included within the calculation of the related insurance liabilities. Death claims are recognised when notified.

Reinsurance recoveries are accounted for in the same period as the related claim.

Liabilities under insurance contracts

Liabilities under non-linked life insurance contracts are calculated by each life insurance operation based on local actuarial principles. Liabilities under unit-linked life insurance contracts are at least equivalent to the surrender or transfer value, which is calculated by reference to the value of the relevant underlying funds or indices.

Future profit participation on insurance contracts with DPF

Where contracts provide discretionary profit participation benefits to policyholders, liabilities for these contracts include provisions for the future discretionary benefits to policyholders. These provisions reflect the actual performance of the investment portfolio to date and management's expectation of the future performance of the assets backing the contracts, as well as other experience factors such as mortality, lapses and operational efficiency, where appropriate. The benefits to policyholders may be determined by the contractual terms, regulation, or past distribution policy.

Investment contracts with DPF

While investment contracts with DPF are financial instruments, they continue to be treated as insurance contracts as required by IFRS 4. The Group therefore recognises the premiums for these contracts as revenue and recognises as an expense the resulting increase in the carrying amount of the liability.

In the case of net unrealised investment gains on these contracts, whose discretionary benefits principally reflect the actual performance of the investment portfolio, the corresponding increase in the liabilities is recognised in either the income statement or other comprehensive income, following the treatment of the unrealised gains on the relevant assets. In the case of net unrealised losses, a deferred participating asset is recognised only to the extent that its recoverability is highly probable. Movements in the liabilities arising from realised gains and losses on relevant assets are recognised in the income statement.

Present value of in-force long-term insurance business

HSBC recognises the value placed on insurance contracts and investment contracts with DPF, which are classified as long-term and in-force at the balance sheet date, as an asset. The asset represents the present value of the equity holders' interest in the issuing insurance companies' profits expected to emerge from these contracts written at the balance sheet date. The present value of in-force business ('PVIF') is determined by discounting those expected future profits using appropriate assumptions in assessing factors such as future mortality, lapse rates and levels of expenses, and a risk discount rate that reflects the risk premium attributable to the respective contracts. The PVIF incorporates allowances for both non-market risk and the value of financial options and guarantees. The PVIF asset is presented gross of attributable tax in the balance sheet and movements in the PVIF asset are included in 'Other operating income' on a gross of tax basis.

(k) Employee compensation and benefits

Share-based payments

HSBC enters into both equity-settled and cash-settled share-based payment arrangements with its employees as compensation for the provision of their services.

The vesting period for these schemes may commence before the legal grant date if the employees have started to render services in respect of the award before the legal grant date, where there is a shared understanding of the terms and conditions of the arrangement. Expenses are recognised when the employee starts to render service to which the award relates.

Cancellations result from the failure to meet a non-vesting condition during the vesting period, and are treated as an acceleration of vesting recognised immediately in the income statement. Failure to meet a vesting condition by the employee is not treated as a cancellation, and the amount of expense recognised for the award is adjusted to reflect the number of awards expected to vest.

Post-employment benefit plans

HSBC operates a number of pension schemes including defined benefit, defined contribution and post-employment benefit schemes.

Payments to defined contribution schemes are charged as an expense as the employees render service.

Defined benefit pension obligations are calculated using the projected unit credit method. The net charge to the income statement mainly comprises the service cost and the net interest on the net defined benefit asset or liability, and is presented in operating expenses.

Remeasurements of the net defined benefit asset or liability, which comprise actuarial gains and losses, return on plan assets excluding interest and the effect of the asset ceiling (if any, excluding interest), are recognised immediately in other comprehensive income. The net defined benefit asset or liability represents the present value of defined benefit obligations reduced by the fair value of plan assets, after applying the asset ceiling test, where the net defined benefit surplus is limited to the present value of available refunds and reductions in future contributions to the plan.

The cost of obligations arising from other post-employment plans are accounted for on the same basis as defined benefit pension plans.

(l) Tax

Income tax comprises current tax and deferred tax. Income tax is recognised in the income statement except to the extent that it relates to items recognised in other comprehensive income or directly in equity, in which case the tax is recognised in the same statement as the related item appears.

Current tax is the tax expected to be payable on the taxable profit for the year and on any adjustment to tax payable in respect of previous years. HSBC provides for potential current tax liabilities that may arise on the basis of the amounts expected to be paid to the tax authorities.

Deferred tax is recognised on temporary differences between the carrying amounts of assets and liabilities in the balance sheet, and the amounts attributed to such assets and liabilities for tax purposes. Deferred tax is calculated using the tax rates expected to apply in the periods in which the assets will be realised or the liabilities settled.

Current and deferred tax are calculated based on tax rates and laws enacted, or substantively enacted, by the balance sheet date.

Critical accounting estimates and judgements

The recognition of a deferred tax asset relies on an assessment of the probability and sufficiency of future taxable profits, future reversals of existing taxable temporary differences and ongoing tax planning strategies. In the absence of a history of taxable profits, the most significant judgements relate to expected future profitability and to the applicability of tax planning strategies, including corporate reorganisations.

(m) Provisions, contingent liabilities and guarantees

Provisions

Provisions are recognised when it is probable that an outflow of economic benefits will be required to settle a present legal or constructive obligation that has arisen as a result of past events and for which a reliable estimate can be made.

Critical accounting estimates and judgements

Judgement is involved in determining whether a present obligation exists and in estimating the probability, timing and amount of any outflows. Professional expert advice is taken on the assessment of litigation, property (including onerous contracts) and similar obligations. Provisions for legal proceedings and regulatory matters typically require a higher degree of judgement than other types of provisions. When matters are at an early stage, accounting judgements can be difficult because of the high degree of uncertainty associated with determining whether a present obligation exists, and estimating the probability and amount of any outflows that may arise. As matters progress, management and legal advisers evaluate on an ongoing basis whether provisions should be recognised, revising previous judgements and estimates as appropriate. At more advanced stages, it is typically easier to make judgements and estimates around a better defined set of possible outcomes. However, the amount provisioned can remain very sensitive to the assumptions used. There could be a wide range of possible outcomes for any pending legal proceedings, investigations or inquiries. As a result, it is often not practicable to quantify a range of possible outcomes for individual matters. It is also not practicable to meaningfully quantify ranges of potential outcomes in aggregate for these types of provisions because of the diverse nature and circumstances of such matters and the wide range of uncertainties involved. Provisions for customer remediation also require significant levels of estimation and judgement. The amounts of provisions recognised depend on a number of different assumptions, such as the volume of inbound complaints, the projected period of inbound complaint volumes, the decay rate of complaint volumes, the population identified as systemically mis-sold and the number of policies per customer complaint.

Contingent liabilities, contractual commitments and guarantees

Contingent liabilities

Contingent liabilities, which include certain guarantees and letters of credit pledged as collateral security, and contingent liabilities related to legal proceedings or regulatory matters, are not recognised in the financial statements but are disclosed unless the probability of settlement is remote.

Financial guarantee contracts

Liabilities under financial guarantee contracts that are not classified as insurance contracts are recorded initially at their fair value, which is generally the fee received or present value of the fee receivable.

HSBC Holdings has issued financial guarantees and similar contracts to other Group entities. HSBC elects to account for certain guarantees as insurance contracts in HSBC Holdings' financial statements, in which case they are measured and recognised as insurance liabilities. This election is made on a contract-by-contract basis, and is irrevocable.

(n) Accounting policies applied to financial instruments prior to 1 January 2018

Financial instruments measured at amortised cost

Loans and advances to banks and customers, held-to-maturity investments and most financial liabilities are measured at amortised cost. The carrying value of these financial assets at initial recognition includes any directly attributable transactions costs. If the initial fair value is lower than the cash amount advanced, such as in the case of some leveraged finance and syndicated lending activities, the difference is deferred and recognised over the life of the loan (as described in sub-section (c) above) through the recognition of interest income, unless the loan becomes impaired.

HSBC may commit to underwriting loans on fixed contractual terms for specified periods of time. When the loan arising from the lending commitment is expected to be held for trading, the commitment to lend is recorded as a derivative. When HSBC intends to hold the loan, a provision on the loan commitment is only recorded where it is probable that HSBC will incur a loss.

Impairment of loans and advances

Losses for impaired loans are recognised when there is objective evidence that impairment of a loan or portfolio of loans has occurred. Losses that may arise from future events are not recognised.

Individually assessed loans and advances

The factors considered in determining whether a loan is individually significant for the purposes of assessing impairment include the size of the loan, the number of loans in the portfolio, the importance of the individual loan relationship and how this is managed. Loans that are determined to be individually significant will be individually assessed for impairment, except when volumes of defaults and losses are sufficient to justify treatment under a collective methodology.

Loans considered as individually significant are typically to corporate and commercial customers, are for larger amounts and are managed on an individual basis. For these loans, HSBC considers on a case-by-case basis at each balance sheet date whether there is any objective evidence that a loan is impaired.

The determination of the realisable value of security is based on the most recently updated market value at the time the impairment assessment is performed. The value is not adjusted for expected future changes in market prices, although adjustments are made to reflect local conditions such as forced sale discounts.

Impairment losses are calculated by discounting the expected future cash flows of a loan, which include expected future receipts of contractual interest, at the loan's original effective interest rate or an approximation thereof, and comparing the resultant present value with the loan's current carrying amount.

Collectively assessed loans and advances

Impairment is assessed collectively to cover losses that have been incurred but have not yet been identified on loans subject to individual assessment or for homogeneous groups of loans that are not considered individually significant, which are generally retail lending portfolios.

Incurred but not yet identified impairment

Individually assessed loans for which no evidence of impairment has been specifically identified on an individual basis are grouped together according to their credit risk characteristics for a collective impairment assessment. This assessment captures impairment losses that HSBC has incurred as a result of events occurring before the balance sheet date that HSBC is not able to identify on an individual loan basis, and that can be reliably estimated. When information becomes available that identifies losses on individual loans within a group, those loans are removed from the group and assessed individually.

Homogeneous groups of loans and advances

Statistical methods are used to determine collective impairment losses for homogeneous groups of loans not considered individually significant. The methods used to calculate collective allowances are set out below:

- When appropriate empirical information is available, HSBC utilises roll-rate methodology, which employs statistical analyses of historical data and experience of delinquency and default to reliably estimate the amount of the loans that will eventually be written off as a result of events occurring before the balance sheet date. Individual loans are grouped using ranges of past due days, and statistical estimates are made of the likelihood that loans in each range will progress through the various stages of delinquency and become irrecoverable. Additionally, individual loans are segmented based on their credit characteristics, such as industry sector, loan grade or product. In applying this methodology, adjustments are made to estimate the periods of time between a loss event occurring, for example because of a missed payment, and its confirmation through write-off (known as the loss identification period). Current economic conditions are also evaluated when calculating the appropriate level of allowance required to cover inherent loss. In certain highly developed markets, models also take into account behavioural and account management trends as revealed in, for example bankruptcy and rescheduling statistics.
- When the portfolio size is small or when information is insufficient or not reliable enough to adopt a roll-rate methodology, HSBC adopts a basic formulaic approach based on historical loss rate experience, or a discounted cash flow model. Where a basic formulaic approach is undertaken, the period between a loss event occurring and its identification is estimated by local management, and is typically between six and 12 months.

Write-off of loans and advances

Loans and the related impairment allowance accounts are normally written off, either partially or in full, when there is no realistic prospect of recovery. Where loans are secured, this is generally after receipt of any proceeds from the realisation of security. In circumstances where the net realisable value of any collateral has been determined and there is no reasonable expectation of further recovery, write-off may be earlier.

Reversals of impairment

If the amount of an impairment loss decreases in a subsequent period, and the decrease can be related objectively to an event occurring after the impairment was recognised, the excess is written back by reducing the loan impairment allowance account accordingly. The write-back is recognised in the income statement.

Assets acquired in exchange for loans

When non-financial assets acquired in exchange for loans as part of an orderly realisation are held for sale, these assets are recorded as 'Assets held for sale'.

Renegotiated loans

Loans subject to collective impairment assessment whose terms have been renegotiated are no longer considered past due, but are treated as up-to-date loans for measurement purposes once a minimum number of required payments has been received. Where collectively assessed loan portfolios include significant levels of renegotiated loans, these loans are segregated from other parts of the loan portfolio for the purposes of collective impairment assessment to reflect their risk profile. Loans subject to individual impairment assessment, whose terms have been renegotiated, are subject to ongoing review to determine whether they remain impaired. The carrying amounts of loans that have been classified as renegotiated retain this classification until maturity or derecognition.

A loan that is renegotiated is derecognised if the existing agreement is cancelled and a new agreement made on substantially different terms or if the terms of an existing agreement are modified such that the renegotiated loan is substantially a different financial instrument. Any new loans that arise following derecognition events will continue to be disclosed as renegotiated loans and are assessed for impairment as above.

Non-trading reverse repurchase, repurchase and similar agreements

When debt securities are sold subject to a commitment to repurchase them at a predetermined price ('repos'), they remain on the balance sheet and a liability is recorded in respect of the consideration received. Securities purchased under commitments to resell ('reverse repos') are not recognised on the balance sheet and an asset is recorded in respect of the initial consideration paid. Non-trading repos and reverse repos are measured at amortised cost. The difference between the sale and repurchase price, or between the purchase and resale price is treated as interest and recognised in net interest income over the life of the agreement.

Contracts that are economically equivalent to reverse repurchase or repurchase agreements (such as sales or purchases of debt securities entered into together with total return swaps with the same counterparty) are accounted for similarly to, and presented together with, reverse repurchase or repurchase agreements.

Financial instruments measured at fair value

Available-for-sale financial assets

Available-for-sale financial assets are recognised on the trade date when HSBC enters into contractual arrangements to purchase them, and are normally derecognised when they are either sold or redeemed. They are subsequently remeasured at fair value, and changes therein are recognised in other comprehensive income until the assets are either sold or become impaired. Upon disposal, the cumulative gains or losses in other comprehensive income are recognised in the income statement as 'Gains less losses from financial investments'.

Impairment of available-for-sale financial assets

Available-for-sale financial assets are assessed at each balance sheet date for objective evidence of impairment. Impairment losses are recognised in the income statement within 'Loan impairment charges and other credit risk provisions' for debt instruments and within 'Gains less losses from financial investments' for equities.

Available-for-sale debt securities

In assessing objective evidence of impairment at the reporting date, HSBC considers all available evidence, including observable data or information about events specifically relating to the securities which may result in a shortfall in the recovery of future cash flows. A subsequent decline in the fair value of the instrument is recognised in the income statement when there is objective evidence of impairment as a result of decreases in the estimated future cash flows. Where there is no further objective evidence of impairment, the decline in the fair value of the financial asset is recognised in other comprehensive income. If the fair value of a debt security increases in a subsequent period, and the increase can be objectively related to an event occurring after the impairment loss was recognised in the income statement, or the instrument is no longer impaired, the impairment loss is reversed through the income statement.

Available-for-sale equity securities

A significant or prolonged decline in the fair value of the equity below its cost is objective evidence of impairment. In assessing whether it is significant, the decline in fair value is evaluated against the original cost of the asset at initial recognition. In assessing whether it is prolonged, the decline is evaluated against the continuous period in which the fair value of the asset has been below its original cost at initial recognition.

All subsequent increases in the fair value of the instrument are treated as a revaluation and are recognised in other comprehensive income. Subsequent decreases in the fair value of the available-for-sale equity security are recognised in the income statement to the extent that further cumulative impairment losses have been incurred. Impairment losses recognised on the equity security are not reversed through the income statement.

Financial instruments designated at fair value

Financial instruments, other than those held for trading, are classified in this category if they meet one or more of the criteria set out below, and are so designated irrevocably at inception:

- the use of the designation removes or significantly reduces an accounting mismatch;
- when a group of financial assets, liabilities or both is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy; and
- where financial instruments contain one or more non-closely related embedded derivatives.

Designated financial assets are recognised when HSBC enters into contracts with counterparties, which is generally on trade date, and are normally derecognised when the rights to the cash flows expire or are transferred. Designated financial liabilities are recognised when HSBC enters into contracts with counterparties, which is generally on settlement date, and are normally derecognised when extinguished. Subsequent changes in fair values are recognised in the income statement in 'Net income/(expense) from financial instruments designated at fair value'. Under this criterion, the main classes of financial instruments designated by HSBC are:

Long-term debt issues

The interest and/or foreign exchange exposure on certain fixed rate debt securities issued has been matched with the interest and/or foreign exchange exposure on certain swaps as part of a documented risk management strategy.

Financial assets and financial liabilities under unit-linked and non-linked investment contracts

A contract under which HSBC does not accept significant insurance risk from another party is not classified as an insurance contract, other than investment contracts with discretionary participation features ('DPF'), but is accounted for as a financial liability. See Note 1.2(j) for investment contracts with DPF and contracts where HSBC accepts significant insurance risk. Customer liabilities under linked and certain non-linked investment contracts issued by insurance subsidiaries and the corresponding financial assets are designated at fair value. Liabilities are at least equivalent to the surrender or transfer value, which is calculated by reference to the value of the relevant underlying funds or indices. Premiums receivable and amounts withdrawn are accounted for as increases or decreases in the liability recorded in respect of investment contracts. The incremental costs directly related to the acquisition of new investment contracts or renewing existing investment contracts are deferred and amortised over the period during which the investment management services are provided.

2 Net fee income

Net fee income by global business

	2018						2017	2016
	Retail Banking and Wealth Management	**Commercial Banking**	**Global Banking and Markets**	**Global Private Banking**	**Corporate Centre**	**Total**	Total	Total
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	$m	$m
Funds under management	**1,383**	**134**	**421**	**284**	**(1)**	**2,221**	2,188	2,076
Account services	**991**	**748**	**332**	**106**	**–**	**2,177**	2,244	2,417
Cards	**1,575**	**370**	**16**	**–**	**(5)**	**1,956**	1,994	1,970
Credit facilities	**71**	**824**	**813**	**16**	**(1)**	**1,723**	1,718	1,795
Broking income	**494**	**44**	**533**	**139**	**–**	**1,210**	1,191	1,060
Unit trusts	**937**	**25**	**3**	**73**	**–**	**1,038**	1,010	863
Remittances	**96**	**357**	**320**	**5**	**–**	**778**	759	766
Global custody	**100**	**18**	**584**	**35**	**(1)**	**736**	692	662
Underwriting	**1**	**10**	**708**	**4**	**–**	**723**	829	705
Imports/exports	**3**	**532**	**176**	**2**	**(4)**	**709**	736	820
Insurance agency commission	**354**	**23**	**1**	**27**	**(1)**	**404**	410	419
Other	**1,110**	**858**	**2,362**	**186**	**(2,147)**	**2,369**	2,082	2,116
Fee income	**7,115**	**3,943**	**6,269**	**877**	**(2,160)**	**16,044**	15,853	15,669
Less: fee expense	**(1,917)**	**(388)**	**(3,040)**	**(135)**	**2,056**	**(3,424)**	(3,042)	(2,892)
Net Fee income	**5,198**	**3,555**	**3,229**	**742**	**(104)**	**12,620**	12,811	12,777

Net Fee income includes $7,522m of fees earned on financial assets that are not at fair value through profit or loss (other than amounts included in determining the effective interest rate) (2017: $7,577m; 2016: $7,732m), $1,682m of fees payable on financial liabilities that are not at fair value through profit of loss (other than amounts included in determining the effective interest rate) (2017: $1,475m; 2016: $1,214m), $3,165m of fees earned on trust and other fiduciary activities (2017: $3,088m; 2016: $2,926m), and $175m of fees payable relating to trust and other fiduciary activities (2017: $134m; 2016: $129m). Comparatives for fees earned on trust and other fiduciary activities have been restated to align with current year treatment.

3 Net income/(expense) from financial instruments measured at fair value through profit or loss

	Footnotes	2018 $m	2017 $m	2016 $m
Net income/(expense) arising on:				
Net trading activities	1	**6,982**	8,236	7,473
Other instruments managed on a fair value basis	1	**2,549**	190	48
Net income from financial instruments held for trading or managed on a fair value basis	2	**9,531**	8,426	7,521
Financial assets held to meet liabilities under insurance and investment contracts		**(1,585)**	3,211	1,480
Liabilities to customers under investment contracts		**97**	(375)	(218)
Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss		**(1,488)**	2,836	1,262
Changes in own credit spread on long-term debt	3	**—**	—	(1,793)
Derivatives managed in conjunction with HSBC's issued debt securities		**(626)**	(343)	(1,604)
Other changes in fair value		**529**	498	1,400
Changes in fair value of long-term debt and related derivatives	2	**(97)**	155	(1,997)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		**695**	N/A	N/A
Year ended 31 Dec		**8,641**	11,417	6,786

1 At 1 January 2018 we changed our accounting policy for financial liabilities that contain both deposit and derivative components. As a result, net income from these instruments is reported in 'Other instruments managed on a fair value basis' rather than 'Trading activities'. Comparative periods have not been re-presented. Refer to Note 1 'Basis of preparation and accounting policies' for further details.

2 Prior to 2018, foreign exchange exposure on some financial instruments designated at fair value was presented in the same line in the income statement as the underlying fair value movement on these instruments. In 2018, we grouped the presentation of the entire effect of foreign exchange exposure in profit or loss and presented it within 'Net trading activities' in 'Net income from financial instruments held for trading or managed on a fair value basis'. Comparative data has been re-presented. There is no net impact on Total operating income and the impact on 'Changes in fair value of long-term debt and related derivatives' is $(517)m in 2017 and $1,978m in 2016.

3 From 1 January 2017, HSBC Holdings plc adopted, in its consolidated financial statements, the requirements of IFRS 9 'Financial Instruments' relating to the presentation of gains and losses on financial liabilities designated at fair value. As a result, changes in fair value attributable to changes in own credit risk are presented in other comprehensive income with the remaining effect presented in profit or loss.

HSBC Holdings

	2018 $m	2017 $m	2016 $m
Net income/(expense) arising on:			
- trading activities	**(176)**	(392)	119
- other instruments managed at on a fair value basis	**421**	211	—
Net income from financial instruments held for trading or managed on a fair value basis	**245**	(181)	119
– derivatives managed in conjunction with HSBC Holdings issued debt securities	**(337)**	292	(642)
– other changes in fair value	**260**	(189)	593
Changes in fair value of long-term debt and related derivatives	**(77)**	103	(49)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	**43**	—	—
Year ended 31 Dec	**211**	(78)	70

4 Insurance business

Net insurance premium income

	Non-linked insurance $m	Linked life insurance $m	Investment contracts with DPF[1] $m	Total $m
Gross insurance premium income	**8,616**	**422**	**2,300**	**11,338**
Reinsurers' share of gross insurance premium income	**(672)**	**(7)**	**—**	**(679)**
Year ended 31 Dec 2018	**7,944**	**415**	**2,300**	**10,659**
Gross insurance premium income	8,424	351	2,027	10,802
Reinsurers' share of gross insurance premium income	(1,016)	(7)	—	(1,023)
Year ended 31 Dec 2017	7,408	344	2,027	9,779
Gross insurance premium income	8,036	675	1,877	10,588
Reinsurers' share of gross insurance premium income	(629)	(8)	—	(637)
Year ended 31 Dec 2016	7,407	667	1,877	9,951

1 Discretionary participation features.

Net insurance claims and benefits paid and movement in liabilities to policyholders

	Non-linked insurance	Linked life insurance	Investment contracts with DPF[1]	Total
	$m	$m	$m	$m
Gross claims and benefits paid and movement in liabilities	**8,943**	**(446)**	**1,724**	**10,221**
– claims, benefits and surrenders paid	**3,852**	**1,088**	**1,869**	**6,809**
– movement in liabilities	**5,091**	**(1,534)**	**(145)**	**3,412**
Reinsurers' share of claims and benefits paid and movement in liabilities	**(605)**	**191**	**—**	**(414)**
– claims, benefits and surrenders paid	**(311)**	**(181)**	**—**	**(492)**
– movement in liabilities	**(294)**	**372**	**—**	**78**
Year ended 31 Dec 2018	**8,338**	**(255)**	**1,724**	**9,807**
Gross claims and benefits paid and movement in liabilities	8,894	1,413	2,901	13,208
– claims, benefits and surrenders paid	2,883	1,044	2,002	5,929
– movement in liabilities	6,011	369	899	7,279
Reinsurers' share of claims and benefits paid and movement in liabilities	(942)	65	—	(877)
– claims, benefits and surrenders paid	(297)	(223)	—	(520)
– movement in liabilities	(645)	288	—	(357)
Year ended 31 Dec 2017	7,952	1,478	2,901	12,331
Gross claims and benefits paid and movement in liabilities	8,778	1,321	2,409	12,508
– claims, benefits and surrenders paid	2,828	749	2,017	5,594
– movement in liabilities	5,950	572	392	6,914
Reinsurers' share of claims and benefits paid and movement in liabilities	(560)	(78)	—	(638)
– claims, benefits and surrenders paid	(112)	(14)	—	(126)
– movement in liabilities	(448)	(64)	—	(512)
Year ended 31 Dec 2016	8,218	1,243	2,409	11,870

1 *Discretionary participation features.*

Liabilities under insurance contracts

	Footnotes	Non-linked insurance	Linked life insurance	Investment contracts with DPF[1]	Total
		$m	$m	$m	$m
Gross liabilities under insurance contracts at 1 Jan 2018		**52,112**	**7,548**	**26,007**	**85,667**
Impact on transition to IFRS 9		**(69)**	**—**	**—**	**(69)**
Claims and benefits paid		**(3,852)**	**(1,088)**	**(1,869)**	**(6,809)**
Increase in liabilities to policyholders		**8,943**	**(446)**	**1,724**	**10,221**
Exchange differences and other movements	2	**149**	**(225)**	**(1,604)**	**(1,680)**
Gross liabilities under insurance contracts at 31 Dec 2018		**57,283**	**5,789**	**24,258**	**87,330**
Reinsurers' share of liabilities under insurance contracts		**(2,438)**	**(68)**	**—**	**(2,506)**
Net liabilities under insurance contracts at 31 Dec 2018		**54,845**	**5,721**	**24,258**	**84,824**
Gross liabilities under insurance contracts at 1 Jan 2017		46,043	6,949	22,281	75,273
Claims and benefits paid		(2,883)	(1,044)	(2,002)	(5,929)
Increase in liabilities to policyholders		8,894	1,413	2,901	13,208
Exchange differences and other movements	2	58	230	2,827	3,115
Gross liabilities under insurance contracts at 31 Dec 2017		52,112	7,548	26,007	85,667
Reinsurers' share of liabilities under insurance contracts		(2,203)	(268)	—	(2,471)
Net liabilities under insurance contracts at 31 Dec 2017		49,909	7,280	26,007	83,196

1 *Discretionary participation features.*
2 *'Exchange differences and other movements' includes movements in liabilities arising from net unrealised investment gains recognised in other comprehensive income.*

The key factors contributing to the movement in liabilities to policyholders included movements in the market value of assets supporting policyholder liabilities, death claims, surrenders, lapses, liabilities to policyholders created at the initial inception of the policies, the declaration of bonuses and other amounts attributable to policyholders.

5 Operating profit

Operating profit is stated after the following items:

	Footnotes	2018 $m	2017 $m	2016 $m
Income				
Interest recognised on impaired financial assets		**263**	261	574
Interest recognised on financial assets measured at amortised cost	1	**42,130**	N/A	N/A
Interest recognised on financial assets measured at fair value through other comprehensive income	1	**7,020**	N/A	N/A
Expense				
Interest on financial instruments, excluding interest on financial liabilities held for trading or designated or otherwise mandatorily measured at fair value		**(16,972)**	(10,912)	(11,858)
Payments under lease and sublease agreements		**(879)**	(936)	(969)
– minimum lease payments		**(862)**	(911)	(945)
– contingent rents and sublease payments		**(17)**	(25)	(24)
UK bank levy		**(964)**	(916)	(922)
Restructuring provisions		**(73)**	(204)	(415)
Gains/(losses)				
Impairment of available-for-sale equity securities		**N/A**	(98)	(36)
Gains/(losses) recognised on assets held for sale		**27**	195	(206)
Loss on net monetary position		**(136)**	—	—
Gain/(loss) on disposal of operations in Brazil		**(15)**	19	(1,743)
Change in expected credit loss charges and other credit impairment charges		**(1,767)**	N/A	N/A
– loans and advances to banks and customers		**(1,896)**	N/A	N/A
– loans commitments and guarantees		**3**	N/A	N/A
– other financial assets		**21**	N/A	N/A
– debt instruments measured at fair value though other comprehensive income		**105**	N/A	N/A
Loan impairment charges and other credit risk provisions		**N/A**	(1,769)	(3,400)
– net impairment charge on loans and advances		**N/A**	(1,992)	(3,350)
– release of impairment on available-for-sale debt securities		**N/A**	190	63
– other credit risk provisions		**N/A**	33	(113)

External net operating income is attributed to countries and territories on the basis of the location of the branch responsible for reporting the results or advancing the funds:

	Footnotes	2018 $m	2017 $m	2016 $m
External net operating income by country/territory	2	**53,780**	51,445	47,966
– UK		**10,340**	11,057	9,495
– Hong Kong		**17,162**	14,992	12,864
– US		**4,379**	4,573	5,094
– France		**1,898**	2,203	2,571
– other countries		**20,001**	18,620	17,942

1 Interest revenue calculated using the effective interest method comprises interest recognised on financial assets measured at either amortised cost or fair value through other comprehensive income.

2 Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.

6 Employee compensation and benefits

	2018 $m	2017 $m	2016 $m
Wages and salaries	**14,751**	15,227	15,735
Social security costs	**1,490**	1,419	1,312
Post-employment benefits	**1,132**	669	1,042
Year ended 31 Dec	**17,373**	17,315	18,089

Average number of persons employed by HSBC during the year by global business

	Footnotes	2018	2017	2016
Retail Banking and Wealth Management		**135,239**	134,021	137,234
Commercial Banking		**48,757**	46,716	45,912
Global Banking and Markets		**48,990**	49,100	47,623
Global Private Banking		**8,206**	7,817	8,322
Corporate Centre	1	**1,658**	7,134	7,842
Year ended 31 Dec		**242,850**	244,788	246,933

1 *The reduction in the average number of people employed was due to the completion of the cost to achieve transformation programme at the end of 2017.*

Average number of persons employed by HSBC during the year by geographical region

	2018	2017	2016
Europe	**67,007**	70,301	71,196
Asia	**127,992**	125,004	122,282
Middle East and North Africa	**9,798**	10,408	12,021
North America	**17,350**	18,610	20,353
Latin America	**20,703**	20,465	21,081
Year ended 31 Dec	**242,850**	244,788	246,933

Reconciliation of total incentive awards granted to income statement charge

	2018	2017	2016
	$m	$m	$m
Total incentive awards approved for the current year	**3,473**	3,303	3,035
Less: deferred bonuses awarded, expected to be recognised in future periods	**(351)**	(337)	(323)
Total incentives awarded and recognised in the current year	**3,122**	2,966	2,712
Add: current year charges for deferred bonuses from previous years	**322**	336	371
Other	**(70)**	(78)	(128)
Income statement charge for incentive awards	**3,374**	3,224	2,955

Year in which income statement is expected to reflect deferred bonuses

	Charge recognised			Expected charge	
	2018	2017	2016	2019	2020 and beyond
	$m	$m	$m	$m	$m
Variable compensation from 2018 bonus pool	**150**	—	—	149	202
Variable compensation from 2017 bonus pool	**180**	162	—	60	29
Variable compensation from 2016 bonus pool and earlier	**142**	336	320	111	85
Total	**472**	498	320	320	316
Cash awards	**169**	184	114	102	113
Equity awards	**303**	314	206	218	203

Share-based payments

'Wages and salaries' includes the effect of share-based payments arrangements, of which $450m were equity settled (2017: $500m; 2016: $534m), as follows:

	2018	2017	2016
	$m	$m	$m
Restricted share awards	**499**	520	591
Savings-related and other share award option plans	**23**	26	33
Year ended 31 Dec	**522**	546	624

HSBC share awards

Award	Policy
Deferred share awards (including annual incentive awards, LTI awards delivered in shares) and Group Performance Share Plans ('GPSP')	• An assessment of performance over the relevant period ending on 31 December is used to determine the amount of the award to be granted. • Deferred awards generally require employees to remain in employment over the vesting period and are not subject to performance conditions after the grant date. • Deferred share awards generally vest over a period of three, five or seven years. • Vested shares may be subject to a retention requirement post-vesting. GPSP awards are retained until cessation of employment. • Awards granted from 2010 onwards are subject to a malus provision prior to vesting. • Awards granted to Material Risk Takers from 2015 onwards are subject to clawback post-vesting.
International Employee Share Purchase Plan ('ShareMatch')	• The plan was first introduced in Hong Kong in 2013 and now includes employees based in 27 jurisdictions. • Shares are purchased in the market each quarter up to a maximum value of £750, or the equivalent in local currency. • Matching awards are added at a ratio of one free share for every three purchased. • Matching awards vest subject to continued employment and the retention of the purchased shares for a maximum period of two years and nine months.

Movement on HSBC share awards

	2018 Number (000s)	2017 Number (000s)
Restricted share awards outstanding at 1 Jan	**104,525**	123,166
Additions during the year	**61,569**	62,044
Released in the year	**(67,899)**	(76,051)
Forfeited in the year	**(3,298)**	(4,634)
Restricted share awards outstanding at 31 Dec	**94,897**	104,525
Weighted average fair value of awards granted ($)	**7.66**	7.09

HSBC share option plans

Main plans	Policy
Savings-related share option plans ('Sharesave')	• Two plans: the UK Plan and the International Plan. The last grant of options under the International Plan was in 2012. • From 2014, eligible employees could save up to £500 per month with the option to use the savings to acquire shares. • Exercisable within six months following either the third or fifth anniversary of the commencement of a three-year or five-year contract, respectively. • The exercise price is set at a 20% (2017: 20%) discount to the market value immediately preceding the date of invitation.

Calculation of fair values

The fair values of share options are calculated using a Black-Scholes model. The fair value of a share award is based on the share price at the date of the grant.

Movement on HSBC share option plans

	Footnotes	Savings-related share option plans Number (000s)	WAEP[1] £
Outstanding at 1 Jan 2018		**64,670**	**4.49**
Granted during the year	2	**20,501**	**5.45**
Exercised during the year	3	**(23,260)**	**4.14**
Expired during the year		**(3,148)**	**5.20**
Forfeited during the year		**(1,698)**	**4.53**
Outstanding at 31 Dec 2018		**57,065**	**4.92**
Of which exercisable		**3,513**	**4.09**
Weighted average remaining contractual life (years)		**2.59**	
Outstanding at 1 Jan 2017		70,027	4.30
Granted during the year	2	10,447	5.96
Exercised during the year	3	(9,503)	4.83
Expired during the year		(3,902)	4.45
Forfeited during the year		(2,399)	4.27
Outstanding at 31 Dec 2017		64,670	4.49
Of which exercisable		1,129	5.00
Weighted average remaining contractual life (years)		2.42	

1 *Weighted average exercise price.*
2 *The weighted average fair value of options granted during the year was $1.40 (2017: $1.29).*
3 *The weighted average share price at the date the options were exercised was $8.28 (2017: $9.93).*

Post-employment benefit plans

The Group operates pension plans throughout the world for its employees. 'Pension risk management' on page 126 contains details of the policies and practices associated with these pension plans. Some are defined benefit plans, of which the largest is the HSBC Bank (UK) Pension Scheme ('the principal plan').

HSBC's balance sheet includes the net surplus or deficit, being the difference between the fair value of plan assets and the discounted value of scheme liabilities at the balance sheet date for each plan. Surpluses are only recognised to the extent that they are recoverable through reduced contributions in the future or through potential future refunds from the schemes. In assessing whether a surplus is recoverable, HSBC has considered its current right to obtain a future refund or a reduction in future contributions.

The principal plan

The principal plan has a defined benefit section and a defined contribution section. The defined benefit section was closed to future benefit accrual in 2015, with defined benefits earned by employees at that date continuing to be linked to their salary while they remain employed by HSBC. The plan is overseen by an independent corporate trustee, who has a fiduciary responsibility for the operation of the plan. Its assets are held separately from the assets of the Group.

The investment strategy of the plan is to hold the majority of assets in bonds, with the remainder in a diverse range of investments. It also includes some interest rate swaps to reduce interest rate risk and inflation swaps to reduce inflation risk.

The latest funding valuation of the plan at 31 December 2016 was carried out by Colin G Singer, of Willis Towers Watson Limited, who is a Fellow of the UK Institute and Faculty of Actuaries, using the projected unit credit method. At that date, the market value of the plan's combined assets was £30.2bn ($37.2bn), and this exceeded the value placed on its liabilities on an ongoing basis by £1.3bn ($1.6bn), giving a funding level of 104%. These figures include all sections of the plan and defined contribution assets amounting to £3.1bn ($3.8bn). The main differences between the assumptions used for assessing the defined benefit liabilities for this funding valuation and those used for IAS 19 are more prudent assumptions for discount rate, inflation rate and life expectancy.

Although the plan was in surplus at the valuation date, HSBC continues to make further contributions to the plan to support a lower-risk investment strategy over the longer term. The remaining contributions are £64m ($82m) in 2019, and £160m ($204m) in each of 2020 and 2021.

To meet the requirements of the Banking Reform Act, the main employer of the plan changed from HSBC Bank plc to HSBC UK Bank plc with effect from 1 July 2018, with additional support from HSBC Holdings plc. At the same time, non-ring-fenced entities including HSBC Bank plc exited the section of the plan for ring-fenced entities and joined a newly created section for the future defined benefit and defined contribution pension benefits of their employees. These changes have not materially affected the overall funding position of the plan.

The actuary also assessed the value of the liabilities if the plan were to be stopped and an insurance company asked to secure all future pension payments. This is generally larger than the amount needed on the ongoing basis described above because an insurance company would use more prudent assumptions and include an explicit allowance for the future administrative expenses of the plan. Under this approach, the amount of assets needed was estimated to be £38bn ($47bn) at 31 December 2016.

Guaranteed minimum pension ('GMP') equalisation

On 26 October 2018, the High Court of Justice of England and Wales issued a judgment in a claim between Lloyds Banking Group Pension Trustees Limited as claimant and Lloyds Bank plc and others as defendants regarding the rights of men and women to equal treatment in relation to their benefits from certain pension schemes.

The judgment concluded that the claimant is under a duty to amend the schemes in order to equalise benefits for men and women in relation to GMP benefits. The judgment also provided comments on the method to be adopted in order to equalise benefits, on the period during which a member can claim in respect of previously underpaid benefits, and on what should be done in relation to benefits that have been transferred into, and out of, the relevant schemes.

The issues determined by the judgment arise in relation to many other occupational pension schemes and consequently will result in an increase in the principal plan's liabilities. We have estimated the financial effect of equalising benefits in respect of GMPs, and any potential conversion of GMPs into non-GMP benefits, to be an approximate 0.8% increase in the plan's liabilities, or £177m ($226m) on the IAS19 basis as at 31 December 2018. This has been recognised as a past service cost in profit and loss. The estimate was performed based on Method C2, which compares the accumulated benefits, with interest, payable to a member on their 'own sex' and an 'opposite sex' basis and each year pays the amount necessary to ensure the higher of the two accumulated amounts has been paid.

Income statement charge

	2018	2017	2016
	$m	$m	$m
Defined benefit pension plans	355	100	218
Defined contribution pension plans	756	603	783
Pension plans	**1,111**	703	1,001
Defined benefit and contribution healthcare plans	21	(34)	41
Year ended 31 Dec	**1,132**	669	1,042

Net assets/(liabilities) recognised on the balance sheet in respect of defined benefit plans

	Fair value of plan assets	Present value of defined benefit obligations	Effect of limit on plan surpluses	Total
	$m	$m	$m	$m
Defined benefit pension plans	42,799	(36,583)	(35)	6,181
Defined benefit healthcare plans	110	(524)	–	(414)
At 31 Dec 2018	**42,909**	**(37,107)**	**(35)**	**5,767**
Total employee benefit liabilities (within 'Accruals, deferred income and other liabilities')				(2,167)
Total employee benefit assets (within 'Prepayments, accrued income and other assets')				**7,934**
Defined benefit pension plans	47,265	(40,089)	(37)	7,139
Defined benefit healthcare plans	124	(663)	–	(539)
At 31 Dec 2017	47,389	(40,752)	(37)	6,600
Total employee benefit liabilities (within 'Accruals, deferred income and other liabilities')				(2,152)
Total employee benefit assets (within 'Prepayments, accrued income and other assets')				8,752

HSBC Holdings

Employee compensation and benefit expense in respect of HSBC Holdings' employees in 2018 amounted to $37m (2017: $54m). The average number of persons employed during 2018 was 43 (2017: 55). Employees who are members of defined benefit pension plans are principally members of either the HSBC Bank (UK) Pension Scheme or the HSBC International Staff Retirement Benefits Scheme. HSBC Holdings pays contributions to such plans for its own employees in accordance with the schedules of contributions determined by the trustees of the plans and recognises these contributions as an expense as they fall due.

From 1 July 2016 employment costs of most employees are recognised by the ServCo group and the ServCo group started providing services to HSBC Holdings. HSBC Holdings recognised a management charge of $2,428m (2017: $2,240m) for these services, which is included under 'General and administrative expenses'.

Defined benefit pension plans

Net asset/(liability) under defined benefit pension plans

	Fair value of plan assets		Present value of defined benefit obligations		Effect of the asset ceiling		Net defined benefit asset/(liability)	
	Principal plan	Other plans	Principal plan	Other plans	Principal plan	Other plans	Principal plan	Other plans
	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018	**38,265**	**9,000**	**(30,126)**	**(9,963)**	**—**	**(37)**	**8,139**	**(1,000)**
Current service cost	**—**	**—**	**(66)**	**(157)**	**—**	**—**	**(66)**	**(157)**
Past service cost and gains/(losses) from settlements	**—**	**—**	**(280)**	**8**	**—**	**—**	**(280)**	**8**
Service cost	**—**	**—**	**(346)**	**(149)**	**—**	**—**	**(346)**	**(149)**
Net interest income/(cost) on the net defined benefit asset/(liability)	**970**	**220**	**(759)**	**(249)**	**—**	**(1)**	**211**	**(30)**
Remeasurement effects recognised in other comprehensive income	**(1,501)**	**(568)**	**1,180**	**413**	**—**	**—**	**(321)**	**(155)**
– return on plan assets (excluding interest income)	**(1,501)**	**(568)**	**—**	**—**	**—**	**—**	**(1,501)**	**(568)**
– actuarial gains/(losses)	**—**	**—**	**1,051**	**505**	**—**	**—**	**1,051**	**505**
– other changes	**—**	**—**	**129**	**(92)**	**—**	**—**	**129**	**(92)**
Exchange differences	**(2,038)**	**(151)**	**1,601**	**86**	**—**	**3**	**(437)**	**(62)**
Contributions by HSBC	**197**	**128**	**—**	**—**	**—**	**—**	**197**	**128**
– normal	**197**	**128**	**—**	**—**	**—**	**—**	**197**	**128**
– special	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Contributions by employees	**—**	**26**	**—**	**(26)**	**—**	**—**	**—**	**—**
Benefits paid	**(1,138)**	**(538)**	**1,138**	**544**	**—**	**—**	**—**	**6**
Administrative costs and taxes paid by plan	**(51)**	**(22)**	**51**	**22**	**—**	**—**	**—**	**—**
At 31 Dec 2018	**34,704**	**8,095**	**(27,261)**	**(9,322)**	**—**	**(35)**	**7,443**	**(1,262)**
Present value of defined benefit obligation relating to:								
– actives			**(5,337)**	**(4,443)**				
– deferreds			**(8,200)**	**(1,589)**				
– pensioners			**(13,724)**	**(3,290)**				
At 1 Jan 2017	33,442	8,955	(29,279)	(10,468)	—	(24)	4,163	(1,537)
Current service cost	—	—	(65)	(160)	—	—	(65)	(160)
Past service cost and gains/(losses) from settlements	—	(833)	(231)	1,051	—	—	(231)	218
Service cost	—	(833)	(296)	891	—	—	(296)	58
Net interest income/(cost) on the net defined benefit asset/(liability)	864	272	(750)	(300)	—	(1)	114	(29)
Remeasurement effects recognised in other comprehensive income	1,410	784	1,730	(486)	—	(9)	3,140	289
– return on plan assets (excluding interest income)	1,410	784	—	—	—	—	1,410	784
– actuarial gains/(losses)	—	—	954	(491)	—	(9)	954	(500)
– other changes	—	—	776	5	—	—	776	5
Exchange differences	3,292	239	(2,723)	(306)	—	(3)	569	(70)
Contributions by HSBC	449	236	—	—	—	—	449	236
– normal	58	215	—	—	—	—	58	215
– special	391	21	—	—	—	—	391	21
Contributions by employees	—	27	—	(27)	—	—	—	—
Benefits paid	(1,143)	(663)	1,143	716	—	—	—	53
Administrative costs and taxes paid by plan	(49)	(17)	49	17	—	—	—	—
At 31 Dec 2017	38,265	9,000	(30,126)	(9,963)	—	(37)	8,139	(1,000)
Present value of defined benefit obligation relating to:								
– actives			(5,837)	(5,084)				
– deferreds			(8,745)	(1,663)				
– pensioners			(15,544)	(3,216)				

HSBC expects to make $312m of contributions to defined benefit pension plans during 2019. Benefits expected to be paid from the plans to retirees over each of the next five years, and in aggregate for the five years thereafter, are as follows:

Benefits expected to be paid from plans

		2019	2020	2021	2022	2023	2024 - 2028
	Footnotes	$m	$m	$m	$m	$m	$m
The principal plan	*1*	820	856	911	981	1,004	5,248
Other plans	*1*	442	517	522	514	469	2,286

1 *The duration of the defined benefit obligation is 17.0 years for the principal plan under the disclosure assumptions adopted (2017: 17.4 years) and 13.3 years for all other plans combined (2017: 12.9 years).*

Fair value of plan assets by asset classes

	31 Dec 2018				31 Dec 2017			
	Value	Quoted market price in active market	No quoted market price in active market	Thereof HSBC[1]	Value	Quoted market price in active market	No quoted market price in active market	Thereof HSBC[1]
	$m	$m	$m	$m	$m	$m	$m	$m
The principal plan								
Fair value of plan assets	**34,704**	**31,300**	**3,404**	**1,034**	38,265	33,624	4,641	1,006
– equities	**3,675**	**3,675**	**—**	**—**	6,131	5,503	628	—
– bonds	**26,509**	**26,509**	**—**	**—**	26,591	26,591	—	—
– derivatives	**2,030**	**—**	**2,030**	**1,034**	2,398	—	2,398	1,006
– other	**2,490**	**1,116**	**1,374**	**—**	3,145	1,530	1,615	—
Other plans								
Fair value of plan assets	**8,095**	**6,795**	**1,300**	**182**	9,000	7,737	1,263	114
– equities	**1,663**	**742**	**921**	**2**	2,005	1,340	665	—
– bonds	**5,707**	**5,559**	**148**	**7**	5,871	5,714	157	7
– derivatives	**37**	**—**	**37**	**—**	—	39	(39)	—
– other	**688**	**494**	**194**	**173**	1,124	644	480	107

1 *The fair value of plan assets includes derivatives entered into with HSBC Bank plc as detailed in Note 36.*

Post-employment defined benefit plans' principal actuarial financial assumptions

HSBC determines the discount rates to be applied to its obligations in consultation with the plans' local actuaries, on the basis of current average yields of high-quality (AA-rated or equivalent) debt instruments with maturities consistent with those of the defined benefit obligations.

Key actuarial assumptions for the principal plan

	Discount rate	Inflation rate	Rate of increase for pensions	Rate of pay increase
	%	%	%	%
UK				
At 31 Dec 2018	**2.80**	**3.40**	**3.10**	**3.65**
At 31 Dec 2017	2.60	3.40	3.10	3.88
At 31 Dec 2016	2.50	3.50	3.20	4.00

Mortality tables and average life expectancy at age 65 for the principal plan

	Mortality table	Life expectancy at age 65 for a male member currently:		Life expectancy at age 65 for a female member currently:	
		Aged 65	Aged 45	Aged 65	Aged 45
UK					
At 31 Dec 2018	**SAPS S2[1]**	**21.6**	**22.9**	**24.1**	**25.6**
At 31 Dec 2017	SAPS S2[2]	22.2	23.6	24.4	25.9

1 *Self-administered pension scheme ('SAPS') S2 table (males: 'All pensioners' version; females: 'Normal pensions' version) with a multiplier of 1.05 for male and 1.01 for female pensioners. Improvements are projected in accordance with the continuous mortality investigation ('CMI') core projection model 2016 with a long-term rate of improvement of 1.25% per annum. Separate tables assuming lighter mortality have been applied to higher-paid pensioners.*
2 *Self-administered pension scheme ('SAPS') S2 table (males: 'All pensioners' version; females: 'Normal pensions' version) with a multiplier of 0.98 for both male and female pensioners. Improvements are projected in accordance with the continuous mortality investigation ('CMI') core projection model 2016 with a long-term rate of improvement of 1.25% per annum. Separate tables assuming lighter mortality have been applied to higher-paid pensioners.*

The effect of changes in key assumptions on the principal plan

	Impact on HSBC Bank (UK) Pension Scheme obligation			
	Financial impact of increase		Financial impact of decrease	
	2018	2017	**2018**	2017
	$m	$m	**$m**	$m
Discount rate – increase/decrease of 0.25%	**(1,097)**	(1,246)	**1,170**	1,333
Inflation rate – increase/decrease of 0.25%	**734**	850	**(724)**	(837)
Pension payments and deferred pensions – increase/decrease of 0.25%	**1,172**	1,077	**(1,105)**	(1,021)
Pay – increase/decrease of 0.25%	**55**	62	**(56)**	(61)
Change in mortality – increase of 1 year	**1,494**	1,332	**N/A**	N/A

Directors' emoluments

Details of Directors' emoluments, pensions and their interests are disclosed in the Directors' remuneration report on page 217.

7 Auditors' remuneration

	Footnotes	2018	2017	2016
		$m	$m	$m
Audit fees payable to PwC	1	**86.6**	84.8	65.7
Other audit fees payable		**0.9**	1.2	1.6
Year ended 31 Dec		**87.5**	86.0	67.3

Fees payable by HSBC to PwC[6]

	Footnotes	2018	2017	2016
		$m	$m	$m
Fees for HSBC Holdings' statutory audit	2	**16.4**	15.1	14.0
Fees for other services provided to HSBC		**103.1**	114.6	97.1
– audit of HSBC's subsidiaries	3	**70.2**	69.7	51.7
– audit-related assurance services	4	**11.4**	10.8	17.8
– other assurance services	5	**13.5**	25.2	14.9
– taxation compliance services		**1.4**	1.2	1.9
– taxation advisory services		**0.1**	—	0.4
– other non-audit services	5	**6.5**	7.7	10.4
Year ended 31 Dec		**119.5**	129.7	111.1

No fees were payable by HSBC to PwC as principal auditor for the following types of services: internal audit services and services related to litigation, recruitment and remuneration.

Fees payable by HSBC's associated pension schemes to PwC

	2018	2017	2016
	$000	$000	$000
Audit of HSBC's associated pension schemes	**172**	260	208
Audit-related assurance services	**—**	4	4
Year ended 31 Dec	**172**	264	212

1 *The 2016 audit fees payable amount includes $4.2m related to the prior year audit in respect of overruns.*
2 *Fees payable to PwC for the statutory audit of the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings. They include amounts payable for services relating to the consolidation returns of HSBC Holdings' subsidiaries, which are clearly identifiable as being in support of the Group audit opinion.*
3 *Fees payable for the statutory audit of the financial statements of HSBC's subsidiaries, including the 2017 and 2016 changes in scope and additional procedures performed due to the technology systems and data access controls matter as described on page 252.*
4 *Including services for assurance and other services that relate to statutory and regulatory filings, including comfort letters and interim reviews and work performed related to the implementation of IFRS 9.*
5 *Including other permitted services relating to advisory, corporate finance transactions, etc.*
6 *The 2017 and 2016 comparative data has been re-presented to align to the current year presentation of fees payable. The totals remain unchanged for both 2017 and 2016.*

No fees were payable by HSBC's associated pension schemes to PwC as principal auditor for the following types of services: internal audit services, other assurance services, services related to corporate finance transactions, valuation and actuarial services, litigation, recruitment and remuneration, and information technology.

In addition to the above, the estimated fees paid to PwC by third parties associated with HSBC amount to $14.0m (2017: $3.5m; 2016: $4.3m). In these cases, HSBC is connected with the contracting party and may therefore be involved in appointing PwC. These fees arise from services such as auditing mutual funds managed by HSBC and reviewing the financial position of corporate concerns that borrow from HSBC.

Fees payable for non-audit services for HSBC Holdings are not disclosed separately because such fees are disclosed on a consolidated basis for the HSBC Group.

8 Tax

Tax expense

	Footnotes	2018	2017	2016
		$m	$m	$m
Current tax	1	**4,195**	4,264	3,669
– for this year		**4,158**	4,115	3,525
– adjustments in respect of prior years		**37**	149	144
Deferred tax		**670**	1,024	(3)
– origination and reversal of temporary differences		**656**	(228)	(111)
– effect of changes in tax rates		**17**	1,337	(4)
– adjustments in respect of prior years		**(3)**	(85)	112
Year ended 31 Dec		**4,865**	5,288	3,666

1 *Current tax included Hong Kong profits tax of $1,532m (2017: $1,350m; 2016: $1,118m). The Hong Kong tax rate applying to the profits of subsidiaries assessable in Hong Kong was 16.5% (2017: 16.5%; 2016: 16.5%).*

Tax reconciliation

The tax charged to the income statement differs from the tax charge that would apply if all profits had been taxed at the UK corporation tax rate as follows:

	2018		2017		2016	
	$m	%	$m	%	$m	%
Profit before tax	**19,890**		17,167		7,112	
Tax expense						
Taxation at UK corporation tax rate of 19.00% (2017: 19.25%; 2016: 20.0%)	**3,779**	**19.00**	3,305	19.25	1,422	20.00
Impact of differently taxed overseas profits in overseas locations	**264**	**1.3**	407	2.3	43	0.6
Items increasing tax charge in 2018:						
– local taxes and overseas withholding taxes	**437**	**2.2**	618	3.6	434	6.1
– UK tax losses not recognised	**435**	**2.2**	70	0.4	305	4.3
– other permanent disallowables	**396**	**2.0**	400	2.3	438	6.2
– UK banking surcharge	**229**	**1.1**	136	0.8	199	2.8
– bank levy	**191**	**1.0**	180	1.0	170	2.4
– non-deductible regulatory settlements	**153**	**0.8**	(132)	(0.8)	20	0.3
– impacts of hyperinflation	**78**	**0.4**	–	–	–	–
– adjustments in respect of prior period liabilities	**34**	**0.2**	64	0.4	256	3.6
– non-UK tax losses not recognised	**32**	**0.2**	33	0.2	147	2.1
– change in tax rates	**17**	**0.1**	49	0.3	(4)	(0.1)
– non-deductible UK customer compensation	**16**	**0.1**	166	1.0	162	2.3
– deferred tax remeasurement due to US federal tax rate reduction	**–**	**–**	1,288	7.5	–	–
– non-deductible goodwill write-down	**–**	**–**	–	–	648	9.1
– non-deductible loss and taxes suffered on Brazil disposal	**–**	**–**	–	–	464	6.5
Items reducing tax charge in 2018:						
– non-taxable income and gains	**(691)**	**(3.5)**	(766)	(4.4)	(577)	(8.1)
– effect of profits in associates and joint ventures	**(492)**	**(2.5)**	(481)	(2.8)	(461)	(6.5)
– other items	**(13)**	**(0.1)**	–	–	–	–
– other deferred tax temporary differences previously not recognised	**–**	**–**	(49)	(0.3)	–	–
Year ended 31 Dec	**4,865**	**24.5**	5,288	30.8	3,666	51.6

The Group's profits are taxed at different rates depending on the country or territory in which the profits arise. The key applicable tax rates for 2018 include Hong Kong (16.5%), the US (21%) and the UK (19%). If the Group's profits were taxed at the statutory rates of the countries in which the profits arose, then the tax rate for the year would have been 20.30% (2017: 21.15%). The effective tax rate for the year was 24.5% (2017: 30.8%). The effective tax rate for 2018 was significantly lower than for 2017 as 2017 included a charge of $1.3bn relating to the remeasurement of US deferred tax balances to reflect the reduction in the US federal tax rate to 21% from 2018.

Accounting for taxes involves some estimation because the tax law is uncertain and its application requires a degree of judgement, which authorities may dispute. Liabilities are recognised based on best estimates of the probable outcome, taking into account external advice where appropriate. We do not expect significant liabilities to arise in excess of the amounts provided. HSBC only recognises current and deferred tax assets where recovery is probable.

Movement of deferred tax assets and liabilities

	Footnotes	Loan impairment provisions	Unused tax losses and tax credits	Derivatives, FVOD[1] and other investments	Insurance business	Expense provisions	Other	Total
		$m	$m	$m	$m	$m	$m	$m
Assets		**713**	**1,373**	**1,282**	**—**	**643**	**2,313**	**6,324**
Liabilities		**—**	**—**	**(93)**	**(1,182)**	**—**	**(2,355)**	**(3,630)**
At 1 Jan 2018		**713**	**1,373**	**1,189**	**(1,182)**	**643**	**(42)**	**2,694**
IFRS 9 transitional adjustment		**358**	**—**	**(411)**	**—**	**—**	**459**	**406**
Income statement		**(72)**	**(203)**	**51**	**(104)**	**19**	**(361)**	**(670)**
Other comprehensive income		**—**	**—**	**(722)**	**—**	**—**	**190**	**(532)**
Equity		**—**	**—**	**—**	**—**	**—**	**(23)**	**(23)**
Foreign exchange and other adjustments		**(17)**	**(14)**	**9**	**15**	**(33)**	**(4)**	**(44)**
At 31 Dec 2018		**982**	**1,156**	**116**	**(1,271)**	**629**	**219**	**1,831**
Assets	2	**982**	**1,156**	**492**	**—**	**629**	**1,889**	**5,148**
Liabilities	2	**—**	**—**	**(376)**	**(1,271)**	**—**	**(1,670)**	**(3,317)**
Assets		950	2,212	1,441	—	893	1,857	7,353
Liabilities		—	—	(274)	(1,170)	—	(1,369)	(2,813)
At 1 Jan 2017		950	2,212	1,167	(1,170)	893	488	4,540
Income statement		(235)	(873)	(397)	12	(269)	738	(1,024)
Other comprehensive income		3	(6)	368	—	—	(1,255)	(890)
Equity		—	—	—	—	—	29	29
Foreign exchange and other adjustments		(5)	40	51	(24)	19	(42)	39
At 31 Dec 2017		713	1,373	1,189	(1,182)	643	(42)	2,694
Assets	2	713	1,373	1,282	—	643	2,313	6,324
Liabilities	2	—	—	(93)	(1,182)	—	(2,355)	(3,630)

1 *Fair value of own debt.*
2 *After netting off balances within countries, the balances as disclosed in the accounts are as follows: deferred tax assets $4,450m (2017: $4,676m) and deferred tax liabilities $2,619m (2017: $1,982m).*

In applying judgement in recognising deferred tax assets, management has critically assessed all available information, including future business profit projections and the track record of meeting forecasts.

The net deferred tax asset of $1.8bn (2017: $2.7bn) includes $3.0bn (2017: $3.2bn) of deferred tax assets relating to the US, of which $1bn relates to US tax losses that expire in 15–19 years. Management expects the US deferred tax asset to be substantially recovered in six to seven years, with the majority recovered in the first five years. The most recent financial forecasts approved by management covers a five-year period and the forecasts have been extrapolated beyond five years by assuming that performance remains constant after the fifth year.

US tax reform enacted in late 2017 and effective from 2018 included a reduction in the federal rate of tax from 35% to 21% and the introduction of a base erosion anti-abuse tax. The US deferred tax asset at 31 December 2017 was calculated using the rate of 21%. The remeasurement of the deferred tax asset due to the reduction in tax rate resulted in charges of $1.3bn to the income statement and $0.3bn to other comprehensive income during 2017. The impact of the base erosion anti-abuse tax is currently uncertain, and will depend on the finalisation of regulatory guidance and the actions management may take. It is not currently expected that the base erosion anti-abuse tax will have a material impact on the Group's future tax charges.

Unrecognised deferred tax

The amount of gross temporary differences, unused tax losses and tax credits for which no deferred tax asset is recognised in the balance sheet was $8.9bn (2017: $18.1bn). These amounts included unused state losses arising in the Group's US operations of $0.8bn (2017: $12.3bn). Of the total amounts unrecognised, $7.0bn (2017: $4.8bn) had no expiry date, $1.3bn (2017: $0.8bn) was scheduled to expire within 10 years and the remaining balance is expected to expire after 10 years.

Deferred tax is not recognised in respect of the Group's investments in subsidiaries and branches where HSBC is able to control the timing of remittance or other realisation and where remittance or realisation is not probable in the foreseeable future. The aggregate temporary differences relating to unrecognised deferred tax liabilities arising on investments in subsidiaries and branches is $13.2bn (2017: $12.1bn) and the corresponding unrecognised deferred tax liability is $0.9bn (2017: $0.8bn).

9 Dividends

Dividends to shareholders of the parent company

	2018			2017			2016		
	Per share	**Total**	**Settled in scrip**	Per share	Total	Settled in scrip	Per share	Total	Settled in scrip
	$	**$m**	**$m**	$	$m	$m	$	$m	$m
Dividends paid on ordinary shares									
In respect of previous year:									
– fourth interim dividend	**0.21**	**4,197**	**393**	0.21	4,169	1,945	0.21	4,137	408
In respect of current year:									
– first interim dividend	**0.10**	**2,008**	**213**	0.10	2,005	826	0.10	1,981	703
– second interim dividend	**0.10**	**1,990**	**181**	0.10	2,014	193	0.10	1,991	994
– third interim dividend	**0.10**	**1,992**	**707**	0.10	2,005	242	0.10	1,990	935
Total	**0.51**	**10,187**	**1,494**	0.51	10,193	3,206	0.51	10,099	3,040
Total dividends on preference shares classified as equity (paid quarterly)	**62.00**	**90**		62.00	90		62.00	90	
Total coupons on capital securities classified as equity		**1,270**			1,268			1,090	
Dividends to shareholders		**11,547**			11,551			11,279	

Total coupons on capital securities classified as equity

			2018		2017	2016
				Total	Total	Total
	Footnotes	First call date	**Per security**	**$m**	$m	$m
Perpetual subordinated capital securities	*1, 3*					
$2,200m issued at 8.125%		Apr 2013	**$2.032**	**89**	179	179
$3,800m issued at 8.000%		Dec 2015	**$2.000**	**76**	304	304
Perpetual subordinated contingent convertible securities	*2, 3*					
$1,500m issued at 5.625%		Jan 2020	**$56.250**	**84**	84	84
$2,000m issued at 6.875%		Jun 2021	**$68.750**	**138**	138	69
$2,250m issued at 6.375%		Sep 2024	**$63.750**	**143**	143	143
$2,450m issued at 6.375%		Mar 2025	**$63.750**	**156**	156	156
$3,000m issued at 6.000%		May 2027	**$60.000**	**180**	90	–
$2,350m issued at 6.250%		Mar 2023	**$62.500**	**73**	–	–
$1,800m issued at 6.500%		Mar 2028	**$65.000**	**59**	–	–
€1,500m issued at 5.250%		Sep 2022	**€52.500**	**95**	89	88
€1,000m issued at 6.000%		Sep 2023	**€60.000**	**72**	68	67
€1,250m issued at 4.750%		July 2029	**€47.500**	**70**	–	–
SGD1,000m issued at 4.700%		Jun 2022	**SGD47.000**	**35**	17	–
Total				**1,270**	1,268	1,090

1 *Discretionary coupons are paid quarterly on the perpetual subordinated capital securities, in denominations of $25 per security.*
2 *Discretionary coupons are paid semi-annually on the perpetual subordinated contingent convertible securities, in denominations of each security's issuance currency 1,000 per security.*
3 *Further details of these securities can be found in Note 32.*

After the end of the year, the Directors declared a fourth interim dividend in respect of the financial year ended 31 December 2018 of $0.21 per ordinary share, a distribution of approximately $4,205m. The fourth interim dividend will be payable on 8 April 2019 to holders on the Principal Register in the UK, the Hong Kong Overseas Branch Register or the Bermuda Overseas Branch Register on 22 February 2019. No liability was recorded in the financial statements in respect of the fourth interim dividend for 2018.

On 4 January 2019, HSBC paid a coupon on its €1,250m subordinated capital securities, representing a total distribution of €30m ($34m). On 17 January 2019, HSBC paid a coupon on its $1,500m subordinated capital securities issued at 5.625% of $28.125 per security, a distribution of $42m. No liability was recorded in the balance sheet at 31 December 2018 in respect of these coupon payments.

10 Earnings per share

Basic earnings per ordinary share is calculated by dividing the profit attributable to ordinary shareholders of the parent company by the weighted average number of ordinary shares outstanding, excluding own shares held. Diluted earnings per ordinary share is calculated by dividing the basic earnings, which require no adjustment for the effects of dilutive potential ordinary shares, by the weighted average number of ordinary shares outstanding, excluding own shares held, plus the weighted average number of ordinary shares that would be issued on conversion of dilutive potential ordinary shares.

Profit attributable to the ordinary shareholders of the parent company

	2018	2017	2016
	$m	$m	$m
Profit attributable to shareholders of the parent company	**13,727**	10,798	2,479
Dividend payable on preference shares classified as equity	**(90)**	(90)	(90)
Coupon payable on capital securities classified as equity	**(1,029)**	(1,025)	(1,090)
Year ended 31 Dec	**12,608**	9,683	1,299

Basic and diluted earnings per share

		2018			2017			2016		
		Profit	**Number of shares**	**Per share**	Profit	Number of shares	Per share	Profit	Number of shares	Per share
	Footnotes	**$m**	**(millions)**	**$**	$m	(millions)	$	$m	(millions)	$
Basic	1	**12,608**	**19,896**	**0.63**	9,683	19,972	0.48	1,299	19,753	0.07
Effect of dilutive potential ordinary shares			**87**			100			92	
Diluted	1	**12,608**	**19,983**	**0.63**	9,683	20,072	0.48	1,299	19,845	0.07

1 *Weighted average number of ordinary shares outstanding (basic) or assuming dilution (diluted).*

The number of anti-dilutive employee share options excluded from the weighted average number of dilutive potential ordinary shares is nil (2017: nil; 2016: 10m).

11 Trading assets

		2018	2017
	Footnotes	**$m**	$m
Treasury and other eligible bills		**22,674**	17,532
Debt securities		**130,539**	107,486
Equity securities		**60,896**	99,260
Trading securities		**214,109**	224,278
Loans and advances to banks	1, 2	**10,425**	26,057
Loans and advances to customers	1, 2	**13,596**	37,660
Year ended 31 Dec	3	**238,130**	287,995

1 *Loans and advances to banks and customers include reverse repos, stock borrowing and other accounts.*
2 *Settlement accounts, cash collateral and margin receivables included within 'Loans and advances to banks' and 'Loans and advances to customers' were reclassified from 'Trading assets' to 'Other assets' on 1 January 2018 and comparative data was not restated. This reclassification was in accordance with IFRS 9.*
3 *Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

Trading Securities[1]

		2018	2017
	Footnotes	**$m**	$m
US Treasury and US Government agencies	2	**34,664**	15,995
UK Government		**9,710**	9,540
Hong Kong Government		**10,772**	10,070
Other governments		**66,530**	58,858
Asset-backed securities	3	**3,351**	2,986
Corporate debt and other securities		**28,186**	27,569
Equity securities		**60,896**	99,260
At 31 Dec		**214,109**	224,278

1 *Included within these figures are debt securities issued by banks and other financial institutions of $18,918m (2017: $18,585m), of which $2,367m (2017: $906m) are guaranteed by various governments.*
2 *Includes securities that are supported by an explicit guarantee issued by the US Government.*
3 *Excludes asset-backed securities included under US Treasury and US Government agencies.*

12 Fair values of financial instruments carried at fair value

Control framework

Fair values are subject to a control framework designed to ensure that they are either determined or validated by a function independent of the risk taker.

Where fair values are determined by reference to externally quoted prices or observable pricing inputs to models, independent price determination or validation is used. For inactive markets, HSBC sources alternative market information, with greater weight given to information that is considered to be more relevant and reliable. Examples of the factors considered are price observability, instrument comparability, consistency of data sources, underlying data accuracy and timing of prices.

For fair values determined using valuation models, the control framework includes development or validation by independent support functions of the model logic, inputs, model outputs and adjustments. Valuation models are subject to a process of due diligence before becoming operational and are calibrated against external market data on an ongoing basis.

Changes in fair value are generally subject to a profit and loss analysis process and are disaggregated into high-level categories including portfolio changes, market movements and other fair value adjustments.

The majority of financial instruments measured at fair value are in GB&M. GB&M's fair value governance structure comprises its Finance function, Valuation Committees and a Valuation Committee Review Group. Finance is responsible for establishing procedures governing valuation and ensuring fair values are in compliance with accounting standards. The fair values are reviewed by the Valuation Committees, which consist of independent support functions. These committees are overseen by the Valuation Committee Review Group, which considers all material subjective valuations.

Financial liabilities measured at fair value

In certain circumstances, HSBC records its own debt in issue at fair value, based on quoted prices in an active market for the specific instrument. When quoted market prices are unavailable, the own debt in issue is valued using valuation techniques, the inputs for which are either based on quoted prices in an inactive market for the instrument or are estimated by comparison with quoted prices in an active market for similar instruments. In both cases, the fair value includes the effect of applying the credit spread that is appropriate to HSBC's liabilities. The change in fair value of issued debt securities attributable to the Group's own credit spread is computed as follows: for each security at each reporting date, an externally verifiable price is obtained or a price is derived using credit spreads for similar securities for the same issuer. Then, using discounted cash flow, each security is valued using a Libor-based discount curve. The difference in the valuations is attributable to the Group's own credit spread. This methodology is applied consistently across all securities.

Structured notes issued and certain other hybrid instruments are included within trading liabilities and are measured at fair value. The credit spread applied to these instruments is derived from the spreads at which HSBC issues structured notes.

Gains and losses arising from changes in the credit spread of liabilities issued by HSBC recorded in other comprehensive income, reverse over the contractual life of the debt, provided that the debt is not repaid at a premium or a discount.

Fair value hierarchy

Fair values of financial assets and liabilities are determined according to the following hierarchy:

- Level 1 – valuation technique using quoted market price: financial instruments with quoted prices for identical instruments in active markets that HSBC can access at the measurement date.
- Level 2 – valuation technique using observable inputs: financial instruments with quoted prices for similar instruments in active markets or quoted prices for identical or similar instruments in inactive markets and financial instruments valued using models where all significant inputs are observable.
- Level 3 – valuation technique with significant unobservable inputs: financial instruments valued using valuation techniques where one or more significant inputs are unobservable.

Financial instruments carried at fair value and bases of valuation

	2018				2017			
	Level 1	**Level 2**	**Level 3**	**Total**	Level 1	Level 2	Level 3	Total
	$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Recurring fair value measurements at 31 Dec								
Assets								
Trading assets	**178,100**	**53,271**	**6,759**	**238,130**	181,168	101,775	5,052	287,995
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**23,125**	**12,494**	**5,492**	**41,111**	N/A	N/A	N/A	N/A
Derivatives	**1,868**	**203,534**	**2,423**	**207,825**	1,017	216,357	2,444	219,818
Financial assets designated at fair value	**N/A**	**N/A**	**N/A**	**N/A**	24,622	3,382	1,460	29,464
Financial investments	**263,885**	**78,882**	**2,000**	**344,767**	227,943	104,692	3,432	336,067
Liabilities								
Trading liabilities	**66,300**	**18,073**	**58**	**84,431**	62,710	117,451	4,200	184,361
Financial liabilities designated at fair value	**6,815**	**136,362**	**5,328**	**148,505**	4,164	90,265	—	94,429
Derivatives	**2,845**	**201,234**	**1,756**	**205,835**	1,635	213,242	1,944	216,821

The increase in Level 3 assets in 2018 was primarily due to new private equity investments and new derivative transactions with unobservable inputs.

Transfers between Level 1 and Level 2 fair values

	Assets				Liabilities		
	Financial investments	Trading assets	Designated and otherwise mandatorily measured at fair value	Derivatives	Trading liabilities	Designated at fair value	Derivatives
	$m	$m	$m	$m	$m	$m	$m
At 31 Dec 2018							
Transfers from Level 1 to Level 2	**367**	**435**	**2**	**1**	**79**	**–**	**–**
Transfers from Level 2 to Level 1	**17,861**	**4,959**	**85**	**128**	**1,821**	**–**	**138**
At 31 Dec 2017							
Transfers from Level 1 to Level 2	2,231	1,507	–	–	35	–	–
Transfers from Level 2 to Level 1	11,173	1,384	–	–	683	–	–

Transfers between levels of the fair value hierarchy are deemed to occur at the end of each quarterly reporting period. Transfers into and out of levels of the fair value hierarchy are primarily attributable to observability of valuation inputs and price transparency.

Fair value adjustments

Fair value adjustments are adopted when HSBC determines there are additional factors considered by market participants that are not incorporated within the valuation model. Movements in the level of fair value adjustments do not necessarily result in the recognition of profits or losses within the income statement, such as when models are enhanced and therefore fair value adjustments may no longer be required.

Global Banking & Markets ('GB&M') and Corporate Centre fair value adjustments

	2018		2017	
	GB&M	Corporate Centre	GB&M	Corporate Centre
	$m	$m	$m	$m
Type of adjustment				
Risk-related	**1,042**	**138**	1,078	79
– bid-offer	**430**	**76**	413	5
– uncertainty	**99**	**6**	91	8
– credit valuation adjustment ('CVA')	**442**	**52**	420	59
– debit valuation adjustment ('DVA')	**(198)**	**–**	(82)	–
– funding fair value adjustment ('FFVA')	**256**	**4**	233	7
– other	**13**	**–**	3	–
Model-related	**79**	**3**	92	13
– model limitation	**79**	**3**	92	6
– other	**–**	**–**	–	7
Inception profit (Day 1 P&L reserves) (Note 15)	**85**	**–**	106	–
At 31 Dec	**1,206**	**141**	1,276	92

Bid-offer

IFRS 13 'Fair value measurement' requires use of the price within the bid-offer spread that is most representative of fair value. Valuation models will typically generate mid-market values. The bid-offer adjustment reflects the extent to which bid-offer costs would be incurred if substantially all residual net portfolio market risks were closed using available hedging instruments or by disposing of or unwinding the position.

Uncertainty

Certain model inputs may be less readily determinable from market data, and/or the choice of model itself may be more subjective. In these circumstances, an adjustment may be necessary to reflect the likelihood that market participants would adopt more conservative values for uncertain parameters and/or model assumptions than those used in HSBC's valuation model.

Credit and debit valuation adjustments

The CVA is an adjustment to the valuation of over-the-counter ('OTC') derivative contracts to reflect the possibility that the counterparty may default and that HSBC may not receive the full market value of the transactions.

The DVA is an adjustment to the valuation of OTC derivative contracts to reflect the possibility that HSBC may default, and that it may not pay the full market value of the transactions.

HSBC calculates a separate CVA and DVA for each legal entity, and for each counterparty to which the entity has exposure. With the exception of central clearing parties, all third-party counterparties are included in the CVA and DVA calculations, and these adjustments are not netted across Group entities.

HSBC calculates the CVA by applying the probability of default ('PD') of the counterparty, conditional on the non-default of HSBC, to HSBC's expected positive exposure to the counterparty and multiplying the result by the loss expected in the event of default. Conversely, HSBC calculates the DVA by applying the PD of HSBC, conditional on the non-default of the counterparty, to the expected positive exposure of the counterparty to HSBC and multiplying the result by the loss expected in the event of default. Both calculations are performed over the life of the potential exposure.

For most products HSBC uses a simulation methodology, which incorporates a range of potential exposures over the life of the portfolio, to calculate the expected positive exposure to a counterparty. The simulation methodology includes credit mitigants, such as counterparty netting agreements and collateral agreements with the counterparty.

The methodologies do not, in general, account for 'wrong-way risk'. Wrong-way risk is an adverse correlation between the counterparty's probability of default and the mark-to-market value of the underlying transaction. The risk can either be general, perhaps related to the currency of the issuer country, or specific to the transaction concerned. When there is significant wrong-way risk, a trade-specific approach is applied to reflect this risk in the valuation.

Funding fair value adjustment

The FFVA is calculated by applying future market funding spreads to the expected future funding exposure of any uncollateralised component of the OTC derivative portfolio. The expected future funding exposure is calculated by a simulation methodology, where available, and is adjusted for events that may terminate the exposure, such as the default of HSBC or the counterparty. The FFVA and DVA are calculated independently.

Model limitation

Models used for portfolio valuation purposes may be based upon a simplified set of assumptions that do not capture all current and future material market characteristics. In these circumstances, model limitation adjustments are adopted.

Inception profit (Day 1 P&L reserves)

Inception profit adjustments are adopted when the fair value estimated by a valuation model is based on one or more significant unobservable inputs. The accounting for inception profit adjustments is discussed in Note 1.

Fair value valuation bases

Financial instruments measured at fair value using a valuation technique with significant unobservable inputs – Level 3

	Assets					Liabilities			
	Financial investments	Held for trading	Designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Total	Held for trading	Designated at fair value	Derivatives	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Private equity including strategic investments	427	20	5,106	—	5,553	12	—	—	12
Asset-backed securities	1,030	1,140	32	—	2,202	—	—	—	—
Loans held for securitisation	—	—	49	—	49	—	—	—	—
Structured notes	—	3	—	—	3	46	5,328	—	5,374
Derivatives with monolines	—	—	—	65	65	—	—	—	—
Other derivatives	—	—	—	2,358	2,358	—	—	1,755	1,755
Other portfolios	543	5,596	305	—	6,444	—	—	1	1
At 31 Dec 2018	**2,000**	**6,759**	**5,492**	**2,423**	**16,674**	**58**	**5,328**	**1,756**	**7,142**

	Assets					Liabilities			
	Available for sale	Held for trading	Designated at fair value	Derivatives	Total	Held for trading	Designated at fair value	Derivatives	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Private equity including strategic investments	2,012	38	1,458	—	3,508	20	—	—	20
Asset-backed securities	1,300	1,277	—	—	2,577	—	—	—	—
Loans held for securitisation	—	24	—	—	24	—	—	—	—
Structured notes	—	3	—	—	3	4,180	—	—	4,180
Derivatives with monolines	—	—	—	113	113	—	—	—	—
Other derivatives	—	—	—	2,331	2,331	—	—	1,944	1,944
Other portfolios	120	3,710	2	—	3,832	—	—	—	—
At 31 Dec 2017	3,432	5,052	1,460	2,444	12,388	4,200	—	1,944	6,144

Level 3 instruments are present in both ongoing and legacy businesses. Loans held for securitisation, derivatives with monolines, certain 'other derivatives' and predominantly all Level 3 ABSs are legacy positions. HSBC has the capability to hold these positions.

Private equity including strategic investments

The fair value of a private equity investments (including strategic investments) is estimated on the basis of an analysis of the investee's financial position and results, risk profile, prospects and other factors; by reference to market valuations for similar entities quoted in an active market; or the price at which similar companies have changed ownership.

Asset-backed securities

While quoted market prices are generally used to determine the fair value of the asset-backed securities ('ABSs'), valuation models are used to substantiate the reliability of the limited market data available and to identify whether any adjustments to quoted market prices are required. For certain ABSs, such as residential mortgage-backed securities, the valuation uses an industry standard model with assumptions relating to prepayment speeds, default rates and loss severity based on collateral type, and performance, as appropriate. The valuations output is benchmarked for consistency against observable data for securities of a similar nature.

Structured notes

The fair value of Level 3 structured notes is derived from the fair value of the underlying debt security, and the fair value of the embedded derivative is determined as described in the paragraph below on derivatives. These structured notes comprise principally equity-linked notes issued by HSBC, which provide the counterparty with a return linked to the performance of equity securities and other portfolios.

Examples of the unobservable parameters include long-dated equity volatilities and correlations between equity prices, and interest and foreign exchange rates.

Derivatives

OTC derivative valuation models calculate the present value of expected future cash flows, based upon 'no arbitrage' principles. For many vanilla derivative products, the modelling approaches used are standard across the industry. For more complex derivative products, there may be some differences in market practice. Inputs to valuation models are determined from observable market data wherever possible, including prices available from exchanges, dealers, brokers or providers of consensus pricing. Certain inputs may not be observable in the market directly, but can be determined from observable prices via model calibration procedures or estimated from historical data or other sources.

Reconciliation of fair value measurements in Level 3 of the fair value hierarchy

Movement in Level 3 financial instruments

		Assets				Liabilities		
		Financial investments	Trading assets	Designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Trading liabilities	Designated at fair value	Derivatives
	Footnotes	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018		**1,767**	**5,080**	**3,958**	**2,444**	**93**	**4,107**	**1,949**
Total gains/(losses) recognised in profit or loss		251	284	608	597	(4)	(637)	255
– net income from financial instruments held for trading or managed on a fair value basis		–	284	–	597	(4)	–	255
– net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss		–	–	–	–	–	–	–
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		–	–	608	–	–	(637)	–
– gains less losses from financial investments at fair value through other comprehensive income		251	–	–	–	–	–	–
– expected credit loss charges and other credit risk charges		–	–	–	–	–	–	–
– fair value gains transferred to the income statement on disposal		–	–	–	–	–	–	–
Total gains/(losses) recognised in other comprehensive income ('OCI')	1	17	(274)	(107)	(113)	(3)	(144)	(82)
– financial investments: fair value gains/(losses)		15	–	–	–	–	–	–
– cash flow hedges: fair value gains/(losses)		–	–	6	6	–	–	2
– fair value gains transferred to the income statement on disposal		–	–	–	–	–	–	–
– exchange differences		2	(274)	(113)	(119)	(3)	(144)	(84)
Purchases		275	4,377	2,172	–	3	76	–
New issuances		–	975	–	–	6	2,442	–
Sales		(51)	(1,589)	(395)	–	(11)	–	–
Settlements		(141)	(2,021)	(541)	(191)	(2)	(32)	(18)
Transfers out		(685)	(1,402)	(285)	(337)	(24)	(1,112)	(464)
Transfers in		567	1,329	82	23	–	628	116
At 31 Dec 2018		**2,000**	**6,759**	**5,492**	**2,423**	**58**	**5,328**	**1,756**
Unrealised gains/(losses) recognised in profit or loss relating to assets and liabilities held at 31 Dec 2018		–	(5)	199	342	(5)	274	(351)
– net income from financial instruments held for trading or managed on a fair value basis		–	(5)	–	342	(5)	–	(351)
– net income from assets and liabilities of insurance businesses, including related derivatives measured at fair value through profit or loss		–	–	–	–	–	–	–
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		–	–	199	–	–	274	–
– loan impairment recoveries and other credit risk provisions		–	–	–	–	–	–	–

Movement in Level 3 financial instruments (continued)

	Footnotes	Assets				Liabilities		
		Available for sale	Held for trading	Designated at fair value through profit or loss	Derivatives	Held for trading	Designated at fair value through profit or loss	Derivatives
		$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2017		3,476	6,489	730	2,752	3,582	37	2,300
Total gains/(losses) recognised in profit or loss		351	(188)	(107)	152	154	(5)	400
– trading income/(expense) excluding net interest income		–	(188)	–	152	154	–	400
– net income from other financial instruments designated at fair value		–	–	(107)	–	–	(5)	–
– gains less losses from financial investments		313	–	–	–	–	–	–
– loan impairment charges and other credit risk provisions ('LICs')		38	–	–	–	–	–	–
Total gains/(losses) recognised in other comprehensive income ('OCI')	1	71	106	7	188	169	1	120
– available-for-sale investments: fair value gains/(losses)		(30)	–	–	–	–	–	–
– cash flow hedges: fair value gains/(losses)		–	(1)	3	(23)	–	–	(35)
– exchange differences		101	107	4	211	169	1	155
Purchases		200	1,503	1,127	2	5	–	23
New issuances		–	–	–	1	1,915	–	–
Sales		(939)	(3,221)	(130)	(8)	(12)	–	(12)
Settlements		(69)	(331)	(166)	(60)	(998)	–	(123)
Transfers out		(565)	(149)	(3)	(885)	(678)	(33)	(1,030)
Transfers in		907	843	2	302	63	–	266
At 31 Dec 2017		3,432	5,052	1,460	2,444	4,200	–	1,944
Unrealised gains/(losses) recognised in profit or loss relating to assets and liabilities held at 31 Dec 2017		16	(110)	(146)	218	(117)	–	(397)
– trading income/(expense) excluding net interest income		–	(110)	–	218	(117)	–	(397)
– net income from other financial instruments designated at fair value		–	–	(146)	–	–	–	–
– loan impairment charges and other credit risk provisions		16	–	–	–	–	–	–

1 Included in 'Available-for-sale investments: fair value gains/(losses)' in prior years or 'Debt Instruments at fair value through other comprehensive income' in 2018 and 'Exchange differences' in the consolidated statement of comprehensive income.

Transfers between levels of the fair value hierarchy are deemed to occur at the end of each quarterly reporting period. Transfers into and out of levels of the fair value hierarchy are primarily attributable to observability of valuation inputs and price transparency.

Effect of changes in significant unobservable assumptions to reasonably possible alternatives

Sensitivity of Level 3 fair values to reasonably possible alternative assumptions

	Footnotes	**2018**				2017			
		Reflected in profit or loss		**Reflected in OCI**		Reflected in profit or loss		Reflected in OCI	
		Favourable changes	**Un-favourable changes**	**Favourable changes**	**Un-favourable changes**	Favourable changes	Un-favourable changes	Favourable changes	Un-favourable changes
		$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Derivatives, trading assets and trading liabilities	1	**269**	**(257)**	**–**	**–**	372	(253)	–	–
Designated and otherwise mandatorily measured at fair value through profit or loss		**394**	**(310)**	**–**	**–**	89	(74)	–	–
Financial investments		**34**	**(36)**	**23**	**(22)**	53	(30)	128	(149)
At 31 Dec		**697**	**(603)**	**23**	**(22)**	514	(357)	128	(149)

1 Derivatives, trading assets and trading liabilities are presented as one category to reflect the manner in which these instruments are risk managed.

Sensitivity of Level 3 fair values to reasonably possible alternative assumptions by instrument type

	2018				2017			
	Reflected in profit or loss		**Reflected in OCI**		Reflected in profit or loss		Reflected in OCI	
	Favourable changes	**Un-favourable changes**	**Favourable changes**	**Un-favourable changes**	Favourable changes	Un-favourable changes	Favourable changes	Un-favourable changes
	$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Private equity including strategic investments	**400**	**(317)**	**–**	**–**	142	(105)	117	(102)
Asset-backed securities	**62**	**(34)**	**23**	**(22)**	66	(39)	3	(39)
Loans held for securitisation	**1**	**(1)**	**–**	**–**	1	(1)	–	–
Structured notes	**13**	**(13)**	**–**	**–**	12	(9)	–	–
Derivatives with monolines	**–**	**–**	**–**	**–**	–	–	–	–
Other derivatives	**157**	**(153)**	**–**	**–**	249	(150)	–	–
Other portfolios	**64**	**(85)**	**–**	**–**	44	(53)	8	(8)
At 31 Dec	**697**	**(603)**	**23**	**(22)**	514	(357)	128	(149)

The sensitivity analysis aims to measure a range of fair values consistent with the application of a 95% confidence interval. Methodologies take account of the nature of the valuation technique employed, as well as the availability and reliability of observable proxy and historical data.

When the fair value of a financial instrument is affected by more than one unobservable assumption, the above table reflects the most favourable or the most unfavourable change from varying the assumptions individually.

Key unobservable inputs to Level 3 financial instruments

The following table lists key unobservable inputs to Level 3 financial instruments, and provides the range of those inputs at 31 December 2018. The core range of inputs is the estimated range within which 90% of the inputs fall.

Quantitative information about significant unobservable inputs in Level 3 valuations

		Fair value				2018				2017			
		Assets	Liabilities	Valuation techniques	Key unobservable inputs	Full range of inputs		Core range of inputs[1]		Full range of inputs		Core range of inputs[1]	
	Footnotes	$m	$m			Lower	Higher	Lower	Higher	Lower	Higher	Lower	Higher
Private equity including strategic investments		5,554	12	See below	See below	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Asset-backed securities	2	2,202	–										
– CLO/CDO		394	–	Market proxy	Prepayment rate	0%	10%	0%	10%	2%	7%	2%	7%
				Market proxy	Bid quotes	0	100	50	100	0	101	6	53
– other ABSs		1,808	–	Market proxy	Bid quotes	0	271	71	99	0	103	34	98
Loans held for securitisation		49	–										
Structured notes		3	5,374										
– equity-linked notes		–	3,882	Model – Option model	Equity volatility	8%	79%	13%	53%	7%	47%	14%	30%
				Model – Option model	Equity correlation	17%	93%	40%	77%	33%	95%	45%	72%
– fund-linked notes		–	83	Model – Option model	Fund volatility	21%	21%	21%	21%	6%	15%	6%	15%
– FX-linked notes		–	1,382	Model – Option model	FX volatility	1%	27%	3%	25%	3%	20%	4%	13%
– other		3	27										
Derivatives with monolines		65	–	Model – Discounted cash flow	Credit spread	0.2%	1%	0.2%	1%	0.4%	3%	1%	3%
Other derivatives		2,358	1,755										
– Interest rate derivatives:													
securitisation swaps		233	700	Model – Discounted cash flow	Prepayment rate	6%	7%	6%	7%	20%	90%	20%	90%
long-dated swaptions		1,019	27	Model – Option model	IR volatility	13%	39%	14%	36%	8%	41%	15%	31%
other		250	148										
– FX derivatives:													
FX options		186	244	Model – Option model	FX volatility	1%	27%	7%	12%	0.7%	50%	5%	11%
other		113	77										
– Equity derivatives:													
long-dated single stock options		215	267	Model – Option model	Equity volatility	5%	83%	5%	81%	7%	84%	15%	44%
other		310	216										
– Credit derivatives:													
other		32	76										
Other portfolios		6,443	1										
– structured certificates		3,013	–	Model – Discounted cash flow	Credit volatility	2%	4%	2%	4%	2%	4%	2%	4%
– other	3	3,430	1										
At 31 Dec 2018		**16,674**	**7,142**										

1 *The core range of inputs is the estimated range within which 90% of the inputs fall.*
2 *Collateralised loan obligation/collateralised debt obligation.*
3 *'Other' includes a range of smaller asset holdings.*

Private equity including strategic investments

Given the bespoke nature of the analysis in respect of each private equity holding, it is not practical to quote a range of key unobservable inputs.

Prepayment rates

Prepayment rates are a measure of the anticipated future speed at which a loan portfolio will be repaid in advance of the due date. They vary according to the nature of the loan portfolio and expectations of future market conditions, and may be estimated using a variety of evidence, such as prepayment rates implied from proxy observable security prices, current or historical prepayment rates and macroeconomic modelling.

Market proxy

Market proxy pricing may be used for an instrument when specific market pricing is not available but there is evidence from instruments with common characteristics. In some cases it might be possible to identify a specific proxy, but more generally evidence across a wider range of instruments will be used to understand the factors that influence current market pricing and the manner of that influence.

Volatility

Volatility is a measure of the anticipated future variability of a market price. It varies by underlying reference market price, and by strike and maturity of the option.

Certain volatilities, typically those of a longer-dated nature, are unobservable and are estimated from observable data. The range of unobservable volatilities reflects the wide variation in volatility inputs by reference market price. The core range is significantly narrower than the full range because these examples with extreme volatilities occur relatively rarely within the HSBC portfolio.

Correlation

Correlation is a measure of the inter-relationship between two market prices and is expressed as a number between minus one and one. It is used to value more complex instruments where the payout is dependent upon more than one market price. There is a wide range of instruments for which correlation is an input, and consequently a wide range of both same-asset correlations and cross-asset correlations is used. In general, the range of same-asset correlations will be narrower than the range of cross-asset correlations.

Unobservable correlations may be estimated based upon a range of evidence, including consensus pricing services, HSBC trade prices, proxy correlations and examination of historical price relationships. The range of unobservable correlations quoted in the table reflects the wide variation in correlation inputs by market price pair.

Credit spread

Credit spread is the premium over a benchmark interest rate required by the market to accept lower credit quality. In a discounted cash flow model, the credit spread increases the discount factors applied to future cash flows, thereby reducing the value of an asset. Credit spreads may be implied from market prices and may not be observable in more illiquid markets.

Inter-relationships between key unobservable inputs

Key unobservable inputs to Level 3 financial instruments may not be independent of each other. As described above, market variables may be correlated. This correlation typically reflects the manner in which different markets tend to react to macroeconomic or other events. Furthermore, the effect of changing market variables on the HSBC portfolio will depend on HSBC's net risk position in respect of each variable.

HSBC Holdings

Basis of valuing HSBC Holdings' financial assets and liabilities measured at fair value

	2018	2017
	$m	$m
Valuation technique using observable inputs: Level 2		
Assets at 31 Dec		
– derivatives	**707**	2,388
– financial investments	**—**	4,264
– designated and otherwise mandatorily measured at fair value through profit or loss	**23,513**	11,944
Liabilities at 31 Dec		
– designated at fair value	**25,049**	30,890
– derivatives	**2,159**	3,082

13 Fair values of financial instruments not carried at fair value

Fair values of financial instruments not carried at fair value and bases of valuation

		Fair value			
	Carrying amount	Quoted market price Level 1	Observable inputs Level 2	Significant unobservable inputs Level 3	Total
	$m	$m	$m	$m	$m
At 31 Dec 2018					
Assets					
Loans and advances to banks	**72,167**	**–**	**68,378**	**3,791**	**72,169**
Loans and advances to customers	**981,696**	**–**	**10,518**	**974,559**	**985,077**
Reverse repurchase agreements – non-trading	**242,804**	**81**	**241,407**	**1,369**	**242,857**
Financial investments – at amortised cost	**62,666**	**1,790**	**60,073**	**216**	**62,079**
Liabilities					
Deposits by banks	**56,331**	**–**	**56,308**	**–**	**56,308**
Customer accounts	**1,362,643**	**–**	**1,362,794**	**151**	**1,362,945**
Repurchase agreements – non-trading	**165,884**	**–**	**165,884**	**–**	**165,884**
Debt securities in issue	**85,342**	**–**	**85,430**	**–**	**85,430**
Subordinated liabilities	**22,437**	**–**	**24,968**	**373**	**25,341**
At 31 Dec 2017					
Assets					
Loans and advances to banks	90,393	–	87,384	3,007	90,391
Loans and advances to customers	962,964	–	20,029	944,176	964,205
Reverse repurchase agreements – non-trading	201,553	–	200,012	1,526	201,538
Financial investments – at amortised cost	52,919	1,363	52,707	17	54,087
Liabilities					
Deposits by banks	69,922	–	69,862	30	69,892
Customer accounts	1,364,462	–	1,353,017	11,608	1,364,625
Repurchase agreements – non-trading	130,002	1	129,995	–	129,996
Debt securities in issue	64,546	–	65,138	–	65,138
Subordinated liabilities	19,826	–	23,740	355	24,095

Other financial instruments not carried at fair value are typically short term in nature and reprice to current market rates frequently. Accordingly, their carrying amount is a reasonable approximation of fair value. They include cash and balances at central banks, items in the course of collection from and transmission to other banks, Hong Kong Government certificates of indebtedness and Hong Kong currency notes in circulation, all of which are measured at amortised cost.

Carrying amount and fair value of loans and advances to customers by industry sector

	Carrying amount			Fair value		
	Not Impaired	Impaired	Total	Not Impaired	Impaired	Total
	$m	$m	$m	$m	$m	$m
Loans and advances to customers						
Personal	**387,957**	**3,433**	**391,390**	**388,761**	**3,249**	**392,010**
Corporate and commercial	**524,531**	**4,494**	**529,025**	**527,022**	**4,600**	**531,622**
Non-bank financial institutions	**61,102**	**179**	**61,281**	**61,265**	**180**	**61,445**
At 31 Dec 2018	**973,590**	**8,106**	**981,696**	**977,048**	**8,029**	**985,077**
Loans and advances to customers						
Personal	370,842	3,920	374,762	371,131	3,257	374,388
Corporate and commercial	510,784	5,970	516,754	512,597	5,769	518,366
Non-bank financial institutions	71,377	71	71,448	71,351	100	71,451
At 31 Dec 2017	953,003	9,961	962,964	955,079	9,126	964,205

Loans and advances to customers are classified as not credit impaired or credit impaired in accordance with the criteria described on page 142.

Valuation

Fair value is an estimate of the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. It does not reflect the economic benefits and costs that HSBC expects to flow from an instrument's cash flow over its expected future life. Our valuation methodologies and assumptions in determining fair values for which no observable market prices are available may differ from those of other companies.

Loans and advances to banks and customers

To determine the fair value of loans and advances to banks and customers, loans are segregated, as far as possible, into portfolios of similar characteristics. Fair values are based on observable market transactions, when available. When they are unavailable, fair values are estimated using valuation models incorporating a range of input assumptions. These assumptions may include: value estimates from third-party brokers reflecting over-the-counter trading activity; forward-looking discounted cash flow models, taking account of expected customer prepayment rates, using assumptions that HSBC believes are consistent with those that would be used by market participants in valuing such loans; new business rates estimates for similar loans; and trading inputs from other market participants including observed primary and secondary trades. From time to time, we may engage a third-party valuation specialist to measure the fair value of a pool of loans.

The fair value of loans reflects expected credit losses at the balance sheet date and estimates of market participants' expectations of credit losses over the life of the loans, and the fair value effect of repricing between origination and the balance sheet date. For credit-impaired loans, fair value is estimated by discounting the future cash flows over the time period they are expected to be recovered.

Financial investments

The fair values of listed financial investments are determined using bid market prices. The fair values of unlisted financial investments are determined using valuation techniques that incorporate the prices and future earnings streams of equivalent quoted securities.

Deposits by banks and customer accounts

The fair values of on-demand deposits are approximated by their carrying value. For deposits with longer-term maturities, fair values are estimated using discounted cash flows, applying current rates offered for deposits of similar remaining maturities.

Debt securities in issue and subordinated liabilities

Fair values in debt securities is issue and subordinated liabilities are determined using quoted market prices at the balance sheet date where available, or by reference to quoted market prices for similar instruments.

Repurchase and reverse repurchase agreements – non-trading

Fair values of repurchase and reverse repurchase agreements that are held on a non-trading basis provide approximate carrying amounts. This is due to the fact that balances are generally short dated.

HSBC Holdings

The methods used by HSBC Holdings to determine fair values of financial instruments for the purposes of measurement and disclosure are described above.

Fair values of HSBC Holdings' financial instruments not carried at fair value on the balance sheet

	2018		2017	
	Carrying amount	Fair value[1]	Carrying amount	Fair value[1]
	$m	$m	$m	$m
Assets at 31 Dec				
Loans and advances to HSBC undertakings	**56,144**	**56,801**	76,627	78,534
Liabilities at 31 Dec				
Amounts owed to HSBC undertakings	**949**	**949**	2,571	2,571
Debt securities in issue	**50,800**	**51,552**	34,258	36,611
Subordinated liabilities	**17,715**	**20,224**	15,877	19,596

1 *Fair values were determined using valuation techniques with observable inputs (Level 2).*

14 Financial assets designated and otherwise mandatorily measured at fair value through profit or loss

		2018			2017
		Designated at fair value	Mandatorily measured at fair value	Total	Designated at fair value
	Footnotes	$m	$m	$m	$m
Securities		**2,349**	**30,217**	**32,566**	29,456
– treasury and other eligible bills		**641**	**29**	**670**	606
– debt securities		**1,708**	**4,839**	**6,547**	4,090
– equity securities		**–**	**25,349**	**25,349**	24,760
Loans and advances to banks and customers		**–**	**7,717**	**7,717**	8
Other		**–**	**828**	**828**	–
At 31 Dec	*1*	**2,349**	**38,762**	**41,111**	29,464

1 *Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

Securities[1]

		2018			2017
		Designated at fair value	Mandatorily measured at fair value	Total	Designated at fair value
	Footnotes	$m	$m	$m	$m
UK Government		**–**	**–**	**–**	17
Hong Kong Government		**4**	**–**	**4**	64
Other governments		**673**	**713**	**1,386**	1,247
Asset-backed securities	*2*	**–**	**399**	**399**	2
Corporate debt and other securities		**1,672**	**3,756**	**5,428**	3,366
Equities		**–**	**25,349**	**25,349**	24,760
At 31 Dec		**2,349**	**30,217**	**32,566**	29,456

1 *Included within these figures are debt securities issued by banks and other financial institutions of $2,537m (2017: $1,621m), of which nil (2017: $0.4m) are guaranteed by various governments.*
2 *Excludes asset-backed securities included under US Treasury and US Government agencies.*

15 Derivatives

Notional contract amounts and fair values of derivatives by product contract type held by HSBC

	Notional contract amount		Fair value – Assets			Fair value – Liabilities		
	Trading	Hedging	Trading	Hedging	Total	Trading	Hedging	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Foreign exchange	**7,552,462**	**29,969**	**85,959**	**458**	**86,417**	**82,494**	**653**	**83,147**
Interest rate	**24,589,916**	**163,271**	**155,293**	**1,080**	**156,373**	**154,257**	**2,261**	**156,518**
Equities	**1,256,550**	**—**	**10,198**	**—**	**10,198**	**10,750**	**—**	**10,750**
Credit	**346,596**	**—**	**3,414**	**—**	**3,414**	**3,776**	**—**	**3,776**
Commodity and other	**74,159**	**—**	**1,134**	**—**	**1,134**	**1,355**	**—**	**1,355**
Gross total fair values	**33,819,683**	**193,240**	**255,998**	**1,538**	**257,536**	**252,632**	**2,914**	**255,546**
Offset (Note 30)					**(49,711)**			**(49,711)**
At 31 Dec 2018	**33,819,683**	**193,240**	**255,998**	**1,538**	**207,825**	**252,632**	**2,914**	**205,835**
Foreign exchange	6,215,518	28,768	78,089	428	78,517	74,915	853	75,768
Interest rate	19,751,577	178,289	235,430	1,365	236,795	229,989	3,042	233,031
Equities	590,156	—	9,353	—	9,353	11,845	—	11,845
Credit	391,798	—	4,692	—	4,692	5,369	—	5,369
Commodity and other	59,716	—	886	—	886	1,233	—	1,233
Gross total fair values	27,008,765	207,057	328,450	1,793	330,243	323,351	3,895	327,246
Offset (Note 30)					(110,425)			(110,425)
At 31 Dec 2017	27,008,765	207,057	328,450	1,793	219,818	323,351	3,895	216,821

The notional contract amounts of derivatives held for trading purposes and derivatives designated in hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.

Derivative assets and liabilities decreased during 2018, driven by the adoption of Settled to Market accounting for cleared derivatives, yield curve movements and changes in foreign exchange rates.

Notional contract amounts and fair values of derivatives by product contract type held by HSBC Holdings with subsidiaries

	Notional contract amount		Assets			Liabilities		
	Trading	Hedging	Trading	Hedging	Total	Trading	Hedging	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Foreign exchange	**16,623**	**1,120**	**207**	**—**	**207**	**628**	**155**	**783**
Interest rate	**44,059**	**38,148**	**283**	**217**	**500**	**538**	**838**	**1,376**
At 31 Dec 2018	**60,682**	**39,268**	**490**	**217**	**707**	**1,166**	**993**	**2,159**
Foreign exchange	20,484	1,120	588	—	588	1,330	110	1,440
Interest rate	41,061	25,294	1,364	436	1,800	678	964	1,642
At 31 Dec 2017	61,545	26,414	1,952	436	2,388	2,008	1,074	3,082

Use of derivatives

For details regarding use of derivatives, see page 183 under 'Market Risk'.

Trading derivatives

Most of HSBC's derivative transactions relate to sales and trading activities. Sales activities include the structuring and marketing of derivative products to customers to enable them to take, transfer, modify or reduce current or expected risks. Trading activities include market-making and risk management. Market-making entails quoting bid and offer prices to other market participants for the purpose of generating revenue based on spread and volume. Risk management activity is undertaken to manage the risk arising from client transactions, with the principal purpose of retaining client margin. Other derivatives classified as held for trading include non-qualifying hedging derivatives.

Substantially all of HSBC Holdings' derivatives entered into with subsidiaries are managed in conjunction with financial liabilities designated at fair value.

Derivatives valued using models with unobservable inputs

The difference between the fair value at initial recognition (the transaction price) and the value that would have been derived had valuation techniques used for subsequent measurement been applied at initial recognition, less subsequent releases, is as shown in the following table:

Unamortised balance of derivatives valued using models with significant unobservable inputs

	Footnotes	2018 $m	2017 $m
Unamortised balance at 1 Jan		**106**	99
Deferral on new transactions		**161**	191
Recognised in the income statement during the year:		**(158)**	(187)
– amortisation		**(96)**	(85)
– subsequent to unobservable inputs becoming observable		**(2)**	(2)
– maturity, termination or offsetting derivative		**(60)**	(100)
Exchange differences		**(4)**	10
Other		**(19)**	(7)
Unamortised balance at 31 Dec	1	**86**	106

1 *This amount is yet to be recognised in the consolidated income statement.*

Hedge accounting derivatives

HSBC applies hedge accounting to manage the following risks: interest rate, foreign exchange and net investment in foreign operations. Further details on how these risks arise and how they are managed by the Group can be found in the Report of the Directors.

Fair value hedges

HSBC enters into fixed-for-floating-interest-rate swaps to manage the exposure to changes in fair value caused by movements in market interest rates on certain fixed-rate financial instruments that are not measured at fair value through profit or loss, including debt securities held and issued.

HSBC hedging instrument by hedged risk

	Hedging instrument				
		Carrying amount			
	Notional amount[1]	Assets	Liabilities	Balance sheet	Change in fair value[2]
Hedged risk	$m	$m	$m	presentation	$m
Interest rate[3]	**123,551**	**915**	**2,123**	**Derivatives**	**283**
At 31 Dec 2018	**123,551**	**915**	**2,123**		**283**

1 *The notional contract amounts of derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.*
2 *Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.*
3 *The hedged risk 'interest rate' includes inflation risk.*

HSBC hedged item by hedged risk

	Hedged item						Ineffectiveness	
	Carrying amount		Accumulated fair value hedge adjustments included in carrying amount[2]			Change in fair value[1]	Recognised in profit and loss	
	Assets	Liabilities	Assets	Liabilities				Profit and loss presentation
Hedged risk	$m	$m	$m	$m	Balance sheet presentation	$m	$m	
Interest rate[3]	**93,469**		**231**		**Financial assets designated and otherwise mandatorily measured at fair value through other comprehensive income**	**(425)**	**(37)**	**Net income from financial instruments held for trading or managed on a fair value basis**
	1,455		**(6)**		**Loans and advances to customers**	**(4)**		
		14,171		**(155)**	**Debt securities in issue**	**124**		
		4,780		**45**	**Deposits by banks**	**(15)**		
At 31 Dec 2018	**94,924**	**18,951**	**225**	**(110)**		**(320)**	**(37)**	

1 *Used in effectiveness assessment; comprising amount attributable to the designated hedged risk that can be a risk component.*
2 *The accumulated amount of fair value adjustments remaining in the statement of financial position for hedged items that have ceased to be adjusted for hedging gains and losses were assets of $93m for FVOCI and assets of $19m for debt issued.*
3 *The hedged risk 'interest rate' includes inflation risk.*

HSBC Holdings hedging instrument by hedged risk

	Hedging instrument				
		Carrying amount			
	Notional amount[1,4]	Assets	Liabilities	Balance sheet presentation	Change in fair value[2]
Hedged risk	$m	$m	$m		$m
Interest rate[3]	**39,538**	**217**	**993**	**Derivatives**	**(231)**
At 31 Dec 2018	**39,538**	**217**	**993**		**(231)**

1 *The notional contract amounts of derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.*
2 *Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.*
3 *The hedged risk 'interest rate' includes foreign exchange risk.*
4 *The notional amount of non-dynamic fair value hedges is equal to $39,538m, of which the weighted-average maturity date is December 2026 and the weighted-average swap rate is 1.34%. The majority of these hedges are internal to HSBC Group.*

HSBC Holdings hedged item by hedged risk

	Hedged item						Ineffectiveness	
	Carrying amount		Accumulated fair value hedge adjustments included in carrying amount[2]					
	Assets	Liabilities	Assets	Liabilities	Balance sheet presentation	Change in fair value[1]	Recognised in profit and loss	Profit and loss presentation
Hedged risk	$m	$m	$m	$m		$m	$m	
Interest rate[3]	4,620		29		Loans and advances to banks	38		Net income from financial instruments held for trading or managed on a fair value basis
		33,874		(763)	Debt securities in issue	191	(2)	
At 31 Dec 2018	**4,620**	**33,874**	**29**	**(763)**		**229**	**(2)**	

1 *Used in effectiveness assessment; comprising amount attributable to the designated hedged risk that can be a risk component.*
2 *The accumulated amount of fair value adjustments remaining in the statement of financial position for hedged items that have ceased to be adjusted for hedging gains and losses were liabilities of $80m for debt issued.*
3 *The hedged risk 'interest rate' includes foreign exchange risk.*

Sources of hedge ineffectiveness may arise from basis risk, including but not limited to the discount rates used for calculating the fair value of derivatives, hedges using instruments with a non-zero fair value, and notional and timing differences between the hedged items and hedging instruments.

For some debt securities held, HSBC manages interest rate risk in a dynamic risk management strategy. The assets in scope of this strategy are high-quality fixed-rate debt securities, which may be sold to meet liquidity and funding requirements.

The interest rate risk of the HSBC fixed-rate debt securities issued is managed in a non-dynamic risk management strategy.

Cash flow hedges

HSBC's cash flow hedging instruments consist principally of interest rate swaps and cross-currency swaps that are used to manage the variability in future interest cash flows of non-trading financial assets and liabilities, arising due to changes in market interest rates and foreign-currency basis.

HSBC applies macro cash flow hedging for interest rate risk exposures on portfolios of replenishing current and forecasted issuances of non-trading assets and liabilities that bear interest at variable rates, including rolling such instruments. The amounts and timing of future cash flows, representing both principal and interest flows, are projected for each portfolio of financial assets and liabilities on the basis of their contractual terms and other relevant factors, including estimates of prepayments and defaults. The aggregate cash flows representing both principal balances and interest cash flows across all portfolios are used to determine the effectiveness and ineffectiveness. Macro cash flow hedges are considered to be dynamic hedges.

HSBC also hedges the variability in future cash flows on foreign-denominated financial assets and liabilities arising due to changes in foreign exchange market rates with cross-currency swaps, which are considered dynamic hedges.

Hedging instrument by hedged risk

	Hedging instrument					Hedged item	Ineffectiveness	
		Carrying amount						
	Notional amount[1]	Assets	Liabilities	Balance sheet presentation	Change in fair value[2]	Change in fair value[3]	Recognised in profit and loss	Profit and loss presentation
Hedged risk	$m	$m	$m		$m	$m	$m	
Foreign currency	24,954	295	653	Derivatives	(198)	(200)	2	Net income from financial instruments held for trading or managed on a fair value basis
Interest rate	39,720	165	138	Derivatives	(77)	(67)	(10)	
At 31 Dec 2018	**64,674**	**460**	**791**		**(275)**	**(267)**	**(8)**	

1 *The notional contract amounts of derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.*
2 *Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.*
3 *Used in effectiveness assessment; comprising amount attributable to the designated hedged risk that can be a risk component.*

Sources of hedge ineffectiveness may arise from basis risk, including but not limited to timing differences between the hedged items and hedging instruments and hedges using instruments with a non-zero fair value.

Reconciliation of equity and analysis of other comprehensive income by risk type

	Interest rate	Foreign currency
	$m	$m
Cash flow hedging reserve at 1 Jan 2018	(40)	(187)
Fair value gains/(losses)	(67)	(200)
Fair value (gains)/losses reclassified from the cash flow hedge reserve to the income statement in respect of:		
Hedged items that have affected profit or loss	90	227
Income taxes	(11)	(13)
Others	2	(9)
Cash flow hedging reserve at 31 Dec 2018	**(26)**	**(182)**

Hedges of net investments in foreign operations

The Group applies hedge accounting in respect of certain consolidated net investments. Hedging is undertaken using forward foreign exchange contracts or by financing with foreign currency borrowings. At 31 December 2018, the fair values of outstanding financial instruments designated as hedges of net investments in foreign operations were assets of $163m (2017: $4m), liabilities of nil (2017: $71m) and notional contract values of $5,000m (2017: $5,000m). Ineffectiveness recognised in 'Net income from financial instruments held for trading or managed on a fair value basis' in the year ended 31 December 2018 was nil (2017: nil).

16 Financial investments

Carrying amount of financial investments

	Footnotes	2018 $m	2017 $m
Financial investments measured at fair value through other comprehensive income		**344,767**	N/A
– treasury and other eligible bills		**96,642**	N/A
– debt securities		**246,371**	N/A
– equity securities		**1,657**	N/A
– other instruments	1	**97**	N/A
Debt instruments measured at amortised cost	2	**62,666**	N/A
– treasury and other eligible bills		**679**	N/A
– debt securities		**61,987**	N/A
Available-for-sale securities at fair value		**N/A**	336,157
– treasury and other eligible bills		**N/A**	78,851
– debt securities		**N/A**	253,389
– equity securities		**N/A**	3,917
Held to maturity securities at amortised cost		**N/A**	52,919
– debt securities	2	**N/A**	52,919
At 31 Dec	3, 4	**407,433**	389,076

1 'Other instruments' comprises of loans and advances.
2 Fair value $62.1bn (2017: $54.1bn).
3 Categories of financial instruments are disclosed under IFRS 9 at 31 December 2018. These are not directly comparable with 31 December 2017, where the instruments were categorised in accordance with IAS 39.
4 Information regarding the effects of adoption of IFRS 9 can be found in Note 37.

Equity instruments measured at fair value through other comprehensive income

Type of equity instruments	Fair value $m	Dividends recognised $m
Investments required by central institutions	**848**	**34**
Business facilitation	**758**	**21**
Others	**51**	**9**
At 31 Dec 2018	**1,657**	**64**

Financial investments at amortised cost and fair value

		2018		2017	
		Amortised cost	Fair value[1]	Amortised cost	Fair value[1]
	Footnotes	$m	$m	$m	$m
US Treasury		**54,941**	**54,763**	41,427	41,274
US Government agencies	2	**21,058**	**20,580**	18,691	18,494
US Government-sponsored entities	2	**12,867**	**12,701**	10,998	11,033
UK Government		**20,576**	**21,083**	17,817	18,538
Hong Kong Government		**49,956**	**49,955**	52,269	52,252
Other governments		**142,495**	**144,099**	134,766	136,414
Asset-backed securities	3	**3,579**	**3,390**	6,187	5,781
Corporate debt and other securities		**97,286**	**98,419**	99,136	102,540
Equities		**1,353**	**1,657**	2,989	3,917
At 31 Dec		**404,111**	**406,647**	384,280	390,243

1 Included within 'fair value' figures are debt securities issued by banks and other financial institutions of $56bn (2017: $67bn), of which $8bn (2017: $15bn) are guaranteed by various governments.
2 Includes securities that are supported by an explicit guarantee issued by the US Government.
3 Excludes asset-backed securities included under US Government agencies and sponsored entities.

Maturities of investments in debt securities at their carrying amount

	Up to 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total
	$m	$m	$m	$m	$m
Debt securities measured at fair value through other comprehensive income	**61,598**	**124,075**	**36,194**	**24,504**	**246,371**
Debt securities measured at amortised cost	**2,519**	**10,086**	**16,065**	**33,317**	**61,987**
At 31 Dec 2018	**64,117**	**134,161**	**52,259**	**57,821**	**308,358**
Available-for-sale	63,896	122,113	37,292	30,088	253,389
Held to maturity	3,731	9,406	13,482	26,300	52,919
At 31 Dec 2017	67,627	131,519	50,774	56,388	306,308

Contractual maturities and weighted average yields of investment debt securities

	Up to 1 year		1 to 5 years		5 to 10 years		Over 10 years	
	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield
	$m	%	$m	%	$m	%	$m	%
Debt securities measured at fair value through other comprehensive income								
US Treasury	**947**	**1.6**	**33,220**	**2.1**	**14,396**	**2.3**	**2,376**	**3.1**
US Government agencies	**—**	**—**	**74**	**2.1**	**10**	**3.8**	**9,707**	**2.9**
US Government-sponsored agencies	**1,361**	**3.2**	**1,268**	**2.6**	**2,240**	**2.8**	**4,309**	**3.2**
UK Government	**856**	**0.9**	**5,988**	**1.1**	**5,472**	**0.6**	**859**	**4.4**
Hong Kong Government	**456**	**1.3**	**551**	**1.3**	**63**	**3.0**	**—**	**—**
Other governments	**45,390**	**1.5**	**48,549**	**2.8**	**8,701**	**2.3**	**1,489**	**2.6**
Asset-backed securities	**16**	**5.9**	**25**	**—**	**381**	**2.7**	**3,156**	**2.1**
Corporate debt and other securities	**12,312**	**1.8**	**32,893**	**2.0**	**4,563**	**2.3**	**2,574**	**3.1**
Total amortised cost at 31 Dec 2018	**61,338**		**122,568**		**35,826**		**24,470**	
Total carrying value	**61,598**		**124,075**		**36,194**		**24,504**	
Debt instruments measured at amortised cost								
US Treasury	**34**	**4.2**	**53**	**4.8**	**1**	**1.0**	**152**	**4.0**
US Government agencies	**—**	**—**	**18**	**3.9**	**26**	**3.6**	**11,025**	**2.6**
US Government-sponsored agencies	**50**	**2.2**	**389**	**2.7**	**163**	**2.6**	**3,087**	**3.0**
Hong Kong Government	**8**	**4.9**	**24**	**1.6**	**9**	**1.3**	**7**	**1.5**
Other governments	**329**	**1.8**	**470**	**2.6**	**451**	**2.9**	**744**	**4.1**
Asset-backed securities	**—**	**—**	**—**	**—**	**—**	**—**	**2**	**7.4**
Corporate debt and other securities	**2,098**	**3.2**	**9,132**	**3.4**	**15,415**	**3.4**	**18,300**	**3.6**
Total amortised cost at 31 Dec 2018	**2,519**		**10,086**		**16,065**		**33,317**	
Total carrying value	**2,519**		**10,086**		**16,065**		**33,317**	

The maturity distributions of ABSs are presented in the above table on the basis of contractual maturity dates. The weighted average yield for each range of maturities is calculated by dividing the annualised interest income for the year ended 31 December 2018 by the book amount of debt securities at that date. The yields do not include the effect of related derivatives.

17 Assets pledged, collateral received and assets transferred

Assets pledged

Financial assets pledged as collateral

	Footnotes	2018	2017
		$m	$m
Treasury bills and other eligible securities		**11,470**	10,183
Loans and advances to banks	1	**151**	14,518
Loans and advances to customers	1	**51,659**	68,336
Debt securities		**95,210**	96,245
Equity securities		**22,510**	33,209
Other	1	**34,028**	2,743
Assets pledged at 31 Dec	2	**215,028**	225,234

1 *Settlement accounts, cash collateral and margin receivables included within 'Loans and advances to banks' and 'Loans and advances to customers' were reclassified from 'Trading assets' to 'Other assets' on 1 January 2018. Comparative data has not been restated.*

2 *Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

Assets pledged as collateral include all assets categorised as encumbered in the disclosure on page 72 of the Pillar 3 Disclosures at 31 December 2018.

The amount of assets pledged to secure liabilities may be greater than the book value of assets utilised as collateral. For example, in the case of securitisations and covered bonds, the amount of liabilities issued plus mandatory over-collateralisation is less than the book value of the pool of assets available for use as collateral. This is also the case where assets are placed with a custodian or a settlement agent that has a floating charge over all the assets placed to secure any liabilities under settlement accounts.

These transactions are conducted under terms that are usual and customary to collateralised transactions including, where relevant, standard securities lending and borrowing, repurchase agreements and derivative margining. HSBC places both cash and non-cash collateral in relation to derivative transactions.

Financial assets pledged as collateral which the counterparty has the right to sell or repledge

	2018	2017
	$m	$m
Trading assets	76,121	70,117
Financial investments	15,741	13,581
At 31 Dec	**91,862**	83,698

Collateral received

The fair value of assets accepted as collateral, relating primarily to standard securities lending, reverse repurchase agreements, swaps of securities and derivative margining, that HSBC is permitted to sell or repledge in the absence of default was $482,818m (2017: $387,678m). The fair value of any such collateral sold or repledged was $350,848m (2017: $243,531m).

HSBC is obliged to return equivalent securities. These transactions are conducted under terms that are usual and customary to standard securities lending, reverse repurchase agreements and derivative margining.

Assets transferred

The assets pledged include transfers to third parties that do not qualify for derecognition, notably secured borrowings such as debt securities held by counterparties as collateral under repurchase agreements and equity securities lent under securities lending agreements, as well as swaps of equity and debt securities. For secured borrowings, the transferred asset collateral continues to be recognised in full and a related liability, reflecting the Group's obligation to repurchase the assets for a fixed price at a future date, is also recognised on the balance sheet. Where securities are swapped, the transferred asset continues to be recognised in full. There is no associated liability as the non-cash collateral received is not recognised on the balance sheet. The Group is unable to use, sell or pledge the transferred assets for the duration of the transaction, and remains exposed to interest rate risk and credit risk on these pledged assets. With the exception of 'Other sales' in the table below, the counterparty's recourse is not limited to the transferred assets.

Transferred financial assets not qualifying for full derecognition and associated financial liabilities

	Carrying amount of:		Fair value of:		
	Transferred assets	Associated liabilities	Transferred assets	Associated liabilities	Net position
	$m	$m	$m	$m	$m
At 31 Dec 2018					
Repurchase agreements	62,216	60,361			
Securities lending agreements	32,486	2,426			
Other sales (recourse to transferred assets only)	2,647	2,647	2,625	2,630	(5)
At 31 Dec 2017					
Repurchase agreements	55,510	52,093			
Securities lending agreements	33,878	3,324			
Other sales (recourse to transferred assets only)	2,387	2,388	2,377	2,378	(1)

18 Interests in associates and joint ventures

Associates

At 31 December 2018, the carrying amount of HSBC's interests in associates was $22,244m (2017: $22,577m).

Principal associates of HSBC

	2018		2017	
	Carrying amount	Fair value[1]	Carrying amount	Fair value[1]
	$m	$m	$m	$m
Bank of Communications Co., Limited	17,754	10,991	18,057	10,491
The Saudi British Bank	3,557	5,222	3,618	4,320

1 *Principal associates are listed on recognised stock exchanges. The fair values are based on the quoted market prices of the shares held (Level 1 in the fair value hierarchy).*

		At 31 Dec 2018		
	Footnotes	Country of incorporation and principal place of business	Principal activity	HSBC's interest %
Bank of Communications Co., Limited		People's Republic of China	Banking services	19.03
The Saudi British Bank	*1*	Saudi Arabia	Banking services	40.00

1 *In 2018, The Saudi British Bank announced a merger agreement with Alawwal Bank in Saudi Arabia. The merger, subject to shareholder and regulatory approval, is expected to be completed in 2019 and would dilute HSBC's shareholding in the merged bank from 40% to 29.2%.*

A list of all associates and joint ventures is set out on page 341.

Bank of Communications Co., Limited ('BoCom')

The Group's investment in BoCom is classified as an associate. Significant influence in BoCom was established via representation on BoCom's Board of Directors and participation in a technical cooperation and exchange programme ('TCEP'). Under the TCEP, a number of HSBC staff have been seconded to assist in the maintenance of BoCom's financial and operating policies. Investments in associates are recognised using the equity method of accounting in accordance with IAS 28, whereby the investment is initially recognised at cost and adjusted thereafter for the post-acquisition change in the Group's share of BoCom's net assets. An impairment test is required if there is any indication of impairment.

Impairment testing

At 31 December 2018, the fair value of HSBC's investment in BoCom had been below the carrying amount for approximately 80 months. As a result, the Group performed an impairment test on the carrying amount of the investment in BoCom, which confirmed there was no impairment at 31 December 2018 as the recoverable amount as determined by a value-in-use ('VIU') calculation was higher than the carrying value.

	At 31 Dec 2018			At 31 Dec 2017		
	VIU	**Carrying value**	**Fair value**	VIU	Carrying value	Fair value
	$bn	**$bn**	**$bn**	$bn	$bn	$bn
Bank of Communications Co., Limited	**18.0**	**17.8**	**11.0**	18.3	18.1	10.5

In future periods, the VIU may increase or decrease depending on the effect of changes to model inputs. The main model inputs are described below and are based on factors observed at the period-end. The factors that could result in a change in the VIU and an impairment include a short-term underperformance by BoCom, a change in regulatory capital requirements, or an increase in uncertainty regarding the future performance of BoCom resulting in a downgrade of the future asset growth or profitability. An increase in the discount rate as a result of an increase in the risk premium or risk-free rates could also result in a reduction of VIU and an impairment. At the point where the carrying value exceeds the VIU, impairment would be recognised.

If the Group did not have significant influence in BoCom, the investment would be carried at fair value rather than the current carrying value.

Basis of recoverable amount

The impairment test was performed by comparing the recoverable amount of BoCom, determined by a VIU calculation, with its carrying amount. The VIU calculation uses discounted cash flow projections based on management's estimates of future earnings available to ordinary shareholders prepared in accordance with IAS 36. Significant management judgement is required in arriving at the best estimate. There are two main components to the VIU calculation. The first component is management's best estimate of BoCom's earnings which is based on management's explicit forecasts over the short to medium term. This results in forecast earnings growth that is lower than recent historical actual growth and also reflects the uncertainty arising from the current economic outlook. Earnings beyond the short to medium term are then extrapolated in perpetuity using a long-term growth rate to derive a terminal value, which comprises the majority of the VIU. The second component is the capital maintenance charge ('CMC') which is management's forecast of the earnings that need to be withheld in order for BoCom to meet regulatory capital requirements over the forecast period (i.e. CMC is deducted when arriving at management's estimate of future earnings available to ordinary shareholders). The principal inputs to the CMC calculation include estimates of asset growth, the ratio of risk-weighted assets to total assets, and the expected minimum regulatory capital requirements. An increase in the CMC as a result of a change to these principal inputs would reduce VIU. Additionally, management considers other factors (including qualitative factors) to ensure that the inputs to the VIU calculation remain appropriate.

Key assumptions in value-in-use calculation

We used a number of assumptions in our VIU calculation, in accordance with the requirements of IAS 36:

- Long-term profit growth rate: 3% (2017: 3%) for periods after 2022, which does not exceed forecast GDP growth in mainland China and is consistent with forecasts by external analysts.
- Long-term asset growth rate: 3% (2017: 3%) for periods after 2022, which is the rate that assets are expected to grow to achieve long-term profit growth of 3%.
- Discount rate: 11.82% (2017: 11.85%), which is based on a capital asset pricing model ('CAPM') calculation for BoCom, using market data. Management also compares rates derived from the CAPM with discount rates from external sources. The discount rate used was within the range of 10.4% to 15.0% (2017: 10.2% to 13.4%) indicated by external sources.
- Loan impairment charge as a percentage of customer advances: an increased range from 0.73% to 0.79% (2017: 0.66% to 0.82%) in the short to medium term reflect US-China trade tensions. For periods after 2022, the ratio is 0.70% (2017: 0.70%), which is slightly higher than the historical average.
- Risk-weighted assets as a percentage of total assets: 62% (2017: 62%) for all forecast periods. This is slightly higher than BoCom's actual results and slightly lower than the forecasts disclosed by external analysts.
- Cost-income ratio: ranges from 38.7% to 39.0% (2017: 37.1% to 38.0%) in the short to medium term. This is consistent with the forecasts disclosed by external analysts.
- Effective tax rate: ranges from 13.8% to 22.3% (2017: 18.2% to 22.5%) in the short to medium term, reflecting an expected increase towards the long-term assumption. For periods after 2022, the rate is 22.5% (2017: 22.5%), which is slightly higher than the historical average.
- Regulatory capital requirements: capital adequacy ratio of 11.5% (2017:11.5%) and tier 1 capital adequacy ratio of 9.5% (2017: 9.5%), based on the minimum regulatory requirements.

The following table shows the change to each key assumption in the VIU calculation that on its own would reduce the headroom to nil.

Key assumption	Changes to key assumption to reduce headroom to nil
• Long-term profit growth rate	• decreases by 13 basis points
• Long-term asset growth rate	• increases by 12 basis points
• Discount rate	• increases by 16 basis points
• Loan impairment charge as a percentage of customer advances	• increases by 2 basis points
• Risk-weighted assets as a percentage of total assets	• increases by 77 basis points
• Cost-income ratio	• increases by 50 basis points
• Long-term effective tax rate	• increases by 123 basis points
• Regulatory capital requirements – capital adequacy ratio	• increases by 14 basis points
• Regulatory capital requirements – tier 1 capital adequacy ratio	• increases by 75 basis points

The following table further illustrates the impact on VIU of reasonably possible changes to key assumptions. This reflects the sensitivity of the VIU to each key assumption on its own and it is possible that more than one favourable and/or unfavourable change will occur at the same time. The selected rates of reasonably possible changes to key assumptions are largely based on external analysts' forecasts, which can change from period to period.

Sensitivity of VIU to reasonably possible changes in key assumptions

	Favourable change			Unfavourable change		
		Increase in VIU	VIU		Decrease in VIU	VIU
	bps	$bn	$bn	bps	$bn	$bn
At 31 Dec 2018						
Long-term profit growth rate	**100**	**2.6**	**20.6**	**(10)**	**(0.2)**	**17.8**
Long-term asset growth rate	**(10)**	**0.3**	**18.3**	**100**	**(2.8)**	**15.3**
Discount rate	**(142)**	**3.2**	**21.3**	**28**	**(0.5)**	**17.5**
Loan impairment charge as a percentage of customer advances	**2018-22: 0.70% 2023 onwards: 0.65%**	**0.9**	**18.9**	**2018-22: 0.83% 2023 onwards: 0.77%**	**(1.0)**	**17.0**
Risk-weighted assets as a percentage of total assets	**(140)**	**0.5**	**18.6**	**80**	**(0.3)**	**17.8**
Cost-income ratio	**(160)**	**1.1**	**19.2**	**200**	**(1.4)**	**16.7**
Long term effective tax rate	**(280)**	**0.7**	**18.7**	**250**	**(0.6)**	**17.5**
Earnings in short to medium term – compound annual growth rate[1]	**204**	**1.6**	**19.6**	**(366)**	**(2.5)**	**15.5**
Regulatory capital requirements – capital adequacy ratio	**—**	**—**	**18.0**	**258**	**(5.0)**	**13.0**
Regulatory capital requirements - tier 1 capital adequacy ratio	**—**	**—**	**18.0**	**243**	**(3.2)**	**14.8**
At 31 Dec 2017						
Long-term profit growth rate	200	6.6	24.9	—	—	18.3
Long-term asset growth rate	(20)	0.5	18.9	200	(7.1)	11.2
Discount rate	(35)	0.7	19.1	65	(1.2)	17.1
Loan impairment charge as a percentage of customer advances	2017-20: 0.71% 2021 onwards: 0.70%	0.1	18.5	2017-20: 0.90% 2021 onwards: 0.77%	(1.3)	17.0
Risk-weighted assets as a percentage of total assets	(60)	0.2	18.6	30	(0.1)	18.2
Cost-income ratio	(173)	1.5	19.8	—	—	18.3
Long-term effective tax rate	(120)	0.3	18.6	250	(0.67)	17.7
Earnings in short to medium term – compound annual growth rate[1]	288	2.8	21.1	(311)	(3.6)	14.7
Regulatory capital requirements – capital adequacy ratio	—	—	18.3	248	(5.6)	12.7
Regulatory capital requirements – tier 1 capital adequacy ratio	—	—	18.3	234	(3.5)	14.8

1 *Based on management's explicit forecasts over the short to medium term.*

Considering the interrelationship of the changes set out in the table above, management estimates that the reasonably possible range of VIU is $15.5bn to $19.6bn (2017: $14.7bn to $21.1bn). In 2018, the range is based on the favourable/unfavourable change in the earnings in the short to medium-term and long-term LICs set out in the table above. All other long-term assumptions, the discount rate and the basis of the CMC have been kept unchanged when determining the reasonably possible range of the VIU.

Selected financial information of BoCom

The statutory accounting reference date of BoCom is 31 December. For the year ended 31 December 2018, HSBC included the associate's results on the basis of the financial statements for the 12 months ended 30 September 2018, taking into account changes in the subsequent period from 1 October 2018 to 31 December 2018 that would have materially affected the results.

Selected balance sheet information of BoCom

	Footnotes	At 30 Sep 2018 $m	2017 $m
Cash and balances at central banks		**125,414**	146,029
Loans and advances to banks and other financial institutions		**102,980**	120,403
Loans and advances to customers		**686,951**	662,706
Other financial assets		**408,136**	386,067
Other assets		**42,106**	58,202
Total assets		**1,365,587**	1,373,407
Deposits by banks and other financial institutions		**304,395**	366,993
Customer accounts		**829,539**	747,882
Other financial liabilities		**94,900**	123,751
Other liabilities		**36,332**	32,568
Total liabilities		**1,265,166**	1,271,194
Total equity	1	**100,421**	102,213

1 *Due to the adoption of IFRS9, the opening equity of BoCom at 1 January 2018 was reduced by $4,053m.*

Reconciliation of BoCom's total shareholders' equity to the carrying amount in HSBC's consolidated financial statements

	At 30 Sep 2018 $m	2017 $m
HSBC's share of total shareholders' equity	**17,275**	17,551
Goodwill and other intangible assets	**479**	506
Carrying amount	**17,754**	18,057

Selected income statement information of BoCom

	For the 12 months ended 30 Sep 2018 $m	2017 $m
Net interest income	**19,295**	19,080
Net fee and commission income	**6,245**	5,698
Change in expected credit losses/loan impairment charges	**(5,602)**	(4,286)
Depreciation and amortisation	**(767)**	(1,342)
Tax expense	**(1,554)**	(2,234)
Profit for the year	**11,116**	10,288
Other comprehensive income	**190**	(624)
Total comprehensive income	**11,306**	9,664
Dividends received from BoCom	**611**	565

Summarised aggregate financial information for all associates excluding BoCom

	2018 $m	2017 $m
Carrying amount	**4,482**	4,520
HSBC's share of:		
– total assets	**20,470**	20,625
– total liabilities	**15,675**	16,119
– revenues	**959**	1,051
– profit or loss from continuing operations	**487**	487

Joint ventures

At 31 December 2018, the carrying amount of HSBC's interests in joint ventures was $163m (2017: $167m).

Associates and joint ventures

For the year ended 31 December 2018, HSBC's share of associates' and joint ventures' tax on profit was $306m (2017: $440m). This is included within 'Share of profit in associates and joint ventures' in the 'Consolidated income statement'.

Movements in interests in associates and joint ventures

	Footnotes	2018 $m	2017 $m
As at 31 Dec 2017		**22,744**	20,029
Impact on transition to IFRS 9		**(942)**	N/A
At 1 Jan		**21,802**	20,029
Additions		**81**	60
Disposals		**(85)**	(67)
Share of results		**2,536**	2,375
Dividends		**(910)**	(740)
Exchange differences		**(1,018)**	1,144
Share of other comprehensive income of associates and joint ventures		**(64)**	(43)
Other movements		**65**	(14)
At 31 Dec	1	**22,407**	22,744

1 *Includes goodwill of $511m (2017: $521m).*

19 Investments in subsidiaries

Main subsidiaries of HSBC Holdings

	At 31 Dec 2018		
	Place of incorporation or registration	**HSBC's interest %**	**Share class**
Europe			
HSBC Bank plc	**England and Wales**	**100**	**£1 Ordinary, $0.01 Non-cumulative third Dollar Preference**
HSBC UK Bank plc	**England and Wales**	**100**	**£1 Ordinary**
HSBC France	**France**	**99.99**	**€5 Actions**
HSBC Trinkaus & Burkhardt AG	**Germany**	**80.67**	**Stückaktien no par value**
Asia			
Hang Seng Bank Limited	**Hong Kong**	**62.14**	**HK$5 Ordinary**
HSBC Bank (China) Company Limited	**People's Republic of China**	**100**	**CNY1 Ordinary**
HSBC Bank Malaysia Berhad	**Malaysia**	**100**	**RM0.50 Ordinary**
HSBC Life (International) Limited	**Bermuda**	**100**	**HK$1 Ordinary**
The Hongkong and Shanghai Banking Corporation Limited	**Hong Kong**	**100**	**Ordinary no par value**
Middle East and North Africa			
HSBC Bank Middle East Limited	**United Arab Emirates**	**100**	**$1 Ordinary and $1 Cumulative Redeemable Preference shares (CRP)**
North America			
HSBC Bank Canada	**Canada**	**100**	**Common no par value and Preference no par value**
HSBC Bank USA, N.A.	**US**	**100**	**$100 Common and $0.01 Preference**
Latin America			
HSBC Mexico, S.A., Institución de Banca Múltiple, Grupo Financiero HSBC	**Mexico**	**99.99**	**MXN2 Ordinary**

Details of the debt, subordinated debt and preference shares issued by the main subsidiaries to parties external to the Group are included in Notes 25 'Debt securities in issue', 28 'Subordinated liabilities' and 31 'Non-controlling interests', respectively.

A list of all related undertakings is set out on pages 340 to 341. The principal countries of operation are the same as the countries and territories of incorporation except for HSBC Life (International) Limited, which operates mainly in Hong Kong.

HSBC is structured as a network of regional banks and locally incorporated regulated banking entities. Each bank is separately capitalised in accordance with applicable prudential requirements and maintains a capital buffer consistent with the Group's risk appetite for the relevant country or region. HSBC's capital management process is incorporated in the annual operating plan, which is approved by the Board.

HSBC Holdings is the primary provider of equity capital to its subsidiaries and also provides them with non-equity capital where necessary. These investments are substantially funded by HSBC Holdings' issuance of equity and non-equity capital, and by profit retention. The increase in HSBC Holding investments in subsidiaries of $67,300m during the year (2017: reduction of $2,920m) was driven by $82,570m of restructuring and new capital injections (2017: $1,744m), $2,200m part reversal of the impairment previously recognised in relation to HSBC Overseas Holdings (UK) Limited (2017: nil), $197m other movements (2017: reduction of $289m), partially offset by $17,348m net return of capital from subsidiaries (2017: $4,070m), $136m movement in impairment (2017: $63m) and $183m intra-Group disposals (2017: $242m). The part reversal of impairment in relation to HSBC Overseas Holdings (UK) Limited is due to an increase in the future expected cash flows from this entity.

As part of its capital management process, HSBC Holdings seeks to maintain a balance between the composition of its capital and its investment in subsidiaries. Subject to this, there is no current or foreseen impediment to HSBC Holdings' ability to provide funding for such investments. During 2018, consistent with the Group's capital plan, the Group's subsidiaries did not experience any significant restrictions on paying dividends or repaying loans and advances. Also, there are no foreseen restrictions envisaged with regard to planned dividends or payments. However, the ability of subsidiaries to pay dividends or advance monies to HSBC Holdings depends on, among other things, their respective local regulatory capital and banking requirements, exchange controls, statutory reserves, and financial and operating performance.

The amount of guarantees by HSBC Holdings in favour of other Group entities is set out in Note 33.

Information on structured entities consolidated by HSBC where HSBC owns less than 50% of the voting rights is included in Note 20 'Structured entities'. In each of these cases, HSBC controls and consolidates an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

Subsidiaries with significant non-controlling interests

	2018	2017
Hang Seng Bank Limited		
Proportion of ownership interests and voting rights held by non-controlling interests	**37.86%**	37.86%
Place of business	**Hong Kong**	Hong Kong
	$m	$m
Profit attributable to non-controlling interests	**1,194**	997
Accumulated non-controlling interests of the subsidiary	**6,637**	6,233
Dividends paid to non-controlling interests	**647**	594
Summarised financial information:		
– total assets	**197,867**	186,638
– total liabilities	**179,450**	169,275
– net operating income before changes in expected credit losses and other credit impairment charges	**5,294**	4,556
– profit for the year	**3,159**	2,632
– total comprehensive income for the year	**2,950**	2,895

20 Structured entities

HSBC is mainly involved with both consolidated and unconsolidated structured entities through the securitisation of financial assets, conduits and investment funds, established either by HSBC or a third party.

Consolidated structured entities

Total assets of HSBC's consolidated structured entities, split by entity type

	Conduits	Securitisations	HSBC managed funds	Other	Total
	$bn	$bn	$bn	$bn	$bn
At 31 Dec 2018	**9.2**	**5.7**	**6.5**	**4.4**	**25.8**
At 31 Dec 2017	12.9	4.8	7.0	3.2	27.9

Conduits

HSBC has established and manages two types of conduits: securities investment conduits ('SICs') and multi-seller conduits.

Securities investment conduits

The SICs purchase highly rated ABSs to facilitate tailored investment opportunities.

- At 31 December 2018, Solitaire, HSBC's principal SIC, held $2.3bn of ABSs (2017: $3.2bn). These are included within the disclosures of ABSs on page 161. It is currently funded entirely by commercial paper ('CP') issued to HSBC. Although HSBC continues to provide a liquidity facility, Solitaire has no need to draw on it as long as HSBC purchases its issued CP, which HSBC intends to do for the foreseeable future. At 31 December 2018, HSBC held $3.4bn of CP (2017: $4.6bn).
- Mazarin is funded by medium-term notes, and is no longer funded by repurchase agreements. HSBC's primary exposure to Mazarin is represented by the amortised cost of the debt required to support the non-cash assets of the vehicles. At 31 December 2018, this amounted to $0.5bn (2017: $0.9bn). The first loss protection is provided through the capital notes issued by the vehicle, which are held substantially by third parties.
- Barion and Malachite's clean-up redemption conditions were triggered in March 2018 and August 2018 respectively, resulting in the full redemption of these vehicles.

Multi-seller conduit

HSBC's multi-seller conduit was established to provide access to flexible market-based sources of finance for its clients. Currently, HSBC bears risk equal to the transaction-specific facility offered to the multi-seller conduit, amounting to $16.1bn at 31 December 2018 (2017: $15.7bn). First loss protection is provided by the originator of the assets, and not by HSBC, through transaction-specific credit enhancements. A layer of secondary loss protection is provided by HSBC in the form of programme-wide enhancement facilities.

Securitisations

HSBC uses structured entities to securitise customer loans and advances it originates in order to diversify its sources of funding for asset origination and capital efficiency purposes. The loans and advances are transferred by HSBC to the structured entities for cash or synthetically through credit default swaps, and the structured entities issue debt securities to investors.

HSBC managed funds

HSBC has established a number of money market and non-money market funds. Where it is deemed to be acting as principal rather than agent in its role as investment manager, HSBC controls these funds.

Other

HSBC has entered into a number of transactions in the normal course of business, which include asset and structured finance transactions where it has control of the structured entity. In addition, HSBC is deemed to control a number of third-party managed funds through its involvement as a principal in the funds.

Unconsolidated structured entities

The term 'unconsolidated structured entities' refers to all structured entities not controlled by HSBC. The Group enters into transactions with unconsolidated structured entities in the normal course of business to facilitate customer transactions and for specific investment opportunities.

Nature and risks associated with HSBC interests in unconsolidated structured entities

	Securitisations	HSBC managed funds	Non-HSBC managed funds	Other	Total
Total asset values of the entities ($m)					
0–500	**76**	**243**	**906**	**79**	**1,304**
500–2,000	**10**	**56**	**570**	**5**	**641**
2,000–5,000	**1**	**17**	**230**	**—**	**248**
5,000–25,000	**—**	**5**	**90**	**1**	**96**
25,000+	**—**	**2**	**10**	**—**	**12**
Number of entities at 31 Dec 2018	**87**	**323**	**1,806**	**85**	**2,301**
	$bn	**$bn**	**$bn**	**$bn**	**$bn**
Total assets in relation to HSBC's interests in the unconsolidated structured entities	**3.8**	**8.3**	**8.9**	**4.7**	**25.7**
– trading assets	**—**	**0.1**	**0.3**	**1.3**	**1.7**
– financial assets designated and otherwise mandatorily measured at fair value	**—**	**7.3**	**7.9**	**—**	**15.2**
– loans and advances to customers	**3.8**	**—**	**0.3**	**2.7**	**6.8**
– financial investments	**—**	**0.9**	**0.4**	**0.3**	**1.6**
– other assets	**—**	**—**	**—**	**0.4**	**0.4**
Total liabilities in relation to HSBC's interests in the unconsolidated structured entities	**—**	**—**	**—**	**0.2**	**0.2**
– other liabilities	**—**	**—**	**—**	**0.2**	**0.2**
Other off-balance sheet commitments	**0.8**	**0.1**	**3.3**	**1.0**	**5.2**
HSBC's maximum exposure at 31 Dec 2018	**4.6**	**8.4**	**12.2**	**5.5**	**30.7**
Total asset values of the entities ($m)					
0–500	78	321	930	210	1,539
500–2,000	6	56	578	3	643
2,000–5,000	—	17	235	—	252
5,000–25,000	2	10	104	1	117
25,000+	—	2	11	—	13
Number of entities at 31 Dec 2017	86	406	1,858	214	2,564
	$bn	$bn	$bn	$bn	$bn
Total assets in relation to HSBC's interests in the unconsolidated structured entities	4.0	9.1	9.3	4.1	26.5
– trading assets	—	0.2	0.2	2.4	2.8
– financial assets designated at fair value	—	8.0	8.3	—	16.3
– loans and advances to banks	—	—	—	0.1	0.1
– loans and advances to customers	4.0	—	—	1.1	5.1
– financial investments	—	0.9	0.8	0.1	1.8
– other assets	—	—	—	0.4	0.4
Total liabilities in relation to HSBC's interests in the unconsolidated structured entities	—	—	—	0.3	0.3
– other liabilities	—	—	—	0.3	0.3
Other off-balance sheet commitments	—	0.1	2.2	0.3	2.6
HSBC's maximum exposure at 31 Dec 2017	4.0	9.2	11.5	4.4	29.1

The maximum exposure to loss from HSBC's interests in unconsolidated structured entities represents the maximum loss it could incur as a result of its involvement with these entities regardless of the probability of the loss being incurred.

- For commitments, guarantees and written credit default swaps, the maximum exposure to loss is the notional amount of potential future losses.
- For retained and purchased investments in and loans to unconsolidated structured entities, the maximum exposure to loss is the carrying value of these interests at the balance sheet reporting date.

The maximum exposure to loss is stated gross of the effects of hedging and collateral arrangements that HSBC has entered into in order to mitigate the Group's exposure to loss.

Securitisations

HSBC has interests in unconsolidated securitisation vehicles through holding notes issued by these entities. In addition, HSBC has investments in ABSs issued by third-party structured entities, as set out on page 160.

HSBC managed funds

HSBC establishes and manages money market funds and non-money market investment funds to provide customers with investment opportunities. Further information on funds under management is provided on page 87.

HSBC, as fund manager, may be entitled to receive management and performance fees based on the assets under management. HSBC may also retain units in these funds.

Non-HSBC managed funds

HSBC purchases and holds units of third-party managed funds in order to facilitate business and meet customer needs.

Other

HSBC has established structured entities in the normal course of business, such as structured credit transactions for customers, to provide finance to public and private sector infrastructure projects, and for asset and structured finance transactions.

In addition to the interests disclosed above, HSBC enters into derivative contracts, reverse repos and stock borrowing transactions with structured entities. These interests arise in the normal course of business for the facilitation of third-party transactions and risk management solutions.

HSBC sponsored structured entities

The amount of assets transferred to and income received from such sponsored structured entities during 2018 and 2017 were not significant.

21 Goodwill and intangible assets

		2018	2017
	Footnotes	$m	$m
Goodwill		**12,986**	13,588
Present value of in-force long-term insurance business		**7,149**	6,610
Other intangible assets	1	**4,222**	3,255
At 31 Dec	2	**24,357**	23,453

1 *Included within other intangible assets is internally generated software with a net carrying value of $3,632m (2017: $2,641m). During the year, capitalisation of internally generated software was $1,781m (2017: $1,157m) and amortisation was $687m (2017: $570m).*
2 *Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

Movement analysis of goodwill

	2018	2017
	$m	$m
Gross amount		
At 1 Jan	**22,902**	21,445
Exchange differences	**(617)**	1,490
Other	**(105)**	(33)
At 31 Dec	**22,180**	22,902
Accumulated impairment losses		
At 1 Jan	**(9,314)**	(9,115)
Exchange differences	**120**	(327)
Other	**—**	128
At 31 Dec	**(9,194)**	(9,314)
Net carrying amount at 31 Dec	**12,986**	13,588

Impairment testing

The Group's impairment test in respect of goodwill allocated to each cash-generating unit ('CGU') is performed as at 1 July each year. A review for indicators of impairment is undertaken at each subsequent quarter-end and as at 31 December 2018. No indicators of impairment were identified as part of these reviews.

Basis of the recoverable amount

The recoverable amount of all CGUs to which goodwill has been allocated was equal to its value in use ('VIU') at each respective testing date for 2017 and 2018. For each CGU, the VIU is calculated by discounting management's cash flow projections for the CGU. The key assumptions used in the VIU calculation for each significant CGU are discussed below.

Key assumptions in VIU calculation

	Goodwill at 1 Jul 2018	Discount rate	Nominal growth rate beyond initial cash flow projections	Goodwill at 1 Jul 2017	Discount rate	Nominal growth rate beyond initial cash flow projections
	$m	%	%	$m	%	%
Cash-generating unit						
Europe						
RBWM	**3,565**	**8.1**	**3.8**	3,508	8.9	3.7
CMB	**2,626**	**9.4**	**3.7**	2,570	9.9	3.6
Global						
GB&M	**4,045**	**9.8**	**5.6**	4,000	10.6	5.8

At 1 July 2018, aggregate goodwill of $3,061m (1 July 2017: $3,059m) had been allocated to CGUs that were not considered individually significant. The Group's CGUs do not carry on their balance sheets any significant intangible assets with indefinite useful lives, other than goodwill.

Management's judgement in estimating the cash flows of a CGU

The cash flow projections for each CGU are based on plans approved by the GMB. For the goodwill impairment test conducted at 1 July 2018, management's cash flow projections until the end of 2022 were used.

Discount rate

The rate used to discount the cash flows is based on the cost of capital assigned to each CGU, which is derived using a capital asset pricing model ('CAPM'). CAPM depends on a number of inputs reflecting financial and economic variables, including the risk-free rate and a premium to reflect the inherent risk of the business being evaluated. These variables are based on the market's assessment of the economic variables and management's judgement. The discount rates for each CGU are refined to reflect the rates of inflation for the countries within which the CGU operate. In addition, for the purposes of testing goodwill for impairment, management supplements this process by comparing the discount rates derived using the internally generated CAPM, with the cost of capital rates produced by external sources for businesses operating in similar markets.

Nominal long-term growth rate

The long-term growth rate is used to extrapolate the cash flows in perpetuity because of the long-term perspective within the Group of business units making up the CGUs. These growth rates reflect GDP and inflation for the countries within which the CGU operates or from which it derives revenue.

Sensitivities of key assumptions in calculating VIU

At 1 July 2018, none of the CGUs were sensitive to reasonably possible adverse changes in key assumptions supporting the recoverable amount. In making an estimate of reasonably possible changes to assumptions, management considers the available evidence in respect of each input to the model, such as the external range of discount rates observable, historical performance against forecast and risks attaching to the key assumptions underlying cash flow projections.

Present value of in-force long-term insurance business

When calculating the present value of in-force long-term ('PVIF') insurance business, expected cash flows are projected after adjusting for a variety of assumptions made by each insurance operation to reflect local market conditions and management's judgement of future trends, and uncertainty in the underlying assumptions is reflected by applying margins (as opposed to a cost of capital methodology). Variations in actual experience and changes to assumptions can contribute to volatility in the results of the insurance business.

Actuarial Control Committees of each key insurance entity meet on a quarterly basis to review and approve PVIF assumptions. All changes to non-economic assumptions, economic assumptions that are not observable and model methodologies must be approved by the Actuarial Control Committee.

Movements in PVIF

	Footnotes	2018 $m	2017 $m
As at 31 Dec 2017		**6,610**	6,502
Impact on transition to IFRS 9		**(78)**	N/A
At 1 Jan		**6,532**	6,502
Change in PVIF of long-term insurance business		**673**	24
– value of new business written during the year		**1,117**	919
– expected return	1	**(719)**	(599)
– assumption changes and experience variances (see below)		**292**	(280)
– other adjustments		**(17)**	(16)
Exchange differences and other movements		**(56)**	84
At 31 Dec		**7,149**	6,610

1 *'Expected return' represents the unwinding of the discount rate and reversal of expected cash flows for the period.*

Assumption changes and experience variances

Included within this line item are:

- $(56)m (2017: $(98)m), directly offsetting regulatory-driven changes to the valuation of liabilities under insurance contracts.
- $455m (2017: $(141)m), reflecting the future expected sharing of returns with policyholders on contracts with discretionary participation features ('DPF'), to the extent this sharing is not already included in liabilities under insurance contracts.
- $(107)m (2017: $(41)m), driven by other assumptions changes and experience variances.

Key assumptions used in the computation of PVIF for main life insurance operations

Economic assumptions are set in a way that is consistent with observable market values. The valuation of PVIF is sensitive to observed market movements and the impact of such changes is included in the sensitivities presented below.

	2018		2017	
	Hong Kong %	France[1] %	Hong Kong %	France[1] %
Weighted average risk-free rate	**2.29**	**1.52**	2.02	1.50
Weighted average risk discount rate	**5.90**	**2.35**	6.20	2.20
Expense inflation	**3.00**	**1.70**	3.00	1.48

1 *For 2018, the calculation of France's PVIF assumes a risk discount rate of 2.35% (2017: 2.20%) plus a risk margin of $109m (2017: $80m).*

Sensitivity to changes in economic assumptions

The Group sets the risk discount rate applied to the PVIF calculation by starting from a risk-free rate curve and adding explicit allowances for risks not reflected in the best-estimate cash flow modelling. Where the insurance operations provide options and guarantees to policyholders the cost of these options and guarantees is an explicit reduction to PVIF, unless it is already allowed for as an explicit addition to the technical provisions required by regulators. See page 190 for further details of these guarantees and the impact of changes in economic assumptions on our insurance manufacturing subsidiaries.

Sensitivity to changes in non-economic assumptions

Policyholder liabilities and PVIF are determined by reference to non-economic assumptions, including mortality and/or morbidity, lapse rates and expense rates. See page 191 for further details on the impact of changes in non-economic assumptions on our insurance manufacturing operations.

22 Prepayments, accrued income and other assets

	Footnotes	2018 $m	2017 $m
Prepayments and accrued income		**8,715**	7,929
Settlement accounts	1, 2	**13,957**	N/A
Cash collateral and margin receivables	1, 2	**33,202**	N/A
Assets held for sale		**735**	781
Bullion		**13,753**	13,128
Endorsements and acceptances		**9,623**	9,750
Reinsurers' share of liabilities under insurance contracts (Note 4)		**2,506**	2,471
Employee benefit assets (Note 6)		**7,934**	8,752
Property, plant and equipment		**10,060**	10,027
Other accounts		**10,086**	14,353
At 31 Dec		**110,571**	67,191

1 *Settlement accounts, cash collateral and margin receivables were reclassified from 'Trading assets' to 'Other assets' on 1 January 2018 and comparative data was not restated. This reclassification was in accordance with IFRS 9. See Note 37 for further details.*
2 *Settlement accounts, cash collateral and margin receivables were reclassified from 'Loans and advances to banks and customers' to 'Other assets' on 1 January 2018. This reclassification is to better reflect the nature of these balances and ensure consistency of presentation. Comparative data was not restated as the reclassification is not significant in the context of other changes to the balance sheet resulting from the adoption of IFRS 9. See Note 37 for further details.*

Prepayments, accrued income and other assets include $74,151m (2017: $30,431m) of financial assets, the majority of which are measured at amortised cost.

23 Trading liabilities

	Footnotes	2018 $m	2017 $m
Deposits by banks	1, 2	**4,871**	23,297
Customer accounts	1, 2, 3	**8,614**	52,595
Other debt securities in issue (Note 25)	4	**1,400**	40,734
Other liabilities – net short positions in securities		**69,546**	67,735
At 31 Dec		**84,431**	184,361

1 *'Deposits by banks' and 'Customer accounts' include repos, stock lending and other amounts.*
2 *Settlement accounts, cash collateral and margin payables included within 'Deposits by banks' and 'Customer accounts' were reclassified from 'Trading liabilities' to 'Other liabilities' on 1 January 2018. This reclassification is to better reflect the nature of these balances and ensure consistency of presentation. Structured liabilities have moved from 'Trading liabilities' to 'Financial liabilities designated at fair value'. Comparative data was not restated as the reclassification is not significant in the context of other changes to the balance sheet resulting from the adoption of IFRS 9. See Note 37 for further details.*
3 *Structured deposits placed at HSBC Bank USA and HSBC Trust Company (Delaware) National Association are insured by the Federal Deposit Insurance Corporation, a US government agency, up to $250,000 per depositor.*
4 *'Other debt securities in issue' comprises structured notes issued by HSBC for which market risks are actively managed as part of trading portfolios.*

24 Financial liabilities designated at fair value

HSBC

	Footnotes	2018 $m	2017 $m
Deposits by banks and customer accounts	1	**19,003**	145
Liabilities to customers under investment contracts		**5,458**	5,635
Debt securities in issue (Note 25)	1	**109,351**	64,359
Subordinated liabilities (Note 28)		**14,282**	23,831
Preferred securities (Note 28)		**411**	459
At 31 Dec		**148,505**	94,429

1 *Structured liabilities have moved from 'Trading liabilities' to 'Financial liabilities designated at fair value'. Comparatives have not been restated. See Note 37 for further detail.*

The carrying amount of financial liabilities designated at fair value was $11,496m less than the contractual amount at maturity (2017: $5,343m more). The cumulative amount of change in fair value attributable to changes in credit risk was $209m (2017: loss of $4,107m).

HSBC Holdings

	2018	2017
	$m	$m
Debt securities in issue (Note 25)	**17,767**	17,496
Subordinated liabilities (Note 28)	**7,282**	13,394
At 31 Dec	**25,049**	30,890

The carrying amount of financial liabilities designated at fair value was $920m more than the contractual amount at maturity (2017: $3,370m more). The cumulative amount of change in fair value attributable to changes in credit risk was a loss of $812m (2017: loss of $2,209m).

25 Debt securities in issue

HSBC

		2018	2017
	Footnotes	$m	$m
Bonds and medium-term notes		**162,277**	146,539
Other debt securities in issue		**33,816**	23,100
Total debt securities in issue		**196,093**	169,639
Included within:			
– trading liabilities (Note 23)	1	**(1,400)**	(40,734)
– financial liabilities designated at fair value (Note 24)	1	**(109,351)**	(64,359)
At 31 Dec		**85,342**	64,546

1 *Structured liabilities (including debt securities in issue) have moved from 'Trading liabilities' to 'Financial liabilities designated at fair value'. Comparatives have not been restated. See Note 37 for further detail.*

HSBC Holdings

	2018	2017
	$m	$m
Debt securities	**68,567**	51,754
Included within:		
– financial liabilities designated at fair value (Note 24)	**(17,767)**	(17,496)
At 31 Dec	**50,800**	34,258

26 Accruals, deferred income and other liabilities

		2018	2017
	Footnotes	$m	$m
Accruals and deferred income		**11,296**	11,521
Settlement accounts	1	**13,022**	N/A
Cash collateral and margin payables	1	**41,044**	N/A
Endorsements and acceptances		**9,633**	9,746
Employee benefit liabilities (Note 6)		**2,167**	2,152
Liabilities of disposal groups held for sale		**313**	1,286
Other liabilities		**19,905**	21,202
At 31 Dec		**97,380**	45,907

1 *Settlement accounts, cash collateral and margin payables were reclassified from 'Trading liabilities', 'Deposits by banks' and 'Customer accounts' to 'Other liabilities' on 1 January 2018. This reclassification is to better reflect the nature of these balances and ensure consistency of presentation. Comparative data was not restated as the reclassification is not significant in the context of other changes to the balance sheet resulting from the adoption of IFRS 9. See Note 37 for further details.*

Accruals, deferred income and other liabilities include $87,390m (2017: $34,048m) of financial liabilities, the majority of which are measured at amortised cost.

27 Provisions

	Restructuring costs	Legal proceedings and regulatory matters	Customer remediation	Other provisions	Total
	$m	$m	$m	$m	$m
Provisions (excluding contractual commitments)					
At 31 Dec 2017	**334**	**1,501**	**1,454**	**469**	**3,758**
Additions	**73**	**1,132**	**288**	**232**	**1,725**
Amounts utilised	**(158)**	**(1,255)**	**(838)**	**(143)**	**(2,394)**
Unused amounts reversed	**(107)**	**(279)**	**(90)**	**(131)**	**(607)**
Exchange and other movements	**(12)**	**29**	**(26)**	**(70)**	**(79)**
At 31 Dec 2018	**130**	**1,128**	**788**	**357**	**2,403**
Contractual commitments[1]					
At 31 Dec 2017					**253**
Impact on transition to IFRS 9					**284**
Net change in expected credit loss provision and other movements					**(20)**
At 31 Dec 2018					**517**
Total Provisions					
At 31 Dec 2017					**4,011**
At 31 Dec 2018					**2,920**

	Restructuring costs	Contractual commitments[1]	Legal proceedings and regulatory matters	Customer remediation	Other provisions	Total
	$m	$m	$m	$m	$m	$m
At 1 Jan 2017	551	298	2,436	1,124	364	4,773
Additions	204	87	829	820	280	2,220
Amounts utilised	(353)	(3)	(850)	(543)	(133)	(1,882)
Unused amounts reversed	(103)	(135)	(980)	(52)	(107)	(1,377)
Exchange and other movements	35	6	66	105	65	277
At 31 Dec 2017	334	253	1,501	1,454	469	4,011

1 *The contractual commitments provision at 31 December 2017 represented IAS 37 provisions on off-balance sheet loan commitments and guarantees, for which expected credit losses are provided following transition to IFRS 9 on 1 January 2018. It further includes provisions in respect of insurance contracts.*

Further details of 'Legal proceedings and regulatory matters' are set out in Note 35. Legal proceedings include civil court, arbitration or tribunal proceedings brought against HSBC companies (whether by way of claim or counterclaim), or civil disputes that may, if not settled, result in court, arbitration or tribunal proceedings. Regulatory matters refer to investigations, reviews and other actions carried out by, or in response to the actions of, regulators or law enforcement agencies in connection with alleged wrongdoing by HSBC.

Customer remediation refers to HSBC's activities to compensate customers for losses or damages associated with a failure to comply with regulations or to treat customers fairly. Customer remediation is often initiated by HSBC in response to customer complaints and/or industry developments in sales practices, and is not necessarily initiated by regulatory action. Further details of customer remediation are set out in this note.

Refer to Note 37 for further information on the impact of IFRS 9 on undrawn loan commitments and financial guarantees, presented in 'Contractual commitments'. This provision results from the adoption of IFRS 9 and has no comparatives. Further analysis of the movement in the expected credit loss provision is disclosed within the 'Reconciliation of allowances for loans and advances to banks and customers including loan commitments and financial guarantees' table on page 138.

Payment protection insurance

At 31 December 2018, $555m (2017: $1,174m) of the customer remediation provision relates to the estimated liability for redress in respect of the possible mis-selling of payment protection insurance ('PPI') policies in previous years.

An increase in provisions of $79m was recognised during the second half of 2018, primarily reflecting an adjustment to expected future complaint volumes as a result of increased levels of observed complaints and of information requests during the year.

The estimated liability for redress is calculated on the basis of the total premiums paid by the customer plus simple interest of 8% per annum (or the rate inherent in the related loan product where higher). The basis for calculating the redress liability is the same for single premium and regular premium policies. Future estimated redress levels are based on the historically observed redress per policy.

A total of 5.4 million PPI policies have been sold since 2000, generating estimated revenue of $3.3bn at 2018. The gross written premiums on these policies were approximately $4.4bn.

At 31 December 2018, the estimated total complaints expected to be received were 2.3 million, representing 42% of total policies sold. It is estimated that contact will be made with regard to 2.6 million policies, representing 49% of total policies sold. This estimate includes inbound complaints as well as the Group's proactive contact exercise on certain policies ('outbound contact').

The following table details the cumulative number of complaints received at 31 December 2018 and the number of claims expected in the future:

Cumulative PPI complaints received to 31 December 2018 and future claims expected

	Footnotes	Cumulative actual to 31 Dec 2018	Future expected
Inbound complaints (000s of policies)	1	**1,777**	**183**
Outbound contact (000s of policies)		**685**	**–**
Response rate to outbound contact		**44%**	**n/a**
Average uphold rate per claim	2	**77%**	**83%**
Average redress per claim ($)		**2,729**	**3,130**
Complaints to Financial Ombudsman Service (000s of policies)		**166**	**9**
Average uphold rate per Financial Ombudsman Service claim		**38%**	**32%**

1 *Excludes invalid claims for which no PPI policy exists.*
2 *Claims include inbound and responses to outbound contact.*

A 100,000 increase/decrease in the total inbound complaints would increase/decrease the redress provision by approximately $260m at 2018 average exchange rates.

28 Subordinated liabilities

HSBC's subordinated liabilities

	2018 $m	2017 $m
At amortised cost	**22,437**	19,826
– subordinated liabilities	**20,651**	17,988
– preferred securities	**1,786**	1,838
Designated at fair value (Note 24)	**14,693**	24,290
– subordinated liabilities	**14,282**	23,831
– preferred securities	**411**	459
At 31 Dec	**37,130**	44,116
Issued by HSBC subsidiaries	**13,168**	15,470
Issued by HSBC Holdings	**23,962**	28,646

Subordinated liabilities rank behind senior obligations and generally count towards the capital base of HSBC. Capital securities may be called and redeemed by HSBC subject to prior notification to the PRA and, where relevant, the consent of the local banking regulator. If not redeemed at the first call date, coupons payable may step up or become floating rate based on interbank rates. On capital securities other than floating rate notes, interest is payable at fixed rates of up to 10.176%.

The balance sheet amounts disclosed in the following table are presented on an IFRS basis and do not reflect the amount that the instruments contribute to regulatory capital principally due to regulatory amortisation and regulatory eligibility limits.

HSBC's subordinated liabilities in issue

		Footnotes	First call date	Maturity date	2018 $m	2017 $m
Additional tier 1 capital securities guaranteed by HSBC Holdings plc		1				
$900m	10.176% non-cumulative step-up perpetual preferred securities, series 2		Jun 2030		**892**	892
					892	892
Additional tier 1 capital securities guaranteed by HSBC Bank plc		1				
£300m	5.862% non-cumulative step-up perpetual preferred securities		Apr 2020		**411**	459
£700m	5.844% non-cumulative step-up perpetual preferred securities		Nov 2031		**894**	946
					1,305	1,405
Tier 2 securities issued by HSBC Bank plc						
$750m	Undated floating rate primary capital notes		Jun 1990		**750**	750
$500m	Undated floating rate primary capital notes		Sep 1990		**500**	500
$300m	Undated floating rate primary capital notes, series 3		Jun 1992		**300**	300
$300m	7.65% subordinated notes		—	May 2025	**300**	375
					1,850	1,925
£350m	5.00% callable subordinated notes	2	Mar 2018	Mar 2023	**—**	496
£300m	6.50% subordinated notes		—	Jul 2023	**382**	405
£350m	5.375% callable subordinated step-up notes	3	Nov 2025	Nov 2030	**513**	584
£500m	5.375% subordinated notes		—	Aug 2033	**757**	912
£225m	6.25% subordinated notes		—	Jan 2041	**286**	303
£600m	4.75% subordinated notes		—	Mar 2046	**758**	802
					4,546	5,427
Tier 2 securities issued by The Hongkong and Shanghai Banking Corporation Ltd						
$400m	Primary capital undated floating rate notes (third series)		Jul 1991		**400**	400
					400	400
Tier 2 securities issued by HSBC Bank Malaysia Berhad						
MYR500m	5.05% subordinated bonds		Nov 2022	Nov 2027	**121**	123
					121	123
Tier 2 securities issued by HSBC USA Inc.						
$750m	5.00% subordinated notes		—	Sep 2020	**747**	748
$250m	7.20% subordinated debentures		—	Jul 2097	**221**	221
	Other subordinated liabilities each less than $150m	4			**269**	277
					1,237	1,246
Tier 2 securities issued by HSBC Bank USA, N.A.						
$1,250m	4.875% subordinated notes		—	Aug 2020	**1,226**	1,236
$1,000m	5.875% subordinated notes		—	Nov 2034	**1,106**	1,272
$750m	5.625% subordinated notes		—	Aug 2035	**829**	955
$700m	7.00% subordinated notes		—	Jan 2039	**697**	700
					3,858	4,163
Tier 2 securities issued by HSBC Finance Corporation						
$2,939m	6.676% senior subordinated notes	5	—	Jan 2021	**507**	1,092
Tier 2 securities issued by HSBC Bank Canada						
	Other subordinated liabilities each less than $150m		Oct 1996	Nov 2083	**29**	31
					29	31
Securities issued by HSBC Mexico, S.A.						
$300m	Non-convertible subordinated obligations	6, 7	Jun 2014	Jun 2019	**—**	240
	Other subordinated liability less than $150m	2, 6			**—**	115
					—	355
Securities issued by other HSBC subsidiaries						
Other subordinated liabilities each less than $200m		4			**273**	336
Subordinated liabilities issued by HSBC subsidiaries at 31 Dec		8			**13,168**	15,470

1 See paragraph below, 'Guaranteed by HSBC Holdings or HSBC Bank plc'.
2 These securities were redeemed in the first quarter of 2018.
3 The interest rate payable after November 2025 is the sum of the three-month sterling Libor plus 1.50% percentage points.
4 Some securities included here are ineligible for inclusion in the capital base of HSBC.
5 HSBC tendered for these securities in 2017. In January 2018, a further tender was conducted. The principal balance is now $507m. The original notional of these securities is $2,939m.
6 These securities are ineligible for inclusion in the capital base of HSBC.
7 Approximately $60m of these securities were held by HSBC Holdings.
8 Information regarding the effects of adoption of IFRS 9 can be found in Note 37.

HSBC Holdings' subordinated liabilities

	2018 $m	2017 $m
At amortised cost	**17,715**	15,877
Designated at fair value (Note 24)	**7,282**	13,394
At 31 Dec	**24,997**	29,271

HSBC Holdings' subordinated liabilities in issue

		Footnotes	First call date	Maturity date	2018 $m	2017 $m
Tier 2 securities issued by HSBC Holdings plc						
Amounts owed to third parties						
$2,000m	4.25% subordinated notes	2,3	—	Mar 2024	**2,001**	2,038
$1,500m	4.25% subordinated notes	2	—	Aug 2025	**1,494**	1,586
$1,500m	4.375% subordinated notes	2	—	Nov 2026	**1,470**	1,580
$488m	7.625% subordinated notes	1	—	May 2032	**549**	553
$222m	7.35% subordinated notes	1	—	Nov 2032	**246**	248
$2,000m	6.5% subordinated notes	1	—	May 2036	**2,040**	2,042
$2,500m	6.5% subordinated notes	1	—	Sep 2037	**2,419**	3,365
$1,500m	6.8% subordinated notes	1	—	Jun 2038	**1,489**	1,489
$1,500m	5.25% subordinated notes	2,3	—	Mar 2044	**1,661**	1,755
£650m	5.75% subordinated notes	2	—	Dec 2027	**960**	1,114
£650m	6.75% subordinated notes	2	—	Sep 2028	**826**	873
£750m	7.0% subordinated notes	2	—	Apr 2038	**992**	1,043
£900m	6.0% subordinated notes	2	—	Mar 2040	**1,156**	1,199
€1,600m	6.25% subordinated notes	2	—	Mar 2018	**—**	1,918
€1,750m	6.0% subordinated notes	2	—	Jun 2019	**2,125**	2,349
€1,500m	3.375% subordinated notes	2,3	Jan 2019	Jan 2024	**1,719**	1,827
€1,500m	3.0% subordinated notes	2	—	Jun 2025	**1,725**	2,037
€1,000m	3.125% subordinated notes	2	—	Jun 2028	**1,233**	1,363
					24,105	28,379
Amounts owed to HSBC undertakings						
$900m	10.176% subordinated step-up cumulative notes		Jun 2030	Jun 2040	**892**	892
					892	892
At 31 Dec					**24,997**	29,271

1 *Amounts owed to third parties represent securities included in the capital base of HSBC as tier 2 securities in accordance with the grandfathering provisions under CRD IV rules.*
2 *These securities are included in the capital base of HSBC as fully CRD IV-compliant tier 2 securities on an end point basis.*
3 *These subordinated notes are measured at amortised cost in HSBC Holdings, where the interest rate risk is hedged using a fair value hedge, while they are measured at fair value in the Group.*

Additional tier 1 capital securities

Additional tier 1 capital securities are perpetual subordinated securities on which coupon payments may be deferred or cancelled at the discretion of HSBC. The securities presented in this Note are accounted for as liabilities because HSBC has an obligation to pay dividends in perpetuity. See Note 32 for additional tier 1 capital securities accounted for as equity.

The additional tier 1 securities presented in this section do not meet the identifying criteria in full for recognition as tier 1 capital under CRD IV, but are eligible as regulatory capital subject to grandfathering limits and progressive phase-out.

Guaranteed by HSBC Holdings or HSBC Bank plc

Capital securities guaranteed by HSBC Holdings or HSBC Bank plc were issued by the Jersey limited partnerships. The proceeds of these were lent to the respective guarantors by the limited partnerships in the form of subordinated notes. They qualify as additional tier 1 capital for HSBC under CRD IV by virtue of the application of grandfathering provisions, and the two capital securities guaranteed by HSBC Bank plc also qualify as additional tier 1 capital for HSBC Bank plc (on a solo and a consolidated basis) under CRD IV by virtue of the same grandfathering process.

These preferred securities, together with the guarantee, are intended to provide investors with economic rights equivalent to the rights that they would have had if they had purchased non-cumulative perpetual preference shares of the relevant issuer. There are limitations on the payment of distributions if such payments are prohibited under UK banking regulations or other requirements, if a payment would cause a breach of HSBC's capital adequacy requirements, or if HSBC Holdings or HSBC Bank plc has insufficient distributable reserves (as defined).

HSBC Holdings and HSBC Bank plc have individually covenanted that, if prevented under certain circumstances from paying distributions on the preferred securities in full, they will not pay dividends or other distributions in respect of their ordinary shares, or repurchase or redeem their ordinary shares, until the distribution on the preferred securities has been paid in full.

If the consolidated total capital ratio of HSBC Holdings falls below the regulatory minimum required, or if the Directors expect it to do so in the near term, provided that proceedings have not been commenced for the liquidation, dissolution or winding up of HSBC Holdings, the holders' interests in the preferred securities guaranteed by HSBC Holdings will be exchanged for interests in preference shares issued by HSBC Holdings that have economic terms which are in all material respects equivalent to the preferred securities and their guarantee.

If any of the two issues guaranteed by HSBC Bank plc are outstanding in April 2049 or November 2048 respectively, or if the consolidated total capital ratio of HSBC Bank plc falls below the regulatory minimum required, or if the Directors expect it to do so in the near term, provided that proceedings have not been commenced for the liquidation, dissolution or winding up of HSBC Bank plc, the holders' interests in the preferred securities guaranteed by HSBC Bank plc will be exchanged for interests in preference shares issued by HSBC Bank plc that have economic terms which are in all material respects equivalent to the preferred securities and their guarantee.

Tier 2 capital securities

Tier 2 capital securities are either perpetual or dated subordinated securities on which there is an obligation to pay coupons. These capital securities are included within HSBC's regulatory capital base as tier 2 capital under CRD IV by virtue of the application of grandfathering provisions (with the exception of identified securities that are compliant with CRD IV end point rules). In accordance with CRD IV, the capital contribution of all tier 2 securities is amortised for regulatory purposes in their final five years before maturity.

29 Maturity analysis of assets, liabilities and off-balance sheet commitments

The table on page 320 provides an analysis of consolidated total assets, liabilities and off-balance sheet commitments by residual contractual maturity at the balance sheet date. These balances are included in the maturity analysis as follows:

- Trading assets and liabilities (including trading derivatives but excluding reverse repos, repos and debt securities in issue) are included in the 'Due not more than 1 month' time bucket, because trading balances are typically held for short periods of time.
- Financial assets and liabilities with no contractual maturity (such as equity securities) are included in the 'Due over 5 years' time bucket. Undated or perpetual instruments are classified based on the contractual notice period, which the counterparty of the instrument is entitled to give. Where there is no contractual notice period, undated or perpetual contracts are included in the 'Due over 5 years' time bucket.
- Non-financial assets and liabilities with no contractual maturity are included in the 'Due over 5 years' time bucket.
- Financial instruments included within assets and liabilities of disposal groups held for sale are classified on the basis of the contractual maturity of the underlying instruments and not on the basis of the disposal transaction.
- Liabilities under insurance contracts are included in the 'Due over 5 years' time bucket. Liabilities under investment contracts are classified in accordance with their contractual maturity. Undated investment contracts are included in the 'Due over 5 years' time bucket, however, such contracts are subject to surrender and transfer options by the policyholders.
- Loan and other credit-related commitments are classified on the basis of the earliest date they can be drawn down.

Maturity analysis of assets, liabilities and off-balance sheet commitments

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash and balances at central banks	162,843	–	–	–	–	–	–	–	162,843
Items in the course of collection from other banks	5,787	–	–	–	–	–	–	–	5,787
Hong Kong Government certificates of indebtedness	35,859	–	–	–	–	–	–	–	35,859
Trading assets	235,443	264	707	744	104	197	671	–	238,130
Financial assets designated or otherwise mandatorily measured at fair value	7,743	49	371	145	334	918	2,415	29,136	41,111
Derivatives	206,925	15	57	79	18	69	328	334	207,825
Loans and advances to banks	40,114	10,421	3,486	2,004	3,282	7,158	4,508	1,194	72,167
Loans and advances to customers	178,613	72,072	58,680	38,394	37,333	101,267	219,841	275,496	981,696
– personal	41,967	8,736	8,237	7,581	7,240	24,942	63,061	229,626	391,390
– corporate and commercial	118,294	58,623	45,918	27,001	25,597	67,093	143,959	42,540	529,025
– financial	18,352	4,713	4,525	3,812	4,496	9,232	12,821	3,330	61,281
Reverse repurchase agreements – non-trading	172,795	41,084	13,308	5,763	3,574	5,253	1,027	–	242,804
Financial investments	40,421	58,731	30,464	15,707	15,357	41,866	92,846	112,041	407,433
Accrued income and other financial assets	62,067	6,893	2,403	561	307	349	731	2,237	75,548
Financial assets at 31 Dec 2018	1,148,610	189,529	109,476	63,397	60,309	157,077	322,367	420,438	2,471,203
Non-financial assets	–	–	–	–	–	–	–	86,921	86,921
Total assets at 31 Dec 2018	1,148,610	189,529	109,476	63,397	60,309	157,077	322,367	507,359	2,558,124
Off-balance sheet commitments received									
Loan and other credit-related commitments	73,464	–	–	–	1	3	98	656	74,222
Financial liabilities									
Hong Kong currency notes in circulation	35,859	–	–	–	–	–	–	–	35,859
Deposits by banks	42,406	3,457	1,043	784	542	5,558	1,655	886	56,331
Customer accounts[1]	1,225,919	66,990	31,315	17,218	13,760	4,122	3,194	125	1,362,643
– personal	612,325	38,132	21,218	11,483	8,282	2,853	2,623	53	696,969
– corporate and commercial	457,661	22,922	8,029	4,599	4,317	1,092	509	29	499,158
– financial	155,933	5,936	2,068	1,136	1,161	177	62	43	166,516
Repurchase agreements – non-trading	154,383	8,140	1,750	629	73	408	501	–	165,884
Items in the course of transmission to other banks	5,641	–	–	–	–	–	–	–	5,641
Trading liabilities[2]	82,867	251	326	633	81	235	36	2	84,431
Financial liabilities designated at fair value[2]	3,813	4,476	6,878	3,076	3,481	12,545	53,615	60,621	148,505
– debt securities in issue: covered	–	–	205	–	–	1,190	2,721	1,137	5,253
– debt securities in issue: unsecured	981	1,562	2,659	2,290	2,353	9,143	47,443	37,633	104,064
– subordinated liabilities and preferred securities	–	–	2,125	–	–	–	–	12,568	14,693
– other	2,832	2,914	1,889	786	1,128	2,212	3,451	9,283	24,495
Derivatives	203,962	62	135	191	144	560	159	622	205,835
Debt securities in issue	6,777	11,194	12,556	8,075	3,330	10,670	19,713	13,027	85,342
– covered bonds	–	–	–	–	–	–	748	–	748
– otherwise secured	2,166	1,100	30	–	–	394	944	1,412	6,046
– unsecured	4,611	10,094	12,526	8,075	3,330	10,276	18,021	11,615	78,548
Accruals and other financial liabilities	69,958	8,986	3,296	659	1,269	885	1,027	1,300	87,380
Subordinated liabilities	6	89	3	–	–	1,996	1,384	18,959	22,437
Total financial liabilities at 31 Dec 2018	1,831,591	103,645	57,302	31,265	22,680	36,979	81,284	95,542	2,260,288
Non-financial liabilities	–	–	–	–	–	–	–	103,587	103,587
Total liabilities at 31 Dec 2018	1,831,591	103,645	57,302	31,265	22,680	36,979	81,284	199,129	2,363,875
Off-balance sheet commitments given									
Loan and other credit-related commitments	769,311	5,281	941	1,972	1,257	361	731	412	780,266
– personal	203,622	974	59	32	201	280	556	331	206,055
– corporate and commercial	441,199	2,694	799	1,895	974	34	150	73	447,818
– financial	124,490	1,613	83	45	82	47	25	8	126,393

Maturity analysis of assets, liabilities and off-balance sheet commitments (continued)

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash and balances at central banks	180,624	–	–	–	–	–	–	–	180,624
Items in the course of collection from other banks	6,628	–	–	–	–	–	–	–	6,628
Hong Kong Government certificates of indebtedness	34,186	–	–	–	–	–	–	–	34,186
Trading assets	284,781	1,432	642	–	1,140	–	–	–	287,995
Financial assets designated at fair value	612	93	230	162	197	556	2,068	25,546	29,464
Derivatives	218,103	162	97	124	42	234	592	464	219,818
Loans and advances to banks	61,968	10,665	4,212	2,344	1,502	5,799	2,491	1,412	90,393
Loans and advances to customers	195,577	65,469	49,860	34,107	37,176	93,065	218,784	268,926	962,964
– personal	42,593	9,126	8,483	7,441	7,492	23,552	61,238	214,837	374,762
– corporate and commercial	124,669	50,532	36,046	22,932	26,577	61,785	144,451	49,762	516,754
– financial	28,315	5,811	5,331	3,734	3,107	7,728	13,095	4,327	71,448
Reverse repurchase agreements – non-trading	144,244	30,289	7,951	2,194	3,960	1,072	4,598	7,245	201,553
Financial investments	31,981	51,487	31,634	13,446	17,647	40,582	90,366	111,933	389,076
Accrued income and other financial assets	19,259	5,795	2,050	358	411	652	513	2,046	31,084
Financial assets at 31 Dec 2017	1,177,963	165,392	96,676	52,735	62,075	141,960	319,412	417,572	2,433,785
Non-financial assets	–	–	–	–	–	–	–	87,986	87,986
Total assets at 31 Dec 2017	1,177,963	165,392	96,676	52,735	62,075	141,960	319,412	505,558	2,521,771
Off-balance sheet commitments received									
Loan and other credit-related commitments[3]	36,200	–	–	–	–	–	–	–	36,200
Financial liabilities									
Hong Kong currency notes in circulation	34,186	–	–	–	–	–	–	–	34,186
Deposits by banks	56,829	1,961	1,097	616	157	361	7,393	1,508	69,922
Customer accounts[1]	1,269,003	44,129	21,596	11,570	10,757	4,527	2,257	623	1,364,462
– personal	648,040	22,938	13,489	6,810	5,727	2,753	1,557	119	701,433
– corporate and commercial	458,937	16,496	6,983	3,712	3,970	1,705	641	451	492,895
– financial	162,026	4,695	1,124	1,048	1,060	69	59	53	170,134
Repurchase agreements – non-trading	113,208	14,042	1,592	160	–	–	1,000	–	130,002
Items in the course of transmission to other banks	6,850	–	–	–	–	–	–	–	6,850
Trading liabilities	145,028	2,026	2,177	2,130	3,077	5,038	12,814	12,071	184,361
Financial liabilities designated at fair value	80	281	2,094	271	2,798	4,215	22,468	62,222	94,429
– debt securities in issue: covered bonds	–	–	–	209	–	212	2,494	1,654	4,569
– debt securities in issue: unsecured	55	95	2,087	62	2,797	1,654	19,505	33,535	59,790
– subordinated liabilities and preferred securities	–	–	–	–	–	2,349	459	21,482	24,290
– other	25	186	7	–	1	–	10	5,551	5,780
Derivatives	213,011	79	141	140	202	504	1,107	1,637	216,821
Debt securities in issue	6,081	6,295	5,228	5,795	9,240	6,725	22,767	2,415	64,546
– covered bonds	–	–	–	–	1	3	10	34	48
– otherwise secured	3,479	4	–	–	1,000	1,100	914	1,193	7,690
– unsecured	2,602	6,291	5,228	5,795	8,239	5,622	21,843	1,188	56,808
Accruals and other financial liabilities	18,009	9,547	2,798	749	717	1,007	1,569	938	35,334
Subordinated liabilities	–	1,918	73	36	132	273	3,595	13,799	19,826
Total financial liabilities at 31 Dec 2017	1,862,285	80,278	36,796	21,467	27,080	22,650	74,970	95,213	2,220,739
Non-financial liabilities	–	–	–	–	–	–	–	103,161	103,161
Total liabilities at 31 Dec 2017	1,862,285	80,278	36,796	21,467	27,080	22,650	74,970	198,374	2,323,900
Off-balance sheet commitments given									
Loan and other credit-related commitments[3]	669,485	39,192	3,812	2,103	4,686	3,436	4,423	2,349	729,486
– personal	187,545	2,001	340	343	1,583	1,033	952	513	194,310
– corporate and commercial	388,778	32,011	2,782	1,322	2,309	2,403	2,804	1,716	434,125
– financial	93,162	5,180	690	438	794	–	667	120	101,051

1 *'Customer accounts' includes $364,729m (2017: $386,417m) insured by guarantee schemes.*
2 *Structured liabilities have moved from 'Trading liabilities' to 'Financial liabilities designated at fair value'. Comparatives have not been restated. See Note 37 for further detail.*
3 *31 December 2017 balances have been restated to include $44bn of loan commitments given (unsettled reverse repurchase agreements) and $30bn of loan commitments received (unsettled repurchase agreements) not previously identified for disclosure. The $30bn of loan commitments received are reported within 'Due not more than 1 month'.*

HSBC Holdings

Maturity analysis of assets, liabilities and off-balance sheet commitments

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash at bank and in hand:									
– balances with HSBC undertakings	3,509	–	–	–	–	–	–	–	3,509
Derivatives	540	–	–	–	–	–	–	167	707
Loans and advances to HSBC undertakings	3,052	11,563	158	968	1	–	14,062	26,340	56,144
Loans and advances to HSBC undertakings designated and otherwise mandatorily measured at fair value	–	–	–	–	–	–	8,116	15,397	23,513
Financial investments in HSBC undertakings	–	–	–	–	–	–	–	–	–
Accrued income and other financial assets	33	27	–	–	–	–		–	60
Total financial assets at 31 Dec 2018	7,134	11,590	158	968	1	–	22,178	41,904	83,933
Non-financial assets	–	–	–	–	–	–	–	161,248	161,248
Total assets at 31 Dec 2018	7,134	11,590	158	968	1	–	22,178	203,152	245,181
Financial liabilities									
Amounts owed to HSBC undertakings	–	949	–	–	–	–	–	–	949
Financial liabilities designated at fair value	–	–	2,125	–	–	–	12,306	10,618	25,049
– debt securities in issue	–	–	–	–	–	–	12,306	5,461	17,767
– subordinated liabilities and preferred securities	–	–	2,125	–	–	–	–	5,157	7,282
Derivatives	1,321	–	–	–	–	–	339	499	2,159
Debt securities in issue	–	–	–	–	–	–	23,770	27,030	50,800
Accruals and other financial liabilities	319	353	188	36	5	–	–	41	942
Subordinated liabilities	–	–		–	–	–	–	17,715	17,715
31 Dec 2018	1,640	1,302	2,313	36	5	–	36,415	55,903	97,614
Non-financial liabilities	–	–	–	–	–	–	–	214	214
Total liabilities at 31 Dec 2018	1,640	1,302	2,313	36	5	–	36,415	56,117	97,828
Off-balance sheet commitments									
Undrawn formal standby facilities, credit lines and other commitments to lend	–	–	–	–	–	–	–	–	–

Maturity analysis of assets, liabilities and off-balance sheet commitments (continued)

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash at bank and in hand:									
– balances with HSBC undertakings	1,985	—	—	—	—	—	—	—	1,985
Derivatives	1,952	—	—	—	—	80	—	356	2,388
Loans and advances to HSBC undertakings	4,861	13,039	3,145	5	2	1,134	29,560	24,881	76,627
Loans and advances to HSBC undertakings designated at fair value	—	—	—	—	—	—	2,411	9,533	11,944
Financial investments in HSBC undertakings	17	3	—	—	—	—	1,798	2,446	4,264
Accrued income and other financial assets	—	4	—	—	—	—	—	123	127
Total financial assets at 31 Dec 2017	8,815	13,046	3,145	5	2	1,214	33,769	37,339	97,335
Non-financial assets	—	—	—	—	—	—	—	94,399	94,399
Total assets at 31 Dec 2017	8,815	13,046	3,145	5	2	1,214	33,769	131,738	191,734
Financial liabilities									
Amounts owed to HSBC undertakings	120	2,405	46	—	—	—	—	—	2,571
Financial liabilities designated at fair value	—	—	—	—	—	2,349	11,491	17,050	30,890
– debt securities in issue	—	—	—	—	—	—	11,491	6,005	17,496
– subordinated liabilities and preferred securities	—	—	—	—	—	2,349	—	11,045	13,394
Derivatives	2,008	—	—	—	—	110	183	781	3,082
Debt securities in issue	—	—	—	—	1,081	—	10,354	22,823	34,258
Accruals and other financial liabilities	439	395	157	39	7	3	1	11	1,052
Subordinated liabilities	—	1,918	—	—	—	—	—	13,959	15,877
Total financial liabilities at 31 Dec 2017	2,567	4,718	203	39	1,088	2,462	22,029	54,624	87,730
Non-financial liabilities	—	—	—	—	—	—	—	217	217
Total liabilities at 31 Dec 2017	2,567	4,718	203	39	1,088	2,462	22,029	54,841	87,947
Off-balance sheet commitments given									
Undrawn formal standby facilities, credit lines and other commitments to lend	—	—	—	—	—	—	—	—	—

30 Offsetting of financial assets and financial liabilities

In the following table, the 'Amounts not set off in the balance sheet' include transactions where:

- the counterparty has an offsetting exposure with HSBC and a master netting or similar arrangement is in place with a right to set off only in the event of default, insolvency or bankruptcy, or the offset criteria are otherwise not satisfied; and
- in the case of derivatives and reverse repurchase/repurchase, stock borrowing/lending and similar agreements, cash and non-cash collateral has been received/pledged.

For risk management purposes, the net amounts of loans and advances to customers are subject to limits, which are monitored and the relevant customer agreements are subject to review and updated, as necessary, to ensure the legal right to set off remains appropriate.

Offsetting of financial assets and financial liabilities

		Amounts subject to enforceable netting arrangements								
					Amounts not set off in the balance sheet					
	Footnotes	Gross amounts	Amounts offset	Net amounts in the balance sheet	Financial instruments	Non-cash collateral	Cash collateral	Net amount	Amounts not subject to enforceable netting arrangements[5]	Total
		$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets										
Derivatives (Note 15)	1	**250,275**	**(49,711)**	**200,564**	**(145,785)**	**(9,986)**	**(38,031)**	**6,762**	**7,261**	**207,825**
Reverse repos, stock borrowing and similar agreements classified as:	2									
– trading assets		**18,217**	**(790)**	**17,427**	**(1,244)**	**(16,179)**	**—**	**4**	**853**	**18,280**
– non-trading assets		**372,358**	**(167,313)**	**205,045**	**(21,788)**	**(182,995)**	**(100)**	**162**	**37,759**	**242,804**
Loans and advances to customers	3	**40,534**	**(12,468)**	**28,066**	**(21,245)**	**—**	**—**	**6,821**	**536**	**28,602**
At 31 Dec 2018		**681,384**	**(230,282)**	**451,102**	**(190,062)**	**(209,160)**	**(38,131)**	**13,749**	**46,409**	**497,511**
Derivatives (Note 15)	1	322,422	(110,425)	211,997	(156,088)	(11,092)	(37,302)	7,515	7,821	219,818
Reverse repos, stock borrowing and similar agreements classified as:	2									
– trading assets		15,893	—	15,893	(430)	(15,462)	—	1	1,227	17,120
– non-trading assets		265,666	(105,776)	159,890	(3,714)	(155,973)	(49)	154	41,663	201,553
Loans and advances to customers	3	42,091	(10,424)	31,667	(26,390)	—	(181)	5,096	619	32,286
At 31 Dec 2017		646,072	(226,625)	419,447	(186,622)	(182,527)	(37,532)	12,766	51,330	470,777
Financial liabilities										
Derivatives (Note 15)	1	**248,123**	**(49,711)**	**198,412**	**(145,785)**	**(14,895)**	**(29,998)**	**7,734**	**7,423**	**205,835**
Repos, stock lending and similar agreements classified as:	2									
– trading liabilities		**13,169**	**(790)**	**12,379**	**(1,244)**	**(11,133)**	**—**	**2**	**114**	**12,493**
– non-trading liabilities		**274,367**	**(167,313)**	**107,054**	**(21,788)**	**(85,087)**	**(164)**	**15**	**58,830**	**165,884**
Customer accounts	4	**40,286**	**(12,468)**	**27,818**	**(21,245)**	**—**	**—**	**6,573**	**11**	**27,829**
At 31 Dec 2018		**575,945**	**(230,282)**	**345,663**	**(190,062)**	**(111,115)**	**(30,162)**	**14,324**	**66,378**	**412,041**
Derivatives (Note 15)	1	321,932	(110,425)	211,507	(156,072)	(14,342)	(28,666)	12,427	5,314	216,821
Repos, stock lending and similar agreements classified as:	2									
– trading liabilities		10,555	—	10,555	(430)	(9,615)	—	510	63	10,618
– non-trading liabilities		187,268	(105,776)	81,492	(7,165)	(74,048)	(240)	39	48,510	130,002
Customer accounts	4	42,533	(10,424)	32,109	(26,390)	—	(188)	5,531	158	32,267
At 31 Dec 2017		562,288	(226,625)	335,663	(190,057)	(98,005)	(29,094)	18,507	54,045	389,708

1 *At 31 December 2018, the amount of cash margin received that had been offset against the gross derivatives assets was $3,935m (2017: $6,324m). The amount of cash margin paid that had been offset against the gross derivatives liabilities was $5,888m (2017: $5,196m).*
2 *For the amount of repos, reverse repos, stock lending, stock borrowing and similar agreements recognised on the balance sheet within 'Trading assets' $18,280m (2017: $17,120m) and 'Trading liabilities' $12,493m (2017: $10,618m), see the 'Funding sources and uses' table on page 179.*
3 *At 31 December 2018, the total amount of 'Loans and advances to customers' was $981,696m (2017: $962,964m), of which $28,066m (2017: $31,667m) was subject to offsetting.*
4 *At 31 December 2018, the total amount of 'Customer accounts' was $1,362,643m (2017: $1,364,462m), of which $27,818m (2017: $32,109m) was subject to offsetting.*
5 *These exposures continue to be secured by financial collateral, but we may not have sought or been able to obtain a legal opinion evidencing enforceability of the right of offset.*

31 Non-controlling interests

	2018	2017
	$m	$m
Non-controlling interests attributable to holders of ordinary shares in subsidiaries	**7,996**	7,621
At 31 Dec	**7,996**	7,621

Hang Seng Bank Limited is the only subsidiary in the Group that gives rise to significant non-controlling interest. For summarised financial information of Hang Seng Bank Limited, see Note 19.

32 Called up share capital and other equity instruments

Called up share capital and share premium

HSBC Holdings ordinary shares of $0.50 each, issued and fully paid

	Footnotes	2018 Number	2018 $m	2017 Number	2017 $m
At 1 Jan		**20,320,716,258**	**10,160**	20,191,586,214	10,096
Shares issued under HSBC employee share plans		**83,740,460**	**42**	76,701,249	38
Shares issued in lieu of dividends		**166,850,869**	**83**	380,652,196	190
Less: Shares repurchased and cancelled		**(210,466,091)**	**(105)**	(328,223,401)	(164)
At 31 Dec	1	**20,360,841,496**	**10,180**	20,320,716,258	10,160

HSBC Holdings 6.20% non-cumulative US Dollar Preference Shares, Series A

	Footnotes	2018 Number	2018 $m	2017 Number	2017 $m
At 1 Jan and 31 Dec	2	**1,450,000**	**—**	1,450,000	—

HSBC Holdings share premium

	2018 $m	2017 $m
At 31 Dec	**13,609**	10,177

Total called up share capital and share premium

	2018 $m	2017 $m
At 31 Dec	**23,789**	20,337

1 *All HSBC Holdings ordinary shares in issue, excluding 325,273,407 shares held in treasury, confer identical rights, including in respect of capital, dividends and voting.*
2 *Included in the capital base of HSBC as additional tier 1 capital in accordance with the CRD IV rules, by virtue of the application of grandfathering provisions.*

HSBC Holdings 6.20% non-cumulative US dollar preference shares, Series A of $0.01

HSBC Holdings pays dividends on 6.20% non-cumulative US dollar preference shares, Series A of $0.01 each ('dollar preference shares') quarterly, at the discretion of the Board. The Board will not declare a dividend on them if this would stop the company from meeting the PRA's capital adequacy requirements, or if profit available for distribution as dividends is insufficient to also pay dividends on other shares that are equally entitled and scheduled on the same date.

HSBC Holdings may not declare or pay dividends on shares ranking lower in the right to dividends than dollar preference shares, or redeem or purchase any of its other shares ranking equal or lower than dollar preference shares, unless it has fully paid, or set aside an amount to fully pay, the dividends on the dollar preference shares for the then current dividend period.

The dollar preference shares carry no rights to conversion into ordinary shares. Holders of dollar preference shares are only entitled to attend and vote at shareholder meetings if dividends on these shares have not been paid in full on four consecutive dividend payment dates. In such circumstances, holders of these shares are entitled to vote at shareholder meetings until HSBC Holdings has paid a full dividend on them. These securities can be redeemed by HSBC at any time, subject to prior approval by the PRA.

HSBC Holdings non-cumulative preference share of £0.01

The one non-cumulative sterling preference share of £0.01 ('sterling preference share') has been in issue since 29 December 2010 and is held by a subsidiary of HSBC Holdings. Dividends are paid quarterly at the sole and absolute discretion of the Board. The sterling preference share carries no rights of conversion into ordinary shares of HSBC Holdings and no right to attend or vote at shareholder meetings of HSBC Holdings. These securities can be redeemed by HSBC at any time, subject to prior approval by the PRA.

Other equity instruments

HSBC Holdings includes three types of additional tier 1 capital securities in its tier 1 capital. Two are presented in this Note and are accounted for as equity because HSBC does not have an obligation to transfer cash or a variable number of its own ordinary shares to holders under any circumstances outside its control. See Note 28 for additional tier 1 securities accounted for as liabilities.

Additional tier 1 capital securities

Additional tier 1 capital securities are perpetual subordinated securities on which coupon payments may be deferred at HSBC Holdings' discretion. While any coupon payments are unpaid or deferred, HSBC Holdings will not declare or pay dividends or make distributions or similar periodic payments in respect of any securities of lower or equal rank, or repurchase or redeem them. Such securities do not generally carry voting rights, but rank higher than ordinary shares for coupon payments, and in the event of a winding-up. They do not meet the identifying criteria in full for recognition as tier 1 capital under CRD IV, but are eligible as regulatory capital subject to grandfathering limits and progressive phase-out.

At HSBC Holdings' discretion, and subject to certain conditions being satisfied, the capital securities may be exchanged on any coupon payment date for non-cumulative preference shares to be issued by HSBC Holdings and ranking *pari passu* with the dollar and sterling preference shares in issue. The preference shares were issued at a nominal value of $0.01 per share and a premium of $24.99 per share, with both amounts being subscribed and fully paid. These securities were redeemed by HSBC in June 2018.

HSBC's additional tier 1 capital securities in issue which are accounted for in equity

		First call date	2018 $m	2017 $m
$2,200m	8.125% perpetual subordinated capital securities	Apr 2013	–	2,133
$3,800m	8.000% perpetual subordinated capital securities, Series 2	Dec 2015	–	3,718
At 31 Dec			–	5,851

Additional tier 1 capital – contingent convertible securities

During 2018, HSBC continued to issue contingent convertible securities that are included in its capital base as fully CRD IV-compliant additional tier 1 capital securities on an end point basis. The net proceeds of the issuances are used for general corporate purposes and to further strengthen its capital base to meet requirements under CRD IV. These securities bear a fixed rate of interest until their initial call dates. After the initial call dates, if they are not redeemed, the securities will bear interest at rates fixed periodically in advance for 5-year periods based on prevailing market rates. Interest on the contingent convertible securities will be due and payable only at the sole discretion of HSBC, and HSBC has sole and absolute discretion at all times to cancel for any reason (in whole or in part) any interest payment that would otherwise be payable on any payment date. Distributions will not be paid if they are prohibited under UK banking regulations, or if the company has insufficient reserves or fails to meet the solvency conditions defined in the securities' terms.

The contingent convertible securities are undated and are repayable, at the option of HSBC, in whole at the initial call date, or on any fifth anniversary after this date. In addition, the securities are repayable at the option of HSBC in whole for certain regulatory or tax reasons. Any repayments require the prior consent of the PRA. These securities rank *pari passu* with HSBC's dollar and sterling preference shares and are therefore ahead of ordinary shares. The contingent convertible securities will be converted into fully paid ordinary shares of HSBC at a predetermined price, should HSBC's consolidated end point CET1 ratio fall below 7.0%. Therefore, in accordance with the terms of the securities, if the end point CET1 ratio breaches the 7.0% trigger, the securities will convert into ordinary shares at fixed contractual conversion prices in the issuance currencies of the relevant securities, equivalent to £2.70 at the prevailing rate of exchange on the issuance date, subject to certain anti-dilution adjustments.

HSBC's additional tier 1 capital – contingent convertible securities in issue which are accounted for in equity

		First call date	2018 $m	2017 $m
$1,500m	5.625% perpetual subordinated contingent convertible securities	Jan 2020	1,494	1,494
$2,000m	6.875% perpetual subordinated contingent convertible securities	Jun 2021	1,998	1,998
$2,250m	6.375% perpetual subordinated contingent convertible securities	Sep 2024	2,244	2,244
$2,450m	6.375% perpetual subordinated contingent convertible securities	Mar 2025	2,460	2,460
$3,000m	6.000% perpetual subordinated contingent convertible securities	May 2027	2,997	2,997
$2,350m	6.250% perpetual subordinated contingent convertible securities	Mar 2023	2,347	–
$1,800m	6.500% perpetual subordinated contingent convertible securities	Mar 2028	1,798	–
€1,500m	5.250% perpetual subordinated contingent convertible securities	Sep 2022	1,943	1,943
€1,000m	6.000% perpetual subordinated contingent convertible securities	Sep 2023	1,120	1,120
€1,250m	4.750% perpetual subordinated contingent convertible securities	Jul 2029	1,420	1,420
£1,000m	5.875% perpetual subordinated contingent convertible securities	Sep 2026	1,299	–
SGD1,000m	4.700% perpetual subordinated contingent convertible securities	Jun 2022	723	723
SGD750m	5.000% perpetual subordinated contingent convertible securities	Sep 2023	549	–
At 31 Dec			22,392	16,399

Shares under option

For details of the options outstanding to subscribe for HSBC Holdings ordinary shares under the HSBC Holdings savings-related share option plans, see Note 6.

Aggregate options outstanding under these plans

31 Dec 2018			31 Dec 2017		
Number of HSBC Holdings ordinary shares	**Period of exercise**	**Exercise price**	Number of HSBC Holdings ordinary shares	Period of exercise	Exercise price
57,065,513	**2018 to 2024**	**£4.0472 – 5.9640**	64,604,932	2017 to 2023	£4.0472 – 5.9640
–	N/A	N/A	36,309	2017 to 2018	HK$55.4701
–	N/A	N/A	10,539	2017 to 2018	€5.3532
–	N/A	N/A	17,873	2017 to 2018	$7.1456

Maximum obligation to deliver HSBC Holdings ordinary shares

At 31 December 2018, the maximum obligation to deliver HSBC Holdings ordinary shares under all of the above option arrangements and the HSBC International Employee Share Purchase Plan, together with GPSP awards, long-term incentive awards and deferred share awards granted under the HSBC Share Plan 2011, was 152,667,912 (2017: 169,615,437). The total number of shares at 31 December 2018 held by employee benefit trusts that may be used to satisfy such obligations to deliver HSBC Holdings ordinary shares was 5,928,890 (2017: 5,883,444).

33 Contingent liabilities, contractual commitments and guarantees

	Footnotes	HSBC 2018 $m	HSBC 2017 $m	HSBC Holdings[1] 2018 $m	HSBC Holdings[1] 2017 $m
Guarantees and other contingent liabilities:					
– financial guarantees	2	**23,518**	25,849	**8,627**	7,778
– performance and other guarantees	3	**71,484**	67,007	**–**	–
– other contingent liabilities		**1,408**	616	**215**	–
At 31 Dec		**96,410**	93,472	**8,842**	7,778
Commitments:	4				
– documentary credits and short-term trade-related transactions		**7,083**	8,776	**–**	–
– forward asset purchases and forward deposits placed	3	**67,265**	48,192	**–**	–
– standby facilities, credit lines and other commitments to lend		**705,918**	672,518	**–**	–
At 31 Dec		**780,266**	729,486	**–**	–

1 *Guarantees by HSBC Holdings are all in favour of other Group entities.*
2 *'Financial guarantees' to which the impairment requirements in IFRS 9 are applied have been presented separately from other guarantees to align with credit risk disclosures. Comparatives have been re-presented accordingly.*
3 *The 31 December 2017 balances have been restated to include $44bn of loan commitments (unsettled reverse repurchase agreements) and $3bn of performance and other guarantees not previously identified for disclosure.*
4 *Includes $592,008m of commitments at 31 December 2018, to which the impairment requirements in IFRS 9 are applied where HSBC has become party to an irrevocable commitment.*

The preceding table discloses the nominal principal amounts of off-balance sheet liabilities and commitments for the Group, which represent the maximum amounts at risk should the contracts be fully drawn upon and the clients default. As a significant portion of guarantees and commitments are expected to expire without being drawn upon, the total of the nominal principal amounts is not indicative of future liquidity requirements. The expected credit loss provision relating to guarantees and commitments under IFRS 9 is disclosed in Note 27.

Approximately half the guarantees have a term of less than one year, while guarantees with terms of more than one year are subject to HSBC's annual credit review process.

Contingent liabilities arising from legal proceedings, regulatory and other matters against Group companies are disclosed in Notes 27 and 35.

Financial Services Compensation Scheme

The Financial Services Compensation Scheme ('FSCS') has provided compensation to consumers following the collapse of a number of deposit takers. The compensation paid out to consumers was funded through loans from HM Treasury, which have now been repaid (2017: $6.3bn (£4.7bn)). The Group could be liable to pay a proportion of any future amounts that the FSCS borrows from HM Treasury. The ultimate FSCS levy to the industry as a result of a collapse cannot currently be estimated reliably, as it is dependent on various uncertain factors, including the potential recoveries of assets by the FSCS and changes in the level of protected deposits and the population of FSCS members at the time.

Associates

HSBC's share of associates' contingent liabilities, contractual commitments and guarantees amounted to $48.5bn at 31 December 2018 (2017: $46.3bn). No matters arose where HSBC was severally liable.

34 Lease commitments

Operating lease commitments

At 31 December 2018, future minimum lease payments under non-cancellable operating leases for land, buildings and equipment were $3,435m (2017: $3,950m).

Finance lease receivables

HSBC leases a variety of assets to third parties under finance leases, including transport assets (such as aircraft), property and general plant and machinery. At the end of lease terms, assets may be sold to third parties or leased for further terms. Rentals are calculated to recover the cost of assets less their residual value, and earn finance income.

	2018			2017		
	Total future minimum payments	**Unearned finance income**	**Present value**	Total future minimum payments	Unearned finance income	Present value
	$m	**$m**	**$m**	$m	$m	$m
Lease receivables:						
No later than one year	**2,229**	**(196)**	**2,033**	3,523	(326)	3,197
Later than one year and no later than five years	**7,420**	**(628)**	**6,792**	7,033	(696)	6,337
Later than five years	**5,032**	**(619)**	**4,413**	4,784	(669)	4,115
At 31 Dec	**14,681**	**(1,443)**	**13,238**	15,340	(1,691)	13,649

35 Legal proceedings and regulatory matters

HSBC is party to legal proceedings and regulatory matters in a number of jurisdictions arising out of its normal business operations. Apart from the matters described below, HSBC considers that none of these matters are material. The recognition of provisions is determined in accordance with the accounting policies set out in Note 1. While the outcome of legal proceedings and regulatory matters is inherently uncertain, management believes that, based on the information available to it, appropriate provisions have been made in respect of these matters as at 31 December 2018 (see Note 27). Where an individual provision is material, the fact that a provision has been made is stated and quantified, except to the extent that doing so would be seriously prejudicial. Any provision recognised does not constitute an admission of wrongdoing or legal liability. It is not practicable to provide an aggregate estimate of potential liability for our legal proceedings and regulatory matters as a class of contingent liabilities.

Bernard L. Madoff Investment Securities LLC

Bernard L. Madoff ('Madoff') was arrested in December 2008 and later pleaded guilty to running a Ponzi scheme. His firm, Bernard L. Madoff Investment Securities LLC ('Madoff Securities'), is being liquidated in the US by a trustee (the 'Trustee').

Various non-US HSBC companies provided custodial, administration and similar services to a number of funds incorporated outside the US whose assets were invested with Madoff Securities. Based on information provided by Madoff Securities as at 30 November 2008, the purported aggregate value of these funds was $8.4bn, including fictitious profits reported by Madoff.

Based on information available to HSBC, the funds' actual transfers to Madoff Securities minus their actual withdrawals from Madoff Securities during the time HSBC serviced the funds are estimated to have totalled approximately $4bn. Various HSBC companies have been named as defendants in lawsuits arising out of Madoff Securities' fraud.

US litigation: The Trustee has brought lawsuits against various HSBC companies and others in the US Bankruptcy Court, seeking recovery of transfers from Madoff Securities to HSBC in an amount not yet pleaded or determined. HSBC and other parties to the actions have moved to dismiss the Trustee's claims. The US Bankruptcy Court granted HSBC's motion to dismiss with respect to certain of the Trustee's claims in November 2016. In September 2017, the Trustee appealed the US Bankruptcy Court's decision,and the case remains pending before the US Court of Appeals for the Second Circuit (the 'Second Circuit Court of Appeals').

Fairfield Sentry Limited, Fairfield Sigma Limited and Fairfield Lambda Limited (together, 'Fairfield') (in liquidation since July 2009) have brought a lawsuit in the US against fund shareholders, including HSBC companies that acted as nominees for clients, seeking restitution of redemption payments. In December 2018, the US Bankruptcy Court issued an opinion, which ruled in favour of the defendants' motion to dismiss in respect of certain claims by the liquidators for Fairfield and granted a motion by the liquidators for Fairfield to file amended complaints.

In December 2014, SPV Optimal SUS Ltd ('SPV OSUS'), the purported assignee of the Madoff-invested company, Optimal Strategic US Equity Ltd, filed a lawsuit in New York state court against various HSBC companies and others, seeking damages on various alleged grounds, including breach of fiduciary duty and breach of trust. In April 2018, HSBC transferred the case to the US District Court for the Southern District of New York (the 'New York District Court'). In February 2019, SPV OSUS withdrewits action with prejudice against HSBC.

UK litigation: The Trustee has filed a claim against various HSBC companies in the High Court of England and Wales, seeking recovery of transfers from Madoff Securities to HSBC in an amount not yet pleaded or determined. The deadline for service of the claim has been extended to September 2019 for UK-based defendants and November 2019 for all other defendants.

Bermuda litigation: In January 2009, Kingate Global Fund Limited and Kingate Euro Fund Limited (together, 'Kingate') brought an action against HSBC Bank Bermuda Limited ('HBBM') for recovery of funds held in Kingate's accounts, fees and dividends. This action is pending, but is not expected to move forward until the resolution of the Trustee's US actions against Kingate and HBBM.

Cayman Islands litigation: In February 2013, Primeo Fund Limited ('Primeo') (in liquidation since April 2009) brought an action against HSBC Securities Services Luxembourg ('HSSL') and Bank of Bermuda (Cayman) Limited, alleging breach of contract and breach of fiduciary duty and claiming damages and equitable compensation. The trial concluded in February 2017 and, in August 2017, the court dismissed all claims against the defendants. In September 2017, Primeo appealed to the Court of Appeal of the Cayman Islands and the defendants cross-appealed in respect of certain of the trial court's findings. The appeals are pending before the court for a decision.

Luxembourg litigation: In April 2009, Herald Fund SPC ('Herald') (in liquidation since July 2013) brought an action against HSSL before the Luxembourg District Court, seeking restitution of cash and securities that Herald purportedly lost because of Madoff Securities' fraud, or money damages. The Luxembourg District Court dismissed Herald's securities restitution claim, but reserved Herald's cash restitution claim and its claim for money damages. Herald has appealed this judgment to the Luxembourg Court of Appeal, where the matter is pending. In late 2018, Herald brought additional claims against HSSL and HSBC Bank plc before the Luxembourg District Court, seeking further restitution and damages.

In October 2009, Alpha Prime Fund Limited ('Alpha Prime') brought an action against HSSL before the Luxembourg District Court, seeking the restitution of securities, or the cash equivalent, or money damages. This action has been temporarily suspended at the plaintiffs' request. In December 2018, Alpha Prime brought additional claims before the Luxembourg District Court seeking damages against various HSBC companies.

In December 2014, Senator Fund SPC ('Senator') brought an action against HSSL before the Luxembourg District Court, seeking restitution of securities, or the cash equivalent, or money damages. In April 2015, Senator commenced a separate action against the Luxembourg branch of HSBC Bank plc asserting identical claims before the Luxembourg District Court. In December 2018, Senator brought additional claims against HSSL and HSBC Bank plc Luxembourg branch before the Luxembourg District Court, seeking restitution of Senator's securities or money damages.

HSSL has also been named as a defendant in various actions by shareholders in Primeo Select Fund, Herald, Herald (Lux) SICAV and Hermes International Fund Limited. Most of these actions have been dismissed, suspended or postponed.

Ireland litigation: In November 2013, Defender Limited brought an action against HSBC Institutional Trust Services (Ireland) Limited ('HTIE') and others, based on allegations of breach of contract and claiming damages and indemnification for fund losses. The trial commenced in October 2018. In December 2018, the Irish High Court issued a judgment in HTIE's favour on a preliminary issue, holding that Defender Limited had no effective claim against HTIE. This judgment concluded the trial without further issues in dispute being heard. In February 2019, Defender Limited appealed the judgment.

In December 2014, SPV OSUS filed an action against HTIE and HSBC Securities Services (Ireland) Limited alleging breach of contract and claiming damages and indemnification for fund losses, which was dismissed on the basis of a preliminary issue by the Irish High Court in October 2015. In July 2018, following further appeals by SPV OSUS, the Irish Supreme Court affirmed the dismissal on a final basis.

There are many factors that may affect the range of possible outcomes, and the resulting financial impact, of the various Madoff-related proceedings described above, including but not limited to the multiple jurisdictions in which the proceedings have been brought. Based upon the information currently available, management's estimate of the possible aggregate damages that might arise as a result of all claims in the various Madoff-related proceedings is up to or exceeding $500m, excluding costs and interest. Due to uncertainties and limitations of this estimate, the ultimate damages could differ significantly from this amount.

US mortgage securitisation activity and litigation

HSBC Bank USA N.A. ('HSBC Bank USA') was a sponsor or seller of loans used to facilitate whole loan securitisations underwritten by HSBC Securities (USA) Inc. ('HSI'). From 2005 to 2007, HSBC Bank USA purchased and sold approximately $24bn of such loans to HSI, which were subsequently securitised and sold by HSI to third parties. The outstanding principal balance was approximately $3.8bn as at 31 December 2018. In addition, HSI served as an underwriter on securitisations issued by HSBC Finance Corporation ('HSBC Finance') or third parties, and HSBC Bank USA served as a trustee on behalf of various mortgage securitisation trusts.

Mortgage trustee matters: Beginning in June 2014, a number of lawsuits were filed in state and federal courts in New York and Virginia against HSBC Bank USA as a trustee of more than 280 mortgage securitisation trusts. These lawsuits are brought on behalf of the trusts by a putative class of investors including, among others, BlackRock and PIMCO funds. The complaints allege that the trusts have sustained losses in collateral value of approximately $38bn. The lawsuits seek unspecified damages resulting from alleged breaches of the US Trust Indenture Act, breach of fiduciary duty, negligence, breach of contract and breach of the common law duty of trust. HSBC's motions to dismiss in several of these lawsuits were, for the most part, denied. In February 2018, one of these matters was dismissed on procedural grounds. The plaintiff in that action has appealed the decision and has also filed another proceeding in New York state court, which is currently stayed pending appeal. The motion for class certification filed by certain plaintiffs has been denied, as has their request for a review of that decision by the Second Circuit Court of Appeals.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters.

Loan repurchase matters: Since 2013, HSBC Bank USA, HSBC Finance and Decision One Mortgage Company LLC ('Decision One'), an indirect subsidiary of HSBC Finance, have been named as defendants in various mortgage loan repurchase actions brought by trustees of mortgage securitisation trusts. One of the two remaining actions against HSBC Bank USA was dismissed on appeal in December 2017; however, the New York Court of Appeals granted the plaintiffs' request for further review in September 2018. The second remaining action is currently pending before the New York state court.

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these matters, including the timing or any possible impact on HSBC, which could be significant.

RMBS investigations: Since 2010, various HSBC entities have received subpoenas and requests for information from the US Department of Justice (the 'DoJ') and the Massachusetts Attorney General, seeking the production of documents and information regarding HSBC's involvement in certain residential mortgage-backed securities ('RMBS') transactions as an issuer, sponsor, underwriter, depositor, trustee, custodian or servicer.

In August and October 2018, HSBC resolved the Massachusetts Attorney General's civil investigation, and the DoJ's civil claims, relating to HSBC's legacy RMBS origination and securitisation activities from 2005 to 2007, which entailed a payment to the DoJ of a civil money penalty of $765m.

Anti-money laundering and sanctions-related matters

In 2010, HSBC Bank USA entered into a consent cease-and-desist order with the Office of the Comptroller of the Currency ('OCC'), and HSBC North America Holdings Inc. ('HNAH') entered into a consent cease-and-desist order with the Federal Reserve Board ('FRB'). In 2012, HSBC Bank USA further entered into an enterprise-wide compliance consent order with the OCC (each an 'Order' and together, the 'Orders'). These Orders required improvements to establish an effective compliance risk management programme across HSBC's US businesses, including risk management related to the Bank Secrecy Act ('BSA') and anti-money laundering ('AML') compliance. In 2012, an additional consent order was entered into with the OCC that required HSBC Bank USA to correct the circumstances noted in the OCC's report and imposed restrictions on HSBC Bank USA acquiring control of, or holding an interest in, any new financial subsidiary, or commencing a new activity in its existing financial subsidiary, without the OCC's approval. Between June and September 2018, following implementation of the required remediation actions by HNAH and HSBC Bank USA, the FRB and OCC terminated each of these orders.

In December 2012, among other agreements, HSBC Holdings plc ('HSBC Holdings') agreed to an undertaking with the UK Financial Conduct Authority ('FCA') and consented to a cease-and-desist order with the FRB, both of which contained certain forward-looking AML and sanctions-related obligations. HSBC also agreed to retain an independent compliance monitor (who is, for FCA purposes, a 'Skilled Person' under section 166 of the Financial Services and Markets Act and, for FRB purposes, an 'Independent Consultant') to produce periodic assessments of the Group's AML and sanctions compliance programme (the 'Skilled Person/Independent Consultant'). In December 2012, HSBC Holdings also entered into an agreement with the Office of Foreign Assets Control ('OFAC') regarding historical transactions involving parties subject to OFAC sanctions. The Skilled Person/Independent Consultant will continue to conduct country reviews and provide periodic reports for a period of time at the FCA's and FRB's discretion. The role of the Skilled Person/Independent Consultant is discussed on page 124.

Through the Skilled Person/Independent Consultant's country-level reviews, as well as internal reviews conducted by HSBC, certain potential AML and sanctions compliance issues have been identified that HSBC is reviewing further with the FRB, FCA and/or OFAC. The Financial Crimes Enforcement Network of the US Treasury Department, as well as the Civil Division of the US Attorney's Office for the Southern District of New York, are investigating the collection and transmittal of third-party originator information in certain payments instructed over HSBC's proprietary payment systems. The FCA is also conducting an investigation into HSBC Bank plc's compliance with UK money laundering regulations and financial crime systems and controls requirements. HSBC is cooperating with all of these investigations.

In May 2014, a shareholder derivative action was filed by a shareholder of HSBC Holdings purportedly on behalf of HSBC Holdings, HSBC Bank USA, HNAH and HSBC USA Inc. (the 'Nominal Corporate Defendants') in New York state court against certain current and former directors and officers of those HSBC companies (the 'Individual Defendants'). The complaint alleges that the Individual

Defendants breached their fiduciary duties to the Nominal Corporate Defendants and caused a waste of corporate assets by allegedly permitting and/or causing the conduct underlying the five-year deferred prosecution agreement with the DoJ, entered into in December 2012. In November 2015, the New York state court granted the Nominal Corporate Defendants' motion to dismiss. In November 2018, the appellate court reversed the New York state court's decision and reinstated the action. In December 2018, the Nominal Corporate Defendants filed a motion for reargument or, in the alternative, for leave to appeal to the New York Court of Appeals. In February 2019, the Nominal Corporate Defendants and most of the Individual Defendants filed a motion to dismiss in the New York state court, where the matter is pending.

In July 2014, a claim was filed in the Ontario Superior Court of Justice against HSBC Holdings and a former employee purportedly on behalf of a class of persons who purchased HSBC common shares and American Depositary Shares between July 2006 and July 2012. The complaint, which seeks monetary damages of up to CA$20bn, alleges that the defendants made statutory and common law misrepresentations in documents released by HSBC Holdings and its wholly owned indirect subsidiary, HSBC Bank Canada, relating to HSBC's compliance with BSA, AML, sanctions and other laws. In September 2017, the Ontario Superior Court of Justice dismissed the statutory claims against HSBC Holdings and the former employee for lack of jurisdiction, and stayed the common law misrepresentation claim against HSBC Holdings on the basis of *forum non conveniens*. In October 2017, the plaintiff appealed to the Court of Appeal for Ontario and, in July 2018, that appeal was dismissed. In October 2018, the plaintiff applied for leave to appeal to the Supreme Court of Canada, where this matter is currently pending.

Since November 2014, a number of lawsuits have been filed in federal courts in the US against various HSBC companies and others on behalf of plaintiffs who are, or are related to, victims of terrorist attacks in the Middle East or of cartel violence in Mexico. In each case, it is alleged that the defendants aided and abetted the unlawful conduct of various sanctioned parties in violation of the US Anti-Terrorism Act. Nine actions are currently pending in federal court in New York, with one on appeal. In July 2018, in one case, the New York District Court granted HSBC's motion to dismiss, while in a different case, the magistrate judge issued a recommendation that the New York District Court should deny the defendants' motion to dismiss. The plaintiffs appealed the decision in the case granting dismissal and that appeal is pending. Motions to dismiss remain pending in two other cases. In December 2018, three new cases and two cases relating to existing actions were filed in the New York District Court. These new actions are at a very early stage.

In July 2018, a claim was issued against HSBC Holdings in the High Court of England and Wales alleging that HSBC Holdings made untrue and/or misleading statements and/or omissions in public statements between 2007 and 2012 regarding compliance by the HSBC Group with AML, anti-terrorist financing and sanctions laws, regulations and requirements, and the regulatory compliance of the HSBC Group more generally.

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these matters, including the timing or any possible impact on HSBC, which could be significant.

Tax-related investigations

Various tax administration, regulatory and law enforcement authorities around the world, including in the US, Belgium, Argentina, India and Spain, are conducting investigations and reviews of HSBC Private Bank (Suisse) SA ('HSBC Swiss Private Bank') and other HSBC companies in connection with allegations of tax evasion or tax fraud, money laundering and unlawful cross-border banking solicitation.

HSBC continues to cooperate in ongoing investigations by the DoJ and the US Internal Revenue Service regarding whether certain HSBC companies and employees, including those associated with HSBC Swiss Private Bank and an HSBC company in India, acted appropriately in relation to certain customers who may have had US tax reporting obligations. In connection with these investigations, HSBC Swiss Private Bank, with due regard for Swiss law, has produced records and other documents to the DoJ. In August 2013, the DoJ informed HSBC Swiss Private Bank that it was not eligible for the 'Program for Non-Prosecution Agreements or Non-Target Letters for Swiss Banks' since a formal investigation had previously been authorised. These investigations remain pending.

In November 2014, HSBC Swiss Private Bank was placed under formal criminal examination in Belgium for alleged tax-related offences. In June 2017, Belgian authorities also placed HSBC Holdings and HSBC Private Bank Holdings (Suisse) SA, a Swiss holding company, under formal criminal examination. HSBC is cooperating with this ongoing investigation.

In November 2014, the Argentine tax authority initiated a criminal action against various individuals, including current and former HSBC employees. The criminal action includes allegations of tax evasion, conspiracy to launder undeclared funds and an unlawful association among HSBC Swiss Private Bank, HSBC Bank Argentina, HSBC Bank USA and certain HSBC employees, which allegedly enabled numerous HSBC customers to evade their Argentine tax obligations. HSBC is cooperating with this ongoing investigation.

In February 2015, the Indian tax authority issued a summons and request for information to an HSBC company in India. In August 2015 and November 2015, HSBC companies received notices issued by two offices of the Indian tax authority, alleging that the Indian tax authority had sufficient evidence to initiate prosecution against HSBC Swiss Private Bank and an HSBC company in Dubai for allegedly abetting tax evasion of four different Indian individuals and/or families and requesting that the HSBC companies show cause as to why such prosecution should not be initiated. HSBC Swiss Private Bank and the HSBC company in Dubai have responded to the show cause notices. HSBC is cooperating with this ongoing investigation.

As at 31 December 2018, HSBC has recognised a provision for these various matters in the amount of $626m. There are many factors that may affect the range of outcomes, and the resulting financial impact, of these investigations and reviews. Based on the information currently available, management's estimate of the possible aggregate penalties that might arise as a result of the matters in respect of which it is practicable to form estimates is up to or exceeding $800m, including amounts for which a provision has been recognised. Due to uncertainties and limitations of these estimates, the ultimate penalties could differ significantly from this amount.

In light of the media attention regarding these matters, it is possible that other tax administration, regulatory or law enforcement authorities will also initiate or enlarge similar investigations or regulatory proceedings.

London interbank offered rates, European interbank offered rates and other benchmark interest rate investigations and litigation

In December 2016, the European Commission (the 'EC') issued a decision finding that HSBC, among other banks, engaged in anti-competitive practices in connection with the pricing of euro interest rate derivatives in early 2007. The EC imposed a fine on HSBC based on a one-month infringement. HSBC has appealed the decision.

US dollar Libor: Beginning in 2011, HSBC and other panel banks have been named as defendants in a number of private lawsuits filed in the US with respect to the setting of US dollar Libor. The complaints assert claims under various US laws, including US antitrust and racketeering laws, the US Commodity Exchange Act ('US CEA') and state law. The lawsuits include individual and putative class actions, most of which have been transferred and/or consolidated for pre-trial purposes before the New York District Court.

In 2017 and 2018, HSBC reached agreements with plaintiffs to resolve putative class actions brought on behalf of the following five groups of plaintiffs: persons who purchased US dollar Libor-indexed bonds; persons who purchased US Libor-indexed exchange-traded instruments; US-based lending institutions that made or purchased US dollar Libor-indexed loans (the 'Lender class'); persons who purchased US dollar Libor-indexed interest rate swaps and other instruments directly from the defendant banks and their affiliates (the 'OTC class'); and persons who purchased US dollar Libor-indexed interest rate swaps and other instruments from certain financial institutions that are not the defendant banks or their affiliates. During 2018, the New York District Court granted final approval of the settlements with the OTC and Lender classes. The remaining settlements are subject to final court approval. Additionally, a number of other US dollar Libor-related actions remain pending against HSBC in the New York District Court and the Second Circuit Court of Appeals.

Intercontinental Exchange ('ICE') Libor: In January 2019, HSBC and other panel banks were named as defendants in a putative class action filed in the New York District Court on behalf of persons who purchased over-the-counter instruments paying interest indexed to ICE Libor from a panel bank. The complaint alleges, among other things, misconduct related to the suppression of this benchmark rate in violation of US antitrust and state law. This matter is at a very early stage.

Singapore interbank offered rate ('Sibor'), Singapore swap offer rate ('SOR') and Australia bank bill swap rate ('BBSW'): In July 2016 and August 2016, HSBC and other panel banks were named as defendants in two putative class actions filed in the New York District Court on behalf of persons who transacted in products related to the Sibor, SOR and BBSW benchmark rates. The complaints allege, among other things, misconduct related to these benchmark rates in violation of US antitrust, commodities and racketeering laws, and state law. Following a decision in October 2018 on the defendants' motion to dismiss in the Sibor/SOR litigation, the claims against a number of HSBC entities were dismissed, and the Hongkong and Shanghai Banking Corporation Limited remains the only HSBC defendant in this action. In October 2018, the Hongkong and Shanghai Banking Corporation Limited filed a motion for reconsideration of the decision based on the issue of personal jurisdiction. The plaintiff filed a third amended complaint in October 2018 naming only the Sibor panel members. In November 2018, the defendants moved to dismiss the third amended complaint, and this motion remains pending.

In November 2018, the court granted in part and denied in part the defendants' motion to dismiss the BBSW case and dismissed all foreign defendants, including all the HSBC entities, on personal jurisdiction grounds. The plaintiff sought leave to file a second amended complaint in January 2019.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters, which could be significant.

Foreign exchange-related investigations and litigation

Various regulators and competition authorities around the world, including in the EU, Switzerland, Brazil and South Africa, are conducting investigations and reviews into trading by HSBC and others on the foreign exchange markets. HSBC is cooperating with these investigations and reviews.

In January 2018, HSBC Holdings entered into a three-year deferred prosecution agreement with the Criminal Division of the DoJ (the 'FX DPA'), regarding fraudulent conduct in connection with two particular transactions in 2010 and 2011. This concluded the DoJ's investigation into HSBC's historical foreign exchange activities. Under the terms of the FX DPA, HSBC has a number of ongoing obligations, including implementing enhancements to its internal controls and procedures in its Global Markets business, which will be the subject of annual reports to the DoJ. In addition, HSBC agreed to pay a financial penalty and restitution.

In December 2016, Brazil's Administrative Council of Economic Defense ('CADE') publicly announced that it is initiating an investigation into the onshore foreign exchange market and has identified a number of banks, including HSBC, as subjects of its investigation.

In February 2017, the Competition Commission of South Africa referred a complaint for proceedings before the South African Competition Tribunal against 18 financial institutions, including HSBC Bank plc, for alleged misconduct related to the foreign exchange market in violation of South African antitrust laws. In April 2017, HSBC Bank plc filed an exception to the complaint based on a lack of jurisdiction and statute of limitations. In January 2018, the South African Competition Tribunal approved the provisional referral of additional financial institutions, including HSBC Bank USA, to the proceedings. HSBC Bank USA has objected to the provisional referral. These proceedings are at an early stage.

In October 2018, HSBC Holdings and HSBC Bank plc received an information request from the EC concerning potential coordination in foreign exchange options trading. This matter is at an early stage.

In late 2013 and early 2014, various HSBC companies and other banks were named as defendants in various putative class actions consolidated in the New York District Court. The consolidated complaint alleged, among other things, that the defendants conspired to manipulate the WM/Reuters foreign exchange benchmark rates. In September 2015, HSBC reached an agreement with plaintiffs to resolve the consolidated action, and the court granted final approval of the settlement in August 2018.

A putative class action complaint making similar allegations on behalf of retail customers of foreign exchange products was filed in the US District Court for the Northern District of California in 2015, and was subsequently transferred to the New York District Court where it remains pending. In 2017, putative class action complaints making similar allegations on behalf of purported 'indirect' purchasers of foreign exchange products were filed in New York and were subsequently consolidated in the New York District Court, where they remain pending.

In September 2018, various HSBC companies and other banks were named as defendants in a class action complaint filed in Israel that alleges foreign exchange-related misconduct and, in November and December 2018, complaints alleging foreign exchange-related misconduct were filed in the New York District Court and the High Court of England and Wales against HSBC and other defendants, by certain plaintiffs that opted out of the US class action settlement. These matters are at an early stage. It is possible that additional actions will be initiated against HSBC in relation to its historical foreign exchange activities.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters, which could be significant.

Precious metals fix-related investigations and litigation

In November 2014, the Antitrust Division and Criminal Fraud Section of the DoJ issued a document request to HSBC Holdings, seeking the voluntary production of certain documents in connection with a criminal investigation that the DoJ is conducting of alleged anti-competitive and manipulative conduct in precious metals trading. In January 2019, the DoJ closed its investigation without taking any action against HSBC.

Gold: Beginning in March 2014, numerous putative class actions were filed in the New York District Court and the US District Courts for the District of New Jersey and the Northern District of California, naming HSBC and other members of The London Gold Market Fixing Limited as defendants. The complaints allege that, from January 2004 to June 2013, the defendants conspired to manipulate the price of gold and gold derivatives for their collective benefit in violation of US antitrust laws, the US CEA and New York state law. The actions were consolidated in the New York District Court. The defendants' motion to dismiss the consolidated action was granted in part and denied in part in October 2016. In June 2017, the court granted the plaintiffs leave to file a third amended complaint, naming a new defendant. The court has denied the pre-existing defendants' request for leave to file a joint motion to dismiss, and discovery is proceeding.

Beginning in December 2015, numerous putative class actions under Canadian law were filed in the Ontario and Quebec Superior Courts of Justice against various HSBC companies and other financial institutions. The plaintiffs allege that, among other things, from January 2004 to March 2014, the defendants conspired to manipulate the price of gold and gold derivatives in violation of the Canadian Competition Act and common law. These actions are at an early stage.

Silver: Beginning in July 2014, numerous putative class actions were filed in the US District Courts for the Southern and Eastern Districts of New York, naming HSBC and other members of The London Silver Market Fixing Ltd as defendants. The complaints allege that, from January 2007 to December 2013, the defendants conspired to manipulate the price of silver and silver derivatives for their collective benefit in violation of US antitrust laws, the US CEA and New York state law. The actions were consolidated in the New York District Court. The defendants' motion to dismiss the consolidated action was granted in part and denied in part in October 2016. In June 2017, the court granted the plaintiffs leave to file a third amended complaint, which names several new defendants. The court has denied the pre-existing defendants' request for leave to file a joint motion to dismiss, and discovery is proceeding.

In April 2016, two putative class actions under Canadian law were filed in the Ontario and Quebec Superior Courts of Justice against various HSBC companies and other financial institutions. The plaintiffs in both actions allege that, from January 1999 to August 2014, the defendants conspired to manipulate the price of silver and silver derivatives in violation of the Canadian Competition Act and common law. The Ontario action is at an early stage. The Quebec action has been temporarily stayed.

Platinum and palladium: Between late 2014 and early 2015, numerous putative class actions were filed in the New York District Court, naming HSBC and other members of The London Platinum and Palladium Fixing Company Limited as defendants. The complaints allege that, from January 2008 to November 2014, the defendants conspired to manipulate the price of platinum group metals ('PGM') and PGM-based financial products for their collective benefit in violation of US antitrust laws and the US CEA. In March 2017, the defendants' motion to dismiss the second amended consolidated complaint was granted in part and denied in part. In June 2017, the plaintiffs filed a third amended complaint. The defendants filed a joint motion to dismiss, which remains pending.

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these matters, including the timing or any possible impact on HSBC, which could be significant.

Film finance litigation

In July and November 2015, respectively, two actions were brought by individuals against HSBC Private Bank (UK) Limited ('PBGB') in the High Court of England and Wales seeking damages on various alleged grounds, including breach of duty to the claimants, in connection with their participation in certain Ingenious film finance schemes. These actions are ongoing.

In December 2018, a further action was brought against PBGB in the High Court of England and Wales by multiple claimants seeking damages for alleged unlawful means conspiracy and dishonest assistance in connection with lending provided by PBGB to third parties in respect of certain Ingenious film finance schemes in which the claimants participated. In February 2019, PBGB received a letter before claim by investors in Eclipse film finance schemes asserting various claims against PBGB and others in connection with their roles in facilitating the design, promotion and operation of such schemes. These matters are at very early stages.

It is possible that additional actions or investigations will be initiated against PBGB as a result of its historical involvement in the provision of certain film finance-related services.

Based on the facts currently known, it is not practicable to predict the resolution of these matters, including the timing or possible aggregate impact, which could be significant.

Other regulatory investigations, reviews and litigation

HSBC Holdings and/or certain of its affiliates are subject to a number of other investigations and reviews by various regulators and competition and law enforcement authorities, as well as litigation, in connection with various matters relating to the firm's businesses and operations, including:

- requests for information from various tax administration or regulatory authorities relating to Mossack Fonseca & Co., or Fédération Internationale de Football Association ('FIFA');
- an investigation by the DoJ regarding US Treasury securities trading practices;
- an investigation by the US Commodity Futures Trading Commission regarding trading screens used to price certain derivative products;
- an investigation by the Swiss Competition Commission in connection with the setting of Euribor and Japanese yen Libor;
- an information request from the UK Competition and Markets Authority concerning the financial services sector;
- an investigation by the US Securities and Exchange Commission of multiple institutions, including HSBC, in relation to hiring practices of candidates referred by or related to government officials or employees of state-owned enterprises in Asia-Pacific;
- putative individual and class actions brought in the New York District Court relating to the Canadian dealer offered rate, the credit default swap market and the Mexican government bond market, and putative class actions brought in the New York District Court and

in the Superior and Federal Courts in Canada relating to the market for US dollar-denominated supranational sovereign and agency bonds; and

- putative class actions brought in the US District Court for the Northern District of Texas and a claim issued in the High Court of England and Wales in connection with HSBC Bank plc's role as a correspondent bank to Stanford International Bank Ltd from 2003 to 2009.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters, which could be significant.

36 Related party transactions

Related parties of the Group and HSBC Holdings include subsidiaries, associates, joint ventures, post-employment benefit plans for HSBC employees, Key Management Personnel ('KMP') as defined by IAS 24, close family members of KMP and entities that are controlled or jointly controlled by KMP or their close family members. KMP are defined as those persons having authority and responsibility for planning, directing and controlling the activities of HSBC Holdings. These individuals also constitute 'senior management' for the purposes of the Hong Kong Listing Rules. Following a review of the application of IAS 24, it was determined that the roles of Chief Legal Officer, Group Head of Internal Audit, Group Chief Human Resources Officer, Group Chief Compliance Officer, Chief Communications Officer and Group Chief of Staff did not meet the criteria for KMP as provided for in the standard.

Particulars of transactions with related parties are tabulated below. The disclosure of the year-end balance and the highest amounts outstanding during the year is considered to be the most meaningful information to represent the amount of the transactions and outstanding balances during the year.

Key Management Personnel

Details of Directors' remuneration and interest in shares are disclosed in the Directors' remuneration report on pages 217 to 252. IAS 24 'Related party disclosures' requires the following additional information for key management compensation.

Compensation of Key Management Personnel

	2018	2017	2016
	$m	$m	$m
Short-term employee benefits	52	43	41
Other long-term employee benefits	6	5	5
Share-based payments	34	35	37
Year ended 31 Dec	**92**	**83**	**83**

Shareholdings, options and other securities of Key Management Personnel

	2018	2017
	(000s)	(000s)
Number of options held over HSBC Holdings ordinary shares under employee share plans	24	15
Number of HSBC Holdings ordinary shares held beneficially and non-beneficially	17,940	22,609
At 31 Dec	**17.964**	**22,624**

Transactions and balances during the year with Key Management Personnel

		2018		2017	
		Balance at 31 Dec	Highest amounts outstanding during year	Balance at 31 Dec	Highest amounts outstanding during year
	Footnotes	$m	$m	$m	$m
Key Management Personnel	1				
Advances and credits	2	169	288	329	334
Guarantees		0.6	0.6	6	52
Deposits		352	924	300	893

1 *Includes Key Management Personnel, close family members of Key Management Personnel and entities that are controlled or jointly controlled by Key Management Personnel or their close family members.*
2 *Advances and credits entered into by subsidiaries of HSBC Holdings during 2018 with Directors, disclosed pursuant to Section 413 of the Companies Act 2006, totalled $1m (2017: $2m).*

Some of the transactions were connected transactions as defined by the Rules Governing The Listing of Securities on The Stock Exchange of Hong Kong Limited, but were exempt from any disclosure requirements under the provisions of those rules. The above transactions were made in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with persons of a similar standing or, where applicable, with other employees. The transactions did not involve more than the normal risk of repayment or present other unfavourable features.

Associates and joint ventures

The Group provides certain banking and financial services to associates and joint ventures including loans, overdrafts, interest and non-interest bearing deposits and current accounts. Details of the interests in associates and joint ventures are given in Note 18.

Transactions and balances during the year with associates and joint ventures

	2018		2017	
	Highest balance during the year	**Balance at 31 Dec**	Highest balance during the year	Balance at 31 Dec
	$m	**$m**	$m	$m
Unsubordinated amounts due from joint ventures	**130**	**115**	138	119
Unsubordinated amounts due from associates	**3,887**	**3,000**	3,104	2,537
Subordinated amounts due from associates	**—**	**—**	411	411
Amounts due to associates	**2,020**	**273**	2,617	1,232
Amounts due to joint ventures	**22**	**22**	—	—
Guarantees and commitments	**790**	**523**	654	665

The above outstanding balances arose in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

Post-employment benefit plans

At 31 December 2018, $4.4bn (2017: $5.3bn) of HSBC post-employment benefit plan assets were under management by HSBC companies, earning management fees of $8m in 2018 (2017: $8m). At 31 December 2018, HSBC's post-employment benefit plans had placed deposits of $297m (2017: $875m) with its banking subsidiaries, earning interest payable to the schemes of nil (2017: nil). The above outstanding balances arose from the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

The HSBC Bank (UK) Pension Scheme enters into swap transactions with HSBC to manage inflation and interest rate sensitivity of its liabilities and selected assets. At 31 December 2018, the gross notional value of the swaps was $10.5bn (2017: $11.3bn); these swaps had a positive fair value to the scheme of $1.0bn (2017: $1.0bn); and HSBC had delivered collateral of $1.0bn (2017: $1.0bn) to the scheme in respect of these arrangements. All swaps were executed at prevailing market rates and within standard market bid/offer spreads.

HSBC Holdings

Details of HSBC Holdings' subsidiaries are shown in Note 39.

Transactions and balances during the year with subsidiaries

	2018		2017	
	Highest balance during the year	**Balance at 31 Dec**	Highest balance during the year	Balance at 31 Dec
	$m	**$m**	$m	$m
Assets				
Cash and balances with HSBC undertakings	**16,473**	**3,509**	1,985	1,985
Loans and advances to HSBC undertakings designated at fair value	**23,513**	**23,513**	11,944	11,944
Derivatives	**1,235**	**707**	2,796	2,388
Loans and advances to HSBC undertakings	**77,311**	**56,144**	89,810	76,627
Financial investments in HSBC undertakings	**—**	**—**	4,264	4,264
Investments in subsidiaries	**160,231**	**160,231**	95,850	92,930
Total related party assets at 31 Dec	**278,763**	**244,104**	206,649	190,138
Liabilities				
Amounts owed to HSBC undertakings	**2,040**	**949**	2,906	2,571
Derivatives	**3,639**	**2,159**	4,904	3,082
Subordinated liabilities	**892**	**892**	892	892
Total related party liabilities at 31 Dec	**6,571**	**4,000**	8,702	6,545
Guarantees and commitments	**11,629**	**8,627**	9,692	7,778

The above outstanding balances arose in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

Some employees of HSBC Holdings are members of the HSBC Bank (UK) Pension Scheme, which is sponsored by a separate Group company. HSBC Holdings incurs a charge for these employees equal to the contributions paid into the scheme on their behalf. Disclosure in relation to the scheme is made in Note 6.

37 Effects of reclassification upon adoption of IFRS 9

Reconciliation of consolidated balance sheet at 31 December 2017 and 1 January 2018

	Footnotes	IAS 39 measurement category	IFRS 9 measurement category	IAS 39 carrying amount at 31 Dec 2017	Other changes in classifi-cation	IFRS 9 reclassification to: Fair value through profit and loss	IFRS 9 reclassification to: Fair value through other compre-hensive income	IFRS 9 reclassification to: Amorti-sed cost	Carrying amount post reclassifi-cation	IFRS 9 remeasure ment including expected credit losses[4]	IFRS 9 carrying amount at 1 Jan 2018
				$m	$m	$m	$m	$m	$m	$m	$m
Assets											
Cash and balances at central banks		Amortised cost	Amortised cost	180,624	–	–	–	–	180,624	(3)	180,621
Items in the course of collection from other banks		Amortised cost	Amortised cost	6,628	–	–	–	–	6,628	–	6,628
Hong Kong Government certificates of indebtedness		Amortised cost	Amortised cost	34,186	–	–	–	–	34,186	–	34,186
Trading assets	1, 3	FVPL	FVPL	287,995	4,329	9	–	(37,924)	254,409	1	254,410
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	2,5,6,7	FVPL	FVPL	29,464	313	10,055	(3)	(115)	39,714	32	39,746
Derivatives		FVPL	FVPL	219,818	–	–	–	–	219,818	–	219,818
Loans and advances to banks	1, 2, 3	Amortised cost	Amortised cost	90,393	(7,099)	(712)	–	–	82,582	(23)	82,559
Loans and advances to customers	1, 2, 3	Amortised cost	Amortised cost	962,964	(7,458)	(3,903)	–	24	951,627	(1,890)	949,737
Reverse repurchase agreements – non-trading		Amortised cost	Amortised cost	201,553	–	–	–	–	201,553	–	201,553
Financial investments	5, 13	FVOCI (Available-for-sale – debt instruments)	FVOCI	332,240	–	(3,131)	83	(7,026)	322,166	(3)	322,163
	6, 13	FVOCI (Available-for-sale – equity instruments)	FVOCI	3,917	–	(2,104)	–	–	1,813	–	1,813
	5	Amortised cost	Amortised cost	52,919	–	–	(80)	7,141	59,980	(457)	59,523
Prepayments, accrued income and other assets	1, 7	Amortised cost	Amortised cost	67,191	9,915	(214)	–	37,900	114,792	(15)	114,777
Current tax assets		N/A	N/A	1,006	–	–	–	–	1,006	–	1,006
Interests in associates and joint ventures	8	N/A	N/A	22,744	–	–	–	–	22,744	(942)	21,802
Goodwill and intangible assets	9	N/A	N/A	23,453	–	–	–	–	23,453	(79)	23,374
Deferred tax assets		N/A	N/A	4,676	–	–	–	–	4,676	38	4,714
Total assets				2,521,771	–	–	–	–	2,521,771	(3,341)	2,518,430

For footnotes, see page 338.

Reconciliation for consolidated balance sheet at 31 December 2017 and 1 January 2018 (continued)

	Footnotes	Measurement category[13]	IAS 39 carrying amount at 31 Dec 2017	Other changes in classification	IFRS 9 reclassification to: Fair value through profit and loss	IFRS 9 reclassification to: Fair value through other comprehensive income	IFRS 9 reclassification to: Amortised cost	Carrying amount post-reclassification	IFRS 9 remeasurement including expected credit losses[4]	IFRS 9 carrying amount at 1 Jan 2018
			$m	$m	$m	$m	$m	$m	$m	$m
Liabilities										
Hong Kong currency notes in circulation		Amortised cost	34,186	–	–	–	–	34,186	–	34,186
Deposits by banks	1	Amortised cost	69,922	(5,430)	–	–	–	64,492	–	64,492
Customer accounts	1	Amortised cost	1,364,462	(4,235)	–	–	–	1,360,227	–	1,360,227
Repurchase agreements – non-trading		Amortised cost	130,002	–	–	–	–	130,002	–	130,002
Items in the course of transmission to other banks		Amortised cost	6,850	–	–	–	–	6,850	–	6,850
Trading liabilities	1, 11	FVPL	184,361	(103,497)	–	–	–	80,864	–	80,864
Financial liabilities designated at fair value	9, 10, 11	FVPL	94,429	59,267	–	–	(9,699)	143,997	9	144,006
Derivatives		FVPL	216,821	–	–	–	–	216,821	–	216,821
Debt securities in issue	10	Amortised cost	64,546	–	–	–	2,095	66,641	(105)	66,536
Accruals, deferred income and other liabilities	1, 10	Amortised cost	45,907	53,895	–	–	124	99,926	–	99,926
Current tax liabilities		N/A	928	–	–	–	–	928	–	928
Liabilities under insurance contracts	9	N/A	85,667	–	–	–	–	85,667	(69)	85,598
Provisions		N/A	4,011	–	–	–	–	4,011	284	4,295
Deferred tax liabilities	14	N/A	1,982	–	–	–	–	1,982	(368)	1,614
Subordinated liabilities	10	Amortised cost	19,826	–	–	–	7,480	27,306	(1,445)	25,861
Total liabilities			2,323,900	–	–	–	–	2,323,900	(1,694)	2,322,206

For footnotes, see page 338.

	Footnotes	IAS 39 carrying amount at 31 Dec 2017	IFRS 9 reclassification	Carrying amount post reclassification	IFRS 9 remeasurement including expected credit losses	Carrying amount at 1 January 2018
		$m	$m	$m	$m	$m
Equity						
Called up share capital		10,160	–	10,160	–	10,160
Share premium account		10,177	–	10,177	–	10,177
Other equity instruments		22,250	–	22,250	–	22,250
Other reserves	12	7,664	(960)	6,704	(61)	6,643
Retained earnings	14	139,999	960	140,959	(1,545)	139,414
Total shareholders equity		190,250	–	190,250	(1,606)	188,644
Non-controlling interests		7,621	–	7,621	(41)	7,580
Total equity		197,871	–	197,871	(1,647)	196,224

For footnotes, see page 338.

Reconciliation of impairment allowance under IAS 39 and provision under IAS 37 to expected credit losses under IFRS 9

		Reclassification to			Remeasurement		
	IAS 39 measurement category	Fair value through profit and loss	Fair value through other comprehensive income	Amortised cost	Stage 3	Stage 1 & Stage 2	Total
		$m	$m	$m	$m	$m	$m
Financial assets at amortised cost							
IAS 39 impairment allowance at 31 Dec 2017							7,532
Cash and balances at central banks	Amortised cost (Loans and receivables)	–	–	–	–	3	3
Items in the course of collection from other banks	Amortised cost (Loans and receivables)	–	–	–	–	–	–
Hong Kong Government certificates of indebtedness	Amortised cost (Loans and receivables)	–	–	–	–	–	–
Loans and advances to banks	Amortised cost (Loans and receivables)	–	–	–	1	22	23
Loans and advances to customers	Amortised cost (Loans and receivables)	(31)	–	–	629	1,261	1,859
Reverse repurchase agreements – non-trading	Amortised cost (Loans and receivables)	–	–	–	–	–	–
Financial investments	Amortised cost (Held to maturity)	–	–	3	–	13	16
Prepayments, accrued income and other assets	Amortised cost (Loans and receivables)	–	–	–	–	47	47
Expected credit loss allowance at 1 Jan 2018							9,480
Loan commitments and financial guarantee contracts							
IAS 37 provisions at 31 Dec 2017							253
Provisions (loan commitments and financial guarantees)	N/A	N/A	N/A	N/A	74	210	284
Expected credit loss provision at 1 Jan 2018							537

The pre-tax net asset impact of additional impairment allowances on adoption of IFRS 9 is $2,232m; $1,948m in respect of financial assets at amortised cost and $284m related to loan commitments and financial guarantee contracts. Total expected credit loss allowance at 1 January 2018 is $9,480m in respect of financial assets at amortised cost, and $537m related to loan commitments and financial guarantee contracts.

Effects of reclassification upon adoption of IFRS 9

				Assuming no reclassification		
		Carrying amount at 31 Dec 2018	Fair value at 31 Dec 2018	Fair value gains/(losses) recognised in profit or loss	Fair value gains/ (losses) recognised in other comprehensive income	Interest revenue/ (expense)
	Footnotes	$m	$m	$m	$m	$m
Reclassified from available-for-sale to amortised cost						
Other financial assets held at amortised cost		5,781	5,876	N/A	(438)	N/A
Reclassified from fair value through profit and loss to amortised cost or fair value though other comprehensive income						
Debt securities in issue	15	1,939	1,823	60	237	(80)
Subordinated liabilities	16	5,872	6,635	246	644	(323)

For footnotes, see page 338.

Footnotes to 'Effect of reclassification upon adoption of IFRS 9'

1 *Settlement accounts, cash collateral and margin receivables of $37,900m have been reclassified from 'Trading assets' to 'Prepayments, accrued income and other assets' as a result of the assessment of the business model in accordance with IFRS 9.*
Settlement accounts, cash collateral and margin receivables previously presented as 'Loans and advances to banks' of $5,939m and 'Loans and advances to customers' of $3,976m have been re-presented in 'Prepayments, accrued income and other assets' to ensure consistent presentation of all such balances. Settlement accounts, cash collateral and margin payables previously presented as 'Trading liabilities' of $44,230m, 'Deposits by banks' of $5,430m and 'Customer accounts' of $4,235m have been re-presented in 'Accruals, deferred income and other liabilities'. This change in presentation for financial liabilities is considered to provide more relevant information, given the change in presentation for the financial assets. These changes in presentation for financial assets and liabilities have had no effect on measurement of these items and therefore on 'Retained earnings'.

2 *'Loans and advances to customers' of $3,903m and 'Loans and advances to banks' of $712m did not meet the 'solely payments of principal and interest' ('SPPI') requirement for amortised cost classification under IFRS 9. As a result, these financial assets were reclassified to 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss'.*

3 *Stock borrowing assets of $4,642m have been reclassified from 'Loans and advances to banks and customers' to 'Trading assets'. The change in measurement is a result of the determination of the global business model for this activity and will align the presentation throughout the Group.*

4 *IFRS 9 ECL decreased net assets by $2,232m, principally comprising of $1,890m reduction in the carrying value of assets classified as 'Loans and advances to customers' and $284m increase in 'Provisions' relating to expected credit losses on loan commitments and financial guarantee contracts.*

5 *Debt instruments of $3,131m previously classified as available-for-sale under IAS 39 did not meet the SPPI requirement for FVOCI classification. As a result, these financial assets were classified as 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss' upon adoption of IFRS 9. Debt instruments of $7,026m previously classified as available-for-sale under IAS 39, have been reclassified to amortised cost as a result of 'hold to collect' business model classification under IFRS 9. This resulted in a $441m downward remeasurement of the financial assets now measured at amortised cost excluding expected credit losses.*

6 *$2,104m of available-for-sale non-traded equity instruments have been reclassified as 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss' in accordance with IFRS 9. The Group has elected to apply the FVOCI option under IFRS 9 for the remaining $1,813m.*

7 *$214m of other financial assets measured at amortised cost under IAS 39 did not meet the SPPI requirement for amortised cost classification under IFRS 9. As a result, these financial assets were classified as 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss'.*

8 *'Interests in associates and joint ventures' includes the consequential downward remeasurement of our interests in associates and joint ventures as a result of these entities applying IFRS 9 of $942m. The effect of IFRS 9 on the carrying value of investments in associates has been updated from the estimate disclosed in our* Annual Report and Accounts 2017 *as a result of those entities publicly reporting their expected transition impacts.*

9 *Changes in the classification and measurement of financial assets held in our insurance business and the recognition of ECL under IFRS 9 has resulted in secondary impacts on the present value of in-force long-term insurance business ('PVIF') and liabilities to holders of insurance and investment contracts. The gross carrying value of PVIF reported in 'Goodwill and intangible assets' and liabilities reported in 'Liabilities under insurance contracts' has decreased by $79m and $69m respectively. Liabilities reported under 'Financial liabilities designated at fair value' have increased by $9m.*

10 *As permitted by IFRS 9, fair value designations have been revoked for certain long-dated liabilities where the accounting mismatch will be better mitigated by undertaking fair value hedge accounting, resulting in reclassifications of $7,110m from 'Financial liabilities designated at fair value' to 'Subordinated liabilities' measured at amortised cost and $2,095m from 'Financial liabilities designated at fair value' to 'Debt securities in issue' measured at amortised cost. A further $124m of associated accrued interest has been reclassified to 'Accruals, deferred income and other liabilities'. In addition, as required by IFRS 9, fair value designations have been revoked where accounting mismatches no longer exist, resulting in a further $370m of 'Subordinated liabilities' being measured at amortised cost. Together, these changes result in the financial liabilities now being measured at amortised cost, decreasing 'Debt securities in issue' by $105m and 'Subordinated Liabilities' by $1,445m.*

11 *We have considered market practices for the presentation of $59,267m of financial liabilities containing both deposit and derivative components. We have concluded that a change in accounting policy and presentation from 'Trading liabilities' would be appropriate, since it would better align with the presentation of similar financial instruments by peers and therefore provide more relevant information about the effect of these financial liabilities on our financial position and performance. As a result, rather than being classified as held for trading, we will designate these financial liabilities as at fair value through profit or loss since they are managed and their performance evaluated on a fair value basis. Consequently, changes in fair value of these instruments attributable to changes in own credit risk are recognised in other comprehensive income rather than profit or loss. For 2017, a restatement would have increased 'Net income from financial instruments held for trading or managed on a fair value basis' by $545m and increased tax expense by $168m, with an equivalent net decrease in other comprehensive income.*

12 *While IFRS 9 ECL has no effect on the carrying value of FVOCI financial assets, which remain measured at fair value, the adoption of IFRS 9 results in a transfer from the FVOCI reserve (formerly AFS reserve) to retained earnings to reflect the cumulative impairment recognised in profit or loss in accordance with IFRS 9 (net of impairment losses previously recognised in profit or loss under IAS 39). The amount transferred from 'Other reserves' to 'Retained earnings' was $61m. The resulting cumulative expected credit losses recognised in 'Retained earnings' on financial assets measured at FVOCI on adoption of IFRS 9 is $184m. In addition, the cumulative AFS reserve relating to financial investments reclassified to 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss' in accordance with IFRS 9 has been transferred to retained earnings.*

13 *Measurement refers to that under IAS 39 and IFRS 9. Financial investments measured under fair value through other comprehensive income were measured as available-for-sale instruments under IAS 39.*

14 *The effect of IFRS 9 remeasurement has been updated from the estimate disclosed in our* Annual Report and Accounts 2017 *as a result of our associates publicly reporting their transition impacts.*

15 *The effective interest rate on the issued debt security reclassified at 1 January 2018 was 4.05%.*

16 *Effective interest rate on subordinated liabilities reclassified at 1 January 2018 were 3.16%, 5.34%, 6.57% and 7.69%.*

Reconciliation of HSBC Holdings balance sheet at 31 December 2017 and 1 January 2018

	Footnotes	IAS 39 measurement category	IFRS 9 measurement category	IAS 39 carrying amount at 31 Dec 2017	Other changes in classification	IFRS 9 reclassification to: Fair value through profit and loss	IFRS 9 reclassification to: Fair value through other comprehensive income	IFRS 9 reclassification to: Amortised cost	Carrying amount post-reclassification	IFRS 9 remeasurement including expected credit losses	IFRS 9 carrying amount at 1 Jan 2018
				$m	$m	$m	$m	$m	$m	$m	$m
Assets											
Cash and balances with HSBC undertakings		**Amortised cost**	**Amortised cost**	**1,985**	**–**	**–**	**–**	**–**	**1,985**	**–**	**1,985**
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	1	**FVPL**	**FVPL**	**11,944**	**–**	**4,264**	**–**	**–**	**16,208**	**–**	**16,208**
Derivatives		**FVPL**	**FVPL**	**2,388**	**–**	**–**	**–**	**–**	**2,388**	**–**	**2,388**
Loans and advances to HSBC undertakings		**Amortised cost**	**Amortised cost**	**76,627**	**–**	**–**	**–**	**–**	**76,627**	**–**	**76,627**
Financial investments	1	**FVOCI (Available for sale – debt instruments)**	**FVPL**	**4,264**	**–**	**(4,264)**	**–**	**–**	**–**	**–**	**–**
		FVOCI (Available for sale – equity instruments)	**FVOCI**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
		Amortised cost (Debt instruments held to maturity)	**Amortised cost**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Prepayments, accrued income and intangible assets		**Amortised cost**	**Amortised cost**	**662**	**–**	**–**	**–**	**–**	**662**	**–**	**662**
Current tax assets		**N/A**	**N/A**	**379**	**–**	**–**	**–**	**–**	**379**	**–**	**379**
Investment in subsidiaries		**N/A**	**N/A**	**92,930**	**–**	**–**	**–**	**–**	**92,930**	**–**	**92,930**
Deferred tax assets		**N/A**	**N/A**	**555**	**–**	**–**	**–**	**–**	**555**	**(175)**	**380**
Total assets				**191,734**	**–**	**–**	**–**	**–**	**191,734**	**(175)**	**191,559**

	Footnotes	IAS 39 measurement category	IAS 39 carrying amount at 31 Dec 2017	Other changes in classification	IFRS 9 reclassification to: Fair value through profit and loss	IFRS 9 reclassification to: Fair value through other comprehensive income	IFRS 9 reclassification to: Amortised cost	Carrying amount post-reclassification	IFRS 9 remeasurement including expected credit losses	IFRS 9 carrying amount at 1 Jan 2018
			$m	$m	$m	$m	$m	$m	$m	$m
Liabilities										
Amount owed to HSBC undertakings		**Amortised cost**	**2,571**	**–**	**–**	**–**	**–**	**2,571**	**–**	**2,571**
Financial liabilities designated at fair value	2	**FVPL**	**30,890**	**–**	**–**	**–**	**(5,402)**	**25,488**	**–**	**25,488**
Derivatives		**Amortised cost**	**3,082**	**–**	**–**	**–**	**–**	**3,082**	**–**	**3,082**
Debt securities in issue		**Amortised cost**	**34,258**	**–**	**–**	**–**	**–**	**34,258**	**–**	**34,258**
Accruals, deferred income and other liabilities	2	**Amortised cost**	**1,269**	**–**	**–**	**–**	**75**	**1,344**	**–**	**1,344**
Subordinated liabilities	2	**Amortised cost**	**15,877**	**–**	**–**	**–**	**5,327**	**21,204**	**(1,065)**	**20,139**
Total liabilities			**87,947**	**–**	**–**	**–**	**–**	**87,947**	**(1,065)**	**86,882**

Reconciliation for HSBC Holdings balance sheet at 31 December 2017 and 1 January 2018 (continued)

	Footnotes	IAS 39 carrying amount at 31 Dec 2017	IFRS 9 reclassification	Carrying amount post-reclassification	IFRS 9 remeasurement including expected credit losses	Carrying amount at 1 January 2018
		$m	$m	$m	$m	$m
Equity						
Called up share capital		10,160	–	10,160	–	10,160
Share premium account		10,177	–	10,177	–	10,177
Other equity instruments		22,107	–	22,107	–	22,107
Other reserves		37,440	(59)	37,381	–	37,381
Retained earnings		23,903	59	23,962	890	24,852
Total equity		103,787	–	103,787	890	104,677

1 *$4,264 of available-for-sale assets have been reclassified as 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss' in accordance with IFRS 9.*

2 *As permitted by IFRS 9, fair value designations have been revoked for certain long-dated liabilities where the accounting mismatch will be better mitigated by undertaking fair value hedge accounting, resulting in reclassifications of $5,402m from 'Financial liabilities designated at fair value' to 'Subordinated liabilities' measured at amortised cost.*

38 Events after the balance sheet date

In its assessment of events after the balance sheet date, HSBC considered, among others, the events related to the process of the UK's withdrawal from the European Union that occurred between 31 December 2018 and the date when the financial statements were authorised for issue, and concluded that no adjustments to the financial statements were required.

A fourth interim dividend for 2018 of $0.21 per ordinary share (a distribution of approximately $4,205m) was declared by the Directors after 31 December 2018. These accounts were approved by the Board of Directors on 19 February 2019 and authorised for issue.

39 HSBC Holdings' subsidiaries, joint ventures and associates

In accordance with section 409 of the Companies Act 2006 a list of HSBC Holdings plc subsidiaries, joint ventures and associates, the registered office address and the effective percentage of equity owned at 31 December 2018 are disclosed below.

Unless otherwise stated, the share capital comprises ordinary or common shares that are held by Group subsidiaries. The ownership percentage is provided for each undertaking. The undertakings below are consolidated by HSBC unless otherwise indicated.

Subsidiaries

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
ACN 087 652 113 Pty Limited (in liquidation)	100.00		16
Almacenadora Banpacifico S.A. (in liquidation)	99.99		18
Assetfinance December (F) Limited	100.00		19
Assetfinance December (H) Limited	100.00		19
Assetfinance December (M) Limited	100.00		19
Assetfinance December (P) Limited	100.00		19
Assetfinance December (R) Limited	100.00		19
Assetfinance June (A) Limited	100.00		19
Assetfinance June (D) Limited	100.00		19
Assetfinance Limited	100.00		19
Assetfinance March (B) Limited	100.00		20
Assetfinance March (D) Limited	100.00		19
Assetfinance March (F) Limited	100.00		19
Assetfinance September (F) Limited	100.00		19
Assetfinance September (G) Limited	100.00		19
B&Q Financial Services Limited	100.00		21
Banco Nominees (Guernsey) Limited	100.00		22
Banco Nominees 2 (Guernsey) Limited	100.00		22
Banco Nominees Limited	100.00		23
Bank of Bermuda (Cayman) Limited	100.00		24
Beau Soleil Limited Partnership	n/a		7, 25
Beijing Miyun HSBC Rural Bank Company Limited	100.00		12, 26
Billingsgate Nominees Limited	100.00		19
Canada Crescent Nominees (UK) Limited	100.00		19
Canada Square Nominees (UK) Limited	100.00		19
Canada Water Nominees (UK) Limited (in liquidation)	100.00		19
Capco/Cove, Inc.	100.00		27
Card-Flo #1, Inc.	100.00		28
Card-Flo #3, Inc.	100.00		29
CC&H Holdings LLC	n/a		7, 30
CCF & Partners Asset Management Limited	99.99		19
CCF Charterhouse GmbH & Co Asset Leasing KG (in liquidation)	n/a		7, 31
CCF Charterhouse GmbH (in liquidation)	100.00	(99.99)	4, 31
CCF Holding (LIBAN) S.A.L. (in liquidation)	74.99		1, 32
Charterhouse Administrators (D.T.) Limited	100.00	(99.99)	19
Charterhouse Development Limited (in liquidation)	100.00		36
Charterhouse Management Services Limited	100.00	(99.99)	19
Charterhouse Pensions Limited	100.00		19
Chongqing Dazu HSBC Rural Bank Company Limited	100.00		12, 33
Chongqing Fengdu HSBC Rural Bank Company Limited	100.00		12, 34
Chongqing Rongchang HSBC Rural Bank Company Limited	100.00		12, 35
CL Residential Limited (in liquidation)	100.00		36
COIF Nominees Limited	n/a		7, 19
Cordico Management AG	100.00		37
Corhold Limited	100.00		38
Corsair IV Financial Services Capital Partners	n/a		7, 49
Dalian Pulandian HSBC Rural Bank Company Limited	100.00		12, 39
Decision One Mortgage Company, LLC	n/a		7, 40
Dem 5	100.00	(99.99)	4, 41
Dem 9	100.00	(99.99)	4, 41
Dempar 1	100.00	(99.99)	4, 42
Dempar 4	100.00	(99.99)	4, 42
Desarrollo Turistico, S.A. de C.V. (in liquidation)	99.99		18
Elysees GmbH (in liquidation)	100.00	(99.99)	11, 31
Elysées Immo Invest	100.00	(99.99)	4, 43
Equator Holdings Limited (in liquidation)	100.00		19
Eton Corporate Services Limited	100.00		22
Far East Leasing SA (in liquidation)	100.00		44
Fdm 5 SAS	100.00	(99.99)	4, 41
FEPC Leasing Ltd. (in liquidation)	100.00		3, 45
Finanpar 2	100.00	(99.99)	4, 43
Finanpar 7	100.00	(99.99)	4, 43
Flandres Contentieux S.A.	100.00	(99.99)	1, 4, 46
Foncière Elysées	100.00	(99.99)	4, 42
Forward Trust Rail Services Limited (in liquidation)	100.00		19
Fujian Yongan HSBC Rural Bank Company Limited	100.00		12, 47
Fulcher Enterprises Company Limited	100.00	(62.14)	48
Fundacion HSBC, A.C.	99.99		1, 11, 18
Giller Ltd.	100.00		27
Global Payments Technology Mexico S.A. De C.V.	100.00	(99.99)	18
GPIF Co-Investment, LLC	n/a		7, 29
Griffin International Limited	100.00		19
Grundstuecksgesellschaft Trinkausstrasse Kommanditgesellschaft	n/a		7, 50
Grupo Financiero HSBC, S. A. de C. V.	99.99		18
Guangdong Enping HSBC Rural Bank Company Limited	100.00		12, 51
Hang Seng (Nominee) Limited	100.00	(62.14)	48
Hang Seng Bank (China) Limited	100.00	(62.14)	12, 54
Hang Seng Bank (Trustee) Limited	100.00	(62.14)	48
Hang Seng Bank Limited	62.14		48
Hang Seng Bullion Company Limited	100.00	(62.14)	48
Hang Seng Credit Limited	100.00	(62.14)	48
Hang Seng Data Services Limited	100.00	(62.14)	48
Hang Seng Finance Limited	100.00	(62.14)	48
Hang Seng Financial Information Limited	100.00	(62.14)	48
Hang Seng Futures Limited (in liquidation)	100.00	(62.14)	48
Hang Seng Indexes Company Limited	100.00	(62.14)	48
Hang Seng Insurance Company Limited	100.00	(62.14)	48
Hang Seng Investment Management Limited	100.00	(62.14)	48
Hang Seng Investment Services Limited	100.00	(62.14)	48
Hang Seng Life Limited	100.00	(62.14)	48
Hang Seng Real Estate Management Limited	100.00	(62.14)	48
Hang Seng Securities Limited	100.00	(62.14)	48
Hang Seng Security Management Limited	100.00	(62.14)	48
Hang Seng Qianhai Fund Management Company Limited	70.00	(43.49)	12, 189
Haseba Investment Company Limited	100.00	(62.14)	48
HFC Bank Limited (in liquidation)	100.00		36
Hg Janus A Co-Invest L.P.	n/a		7, 210
High Time Investments Limited	100.00	(62.14)	48
HITG Administration GmbH	100.00		55
Honey Green Enterprises Ltd.	100.00		56
Hongkong International Trade Finance (Holdings) Limited (in liquidation)	100.00		19
Household Capital Markets LLC	n/a		7, 29
Household Finance Corporation III	100.00		29
Household International Europe Limited (in liquidation)	100.00		3, 36
Household Pooling Corporation	100.00		58
HRMG Nominees Limited	100.00		22
HSBC (BGF) Investments Limited	100.00		19
HSBC (General Partner) Limited	100.00		2, 60
HSBC (Guernsey) GP PCC Limited	100.00		22
HSBC (Kuala Lumpur) Nominees Sdn Bhd	100.00		61
HSBC (Malaysia) Trustee Berhad	100.00		62
HSBC (Singapore) Nominees Pte Ltd	100.00		63

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Administradora de Inversiones S.A.	100.00	(99.65)	64
HSBC Agency (India) Private Limited	100.00		65
HSBC Alpha Funding (UK) Holdings LP (in liquidation)	n/a		7, 66
HSBC Alternative Investments Limited	100.00		19
HSBC Amanah Malaysia Berhad	100.00		61
HSBC Amanah Takaful (Malaysia) Berhad	49.00		9, 61
HSBC Americas Corporation (Delaware)	100.00		29
HSBC Argentina Holdings S.A.	100.00		67
HSBC Asia Holdings (UK) Limited	100.00		19
HSBC Asia Holdings B.V.	100.00		3, 19
HSBC Asia Holdings Limited	100.00		2, 68
HSBC Asia Pacific Holdings (UK) Limited	100.00		5, 19
HSBC Asset Finance (UK) Limited	100.00		19
HSBC Asset Finance Holdings Limited (in liquidation)	100.00		19
HSBC Asset Finance M.O.G. Holdings (UK) Limited	100.00		19
HSBC Asset Management (India) Private Limited	100.00	(99.99)	3, 69
HSBC Assurances Vie (France)	100.00	(99.99)	4, 46
HSBC Australia Holdings Pty Limited	100.00		3, 5, 16
HSBC Bank (Chile)	100.00		70
HSBC Bank (China) Company Limited	100.00		12, 71
HSBC Bank (General Partner) Limited	100.00		60
HSBC Bank (Mauritius) Limited	100.00		72
HSBC Bank (RR) (Limited Liability Company)	100.00		13, 73
HSBC Bank (Singapore) Limited	100.00		63
HSBC Bank (Taiwan) Limited	100.00		74
HSBC Bank (Uruguay) S.A.	100.00		75
HSBC Bank (Vietnam) Ltd.	100.00		76
HSBC Bank A.S.	100.00		77
HSBC Bank Argentina S.A.	100.00	(99.99)	67
HSBC Bank Armenia cjsc	70.00		78
HSBC Bank Australia Limited	100.00		16
HSBC Bank Bermuda Limited	100.00		23
HSBC Bank Canada	100.00		3, 79
HSBC Bank Capital Funding (Sterling 1) LP	n/a		7, 60
HSBC Bank Capital Funding (Sterling 2) LP	n/a		7, 60
HSBC Bank Egypt S.A.E	94.54		80
HSBC Bank Malaysia Berhad	100.00		61
HSBC Bank Malta p.l.c.	70.03		81
HSBC Bank Middle East Limited	100.00		5, 82
HSBC Bank Middle East Limited, Representative Office Morocco SARL	100.00		83
HSBC Bank Nominee (Jersey) Limited	100.00		85
HSBC Bank Oman S.A.O.G.	51.00		86
HSBC Bank Pension Trust (UK) Limited	100.00		19
HSBC Bank plc	100.00		3, 19
HSBC Bank Polska S.A.	100.00		3, 87
HSBC Bank USA, National Association	100.00		3, 88
HSBC Branch Nominee (UK) Limited	100.00		19
HSBC Brasil Holding S.A.	100.00		89
HSBC Brasil S.A. Banco De Investimento	100.00		89
HSBC Broking Forex (Asia) Limited	100.00		68
HSBC Broking Futures (Asia) Limited	100.00		68
HSBC Broking Futures (Hong Kong) Limited	100.00		68
HSBC Broking Securities (Asia) Limited	100.00		68
HSBC Broking Securities (Hong Kong) Limited	100.00		68
HSBC Broking Services (Asia) Limited	100.00		68
HSBC Canadian Covered Bond (Legislative) GP Inc	100.00		90
HSBC Canadian Covered Bond (Legislative) Guarantor Limited Partnership	n/a		7, 90
HSBC Capital (USA), Inc.	100.00		29
HSBC Capital Funding (Dollar 1) L.P.	n/a		7, 60
HSBC Capital Limited	100.00		68
HSBC Card Services Inc.	100.00		29

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Casa de Bolsa, S.A. de C.V., Grupo Financiero HSBC	99.99		18
HSBC Cayman Services Limited	100.00		92
HSBC City Funding Holdings	100.00		19
HSBC Client Holdings Nominee (UK) Limited	100.00		19
HSBC Client Share Offer Nominee (UK) Limited	100.00		19
HSBC Columbia Funding, LLC	n/a		7, 29
HSBC Corporate Advisory (Malaysia) Sdn Bhd	100.00		61
HSBC Corporate Finance (Hong Kong) Limited	100.00		68
HSBC Corporate Trustee Company (UK) Limited	100.00		19
HSBC Custody Nominees (Australia) Limited	100.00		16
HSBC Custody Services (Guernsey) Limited	100.00		22
HSBC Daisy Investments (Mauritius) Limited	100.00		94
HSBC Diversified Loan Fund General Partner Sarl	n/a		7, 95
HSBC Electronic Data Processing (Guangdong) Limited	100.00		12, 96
HSBC Electronic Data Processing (Malaysia) Sdn Bhd	100.00		97
HSBC Electronic Data Processing (Philippines), Inc.	99.99		98
HSBC Electronic Data Processing India Private Limited	100.00		99
HSBC Electronic Data Processing Lanka (Private) Limited	100.00		100
HSBC Electronic Data Service Delivery (Egypt) S.A.E.	100.00		101
HSBC Enterprise Investment Company (UK) Limited	100.00		19
HSBC Epargne Entreprise (France)	100.00	(99.99)	4, 46
HSBC Equator (UK) Limited (in liquidation)	100.00		19
HSBC Equipment Finance (UK) Limited	100.00		19
HSBC Equity (UK) Limited	100.00		19
HSBC Europe B.V.	100.00		19
HSBC Executor & Trustee Company (UK) Limited	100.00		19
HSBC Factoring (France)	100.00	(99.99)	4, 42
HSBC Finance (Brunei) Berhad	100.00		102
HSBC Finance (Netherlands)	100.00		2, 19
HSBC Finance Corporation	100.00		29
HSBC Finance Limited	100.00		19
HSBC Finance Mortgages Inc.	100.00		103
HSBC Finance Transformation (UK) Limited	100.00		2, 19
HSBC Financial Services (Lebanon) s.a.l.	99.60		104
HSBC Financial Services (Middle East) Limited (in liquidation)	100.00		105
HSBC Financial Services (Uruguay) S.A. (in liquidation)	100.00		106
HSBC France	99.99		4, 42
HSBC Fund Services (Korea) Limited	92.95		108
HSBC Funding (UK) Holdings (active proposal to strike off)	100.00		19
HSBC Germany Holdings GmbH	100.00		50
HSBC Global Asset Management (Bermuda) Limited	100.00		3, 23
HSBC Global Asset Management (Canada) Limited	100.00		79
HSBC Global Asset Management (Deutschland) GmbH	100.00	(80.67)	50
HSBC Global Asset Management (France)	100.00	(99.99)	4, 110
HSBC Global Asset Management (Hong Kong) Limited	100.00		25
HSBC Global Asset Management (International) Limited (in liquidation)	100.00		111
HSBC Global Asset Management (Japan) K. K.	100.00		112
HSBC Global Asset Management (Malta) Limited	100.00	(70.03)	113

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Global Asset Management (México), S.A. de C.V., Sociedad Operadora de Fondos de Inversión, Grupo Financiero HSBC	99.99		18
HSBC Global Asset Management (Oesterreich) GmbH	100.00	(80.67)	6, 114
HSBC Global Asset Management (Singapore) Limited	100.00		63
HSBC Global Asset Management (Switzerland) AG	100.00	(90.33)	4, 115
HSBC Global Asset Management (Taiwan) Limited	100.00		116
HSBC Global Asset Management (UK) Limited	100.00		19
HSBC Global Asset Management (USA) Inc.	100.00		117
HSBC Global Asset Management Holdings (Bahamas) Limited	100.00		118
HSBC Global Asset Management Limited	100.00		2, 19
HSBC Global Custody Nominee (UK) Limited	100.00		19
HSBC Global Custody Proprietary Nominee (UK) Limited	100.00		19
HSBC Global Services (Canada) Limited	100.00		3, 119
HSBC Global Services (China) Holdings Limited	100.00		19
HSBC Global Services (Hong Kong) Limited	100.00		68
HSBC Global Services (UK) Limited	100.00		19
HSBC Global Services Limited	100.00		2, 19
HSBC Global Shared Services (India) Private Limited (in liquidation)	100.00	(99.99)	65
HSBC Group Management Services Limited	100.00		19
HSBC Group Nominees UK Limited	100.00		1, 2, 19
HSBC Holdings B.V.	100.00		3, 19
HSBC IM Pension Trust Limited	100.00		1, 19
HSBC Infrastructure Limited	100.00		19
HSBC INKA Investment-AG TGV	100.00	(80.67)	14, 120
HSBC Inmobiliaria (Mexico), S.A. de C.V.	100.00		18
HSBC Institutional Trust Services (Asia) Limited	100.00		68
HSBC Institutional Trust Services (Bermuda) Limited	100.00		23
HSBC Institutional Trust Services (Ireland) DAC	100.00	(99.99)	121
HSBC Institutional Trust Services (Mauritius) Limited	100.00		122
HSBC Institutional Trust Services (Singapore) Limited	100.00		63
HSBC Insurance (Asia) Limited	100.00		124
HSBC Insurance (Asia-Pacific) Holdings Limited	100.00		5, 125
HSBC Insurance (Bermuda) Limited	100.00		23
HSBC Insurance (Singapore) Pte. Limited	100.00		63
HSBC Insurance Agency (USA) Inc.	100.00		117
HSBC Insurance Brokers (Philippines) Inc	100.00	(99.99)	127
HSBC Insurance Holdings Limited	100.00		2, 19
HSBC Insurance Management Services Limited (in liquidation)	100.00		128
HSBC Insurance Services (Lebanon) S.A.L. (in liquidation)	97.70		129
HSBC Insurance Services Holdings Limited	100.00		19
HSBC International Finance Corporation (Delaware)	100.00		130
HSBC International Holdings (Jersey) Limited (in liquidation)	100.00		85
HSBC International Limited (in liquidation)	100.00		85
HSBC International Nominees Limited (in liquidation)	100.00		1, 131
HSBC International Trustee (BVI) Limited	100.00		10, 132
HSBC International Trustee (Holdings) Pte. Limited	100.00		63
HSBC International Trustee Limited	100.00		131
HSBC Inversiones S.A.	99.99		70
HSBC Inversiones y Servicios Financieros Limitada (in liquidation)	100.00	(99.99)	70
HSBC InvestDirect (India) Limited	99.99	(99.54)	133

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC InvestDirect Financial Services (India) Limited	100.00	(99.54)	133
HSBC InvestDirect Sales & Marketing (India) Limited	99.99	(98.54)	65
HSBC InvestDirect Securities (India) Private Limited	99.99	(99.61)	3, 133
HSBC Investment Bank Holdings B.V.	100.00		19
HSBC Investment Bank Holdings Limited	100.00		19
HSBC Investment Company (Egypt) S.A.E (in liquidation)	100.00	(94.54)	1, 134
HSBC Investment Funds (Canada) Inc.	100.00		5, 135
HSBC Investment Funds (Hong Kong) Limited	100.00		25
HSBC Investment Funds (Luxembourg) SA	100.00		136
HSBC Invoice Finance (UK) Limited	100.00		138
HSBC Iris Investments (Mauritius) Ltd (in liquidation)	100.00		139
HSBC Issuer Services Common Depositary Nominee (UK) Limited	100.00		19
HSBC Issuer Services Depositary Nominee (UK) Limited	100.00		19
HSBC Latin America B.V.	100.00		19
HSBC Latin America Holdings (UK) Limited	100.00		2, 19
HSBC Leasing (Asia) Limited	100.00		68
HSBC Leasing (France)	100.00	(99.99)	4, 41
HSBC Life (International) Limited	100.00		23
HSBC Life (Property) Limited	100.00		124
HSBC Life (UK) Limited	100.00		19
HSBC Life Assurance (Malta) Limited	100.00	(70.03)	113
HSBC Life Insurance Company Limited	50.00		140
HSBC Lodge Funding (UK) Holdings (active proposal to strike off)	100.00		19
HSBC LU Nominees Limited	100.00		19
HSBC Management (Guernsey) Limited	100.00		22
HSBC Markets (USA) Inc.	100.00		29
HSBC Marking Name Nominee (UK) Limited	100.00		19
HSBC Mexico, S.A., Institucion de Banca Multiple, Grupo Financiero HSBC	100.00	(99.99)	18
HSBC Middle East Finance Company Limited	80.00		141
HSBC Middle East Holdings B.V.	100.00		2, 3, 82
HSBC Middle East Leasing Partnership	n/a		7, 142
HSBC Middle East Securities L.L.C	49.00		9, 143
HSBC Mortgage Corporation (Canada)	100.00		144
HSBC Mortgage Corporation (USA)	100.00		29
HSBC Nominees (Asing) Sdn Bhd	100.00		61
HSBC Nominees (Hong Kong) Limited	100.00		68
HSBC Nominees (New Zealand) Limited	100.00		145
HSBC Nominees (Tempatan) Sdn Bhd	100.00		61
HSBC North America Holdings Inc.	100.00		3, 29
HSBC Odeme Sistemleri Bilgisayar Teknolojileri Basin Yayin Ve Musteri Hizmetleri	99.99		146
HSBC Operational Services GmbH	n/a		7, 147
HSBC Overseas Holdings (UK) Limited	100.00		2, 19
HSBC Overseas Investments Corporation (New York)	100.00		149
HSBC Overseas Nominee (UK) Limited	100.00		19
HSBC Participaciones (Argentina) S.A.	100.00	(99.99)	67
HSBC PB Corporate Services 1 Limited	100.00		150
HSBC PB Services (Suisse) SA	100.00		151
HSBC Pension Trust (Ireland) DAC	100.00		121
HSBC Pensiones, S.A.	99.99		152
HSBC PI Holdings (Mauritius) Limited	100.00		122
HSBC Portfoy Yonetimi A.S.	100.00	(99.98)	153
HSBC Preferential LP (UK)	100.00		19
HSBC Private Bank (C.I.) Limited	100.00		22
HSBC Private Bank (Luxembourg) S.A.	100.00		136
HSBC Private Bank (Monaco) SA	99.99		4, 155
HSBC Private Bank (Suisse) SA	100.00		151
HSBC Private Bank (UK) Limited	100.00		19

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Private Bank International	100.00		156
HSBC Private Banking Holdings (Suisse) SA	100.00		151
HSBC Private Banking Nominee 3 (Jersey) Limited	100.00		150
HSBC Private Equity Advisors LLC	n/a		7, 29
HSBC Private Equity Investments (UK) Limited	100.00		19
HSBC Private Trustee (Hong Kong) Limited	100.00		68
HSBC Private Wealth Services (Canada) Inc.	100.00		3, 157
HSBC Professional Services (India) Private Limited	98.61		65
HSBC Property (UK) Limited	100.00		19
HSBC Property Funds (Holding) Limited	100.00		19
HSBC Provident Fund Trustee (Hong Kong) Limited	100.00		68
HSBC Qianhai Securities Limited	100.00	(51.00)	12, 158
HSBC Rail (UK) Limited (in liquidation)	100.00		19
HSBC Real Estate Leasing (France)	99.00		4, 46
HSBC Realty Credit Corporation (USA)	100.00		3, 29
HSBC REIM (France)	100.00	(99.99)	4, 46
HSBC Representative Office (Nigeria) Limited	100.00		159
HSBC Retirement Benefits Trustee (UK) Limited	100.00		1, 2, 19
HSBC Retirement Services Limited	100.00		1, 19
HSBC Savings Bank (Philippines) Inc.	99.99		161
HSBC Securities (Asia) Limited	100.00		68
HSBC Securities (Canada) Inc.	100.00		119
HSBC Securities (Egypt) S.A.E.	100.00	(94.54)	80
HSBC Securities (Japan) Limited	100.00		19
HSBC Securities (Philippines) Inc.	99.99		1, 162
HSBC Securities (Singapore) Pte Limited	100.00		63
HSBC Securities (South Africa) (Pty) Limited	100.00		163
HSBC Securities (Taiwan) Corporation Limited	100.00		164
HSBC Securities (USA) Inc.	100.00		29
HSBC Securities and Capital Markets (India) Private Limited	99.99		5, 65
HSBC Securities Asia International Nominees Limited	100.00		165
HSBC Securities Asia Nominees Limited	100.00		68
HSBC Securities Brokers (Asia) Limited	100.00		68
HSBC Securities Investments (Asia) Limited	100.00		68
HSBC Securities Services (Bermuda) Limited	100.00		23
HSBC Securities Services (Guernsey) Limited	100.00		22
HSBC Securities Services (Ireland) DAC	100.00		121
HSBC Securities Services (Luxembourg) S.A.	100.00		136
HSBC Securities Services Holding Limited	100.00		131
HSBC Securities Services Holdings (Ireland) DAC	100.00		121
HSBC Seguros de Retiro (Argentina) S.A.	100.00	(99.99)	67
HSBC Seguros de Vida (Argentina) S.A.	100.00	(99.99)	67
HSBC Seguros, S.A de C.V., Grupo Financiero HSBC	99.99		3, 152
HSBC Service Delivery (Polska) Sp. z o.o.	100.00		167
HSBC Services (France)	99.99		4, 42
HSBC Services Japan Limited	100.00		168
HSBC Services USA Inc.	100.00		169
HSBC Servicios Financieros, S.A. de C.V	99.99		18
HSBC Servicios, S.A. DE C.V., Grupo Financiero HSBC	99.99		18
HSBC SFH (France)	99.99		4, 46
HSBC Software Development (Canada) Inc	100.00		170
HSBC Software Development (Guangdong) Limited	100.00		12, 171
HSBC Software Development (India) Private Limited	100.00		172
HSBC Software Development (Malaysia) Sdn Bhd	100.00		97
HSBC Specialist Investments Limited	100.00		5, 19
HSBC Stockbrokers Nominee (UK) Limited	100.00		19
HSBC Technology & Services (China) Limited	100.00		12, 173

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Technology & Services (USA) Inc.	100.00		29
HSBC Transaction Services GmbH	100.00	(80.67)	6, 174
HSBC Trinkaus & Burkhardt (International) S.A.	100.00	(80.67)	136
HSBC Trinkaus & Burkhardt AG	80.67		14, 50
HSBC Trinkaus & Burkhardt Gesellschaft fur Bankbeteiligungen mbH	100.00	(80.67)	50
HSBC Trinkaus Europa Immobilien-Fonds Nr. 5 GmbH	100.00	(80.67)	50
HSBC Trinkaus Family Office GmbH	100.00	(80.67)	6, 50
HSBC Trinkaus Immobilien Beteiligungs KG	100.00	(80.67)	50
HSBC Trinkaus Real Estate GmbH	100.00	(80.67)	6, 50
HSBC Trust Company (Canada)	100.00		144
HSBC Trust Company (Delaware), National Association	100.00		175
HSBC Trust Company (UK) Limited	100.00		19
HSBC Trust Company AG	100.00		37
HSBC Trustee (C.I.) Limited	100.00		150
HSBC Trustee (Cayman) Limited	100.00		176
HSBC Trustee (Guernsey) Limited	100.00		22
HSBC Trustee (Hong Kong) Limited	100.00		68
HSBC Trustee (Mauritius) Limited (in liquidation)	100.00		177
HSBC Trustee (Singapore) Limited	100.00		63
HSBC UK Bank plc	100.00		178
HSBC UK Client Nominee Limited	100.00		19
HSBC UK Holdings Limited	100.00		2, 19
HSBC USA Inc.	100.00		3, 149
HSBC Violet Investments (Mauritius) Limited	100.00		94
HSBC Wealth Client Nominee Limited	100.00		19
HSBC Yatirim Menkul Degerler A.S.	99.98		153
HSI Asset Securitization Corporation	100.00		29
HSI International Limited	100.00	(62.14)	48
HSIL Investments Limited	100.00		19
Hubei Macheng HSBC Rural Bank Company Limited	100.00		12, 182
Hubei Suizhou Cengdu HSBC Rural Bank Company Limited	100.00		12, 183
Hubei Tianmen HSBC Rural Bank Company Limited	100.00		12, 184
Hunan Pingjiang HSBC Rural Bank Company Limited	100.00		12, 185
Imenson Limited	100.00	(62.14)	48
InfraRed NF China Real Estate Investments LP	n/a		7, 53
INKA Internationale Kapitalanlagegesellschaft mbH	100.00	(80.67)	174
Inmobiliaria Banci, S.A. de C.V.	100.00	(98.91)	18
Inmobiliaria Bisa, S.A. de C.V.	100.00	(99.99)	18
Inmobiliaria Grufin, S.A. de C.V.	100.00	(99.99)	18
Inmobiliaria Guatusi, S.A. de C.V.	100.00	(99.99)	18
IRERE Property Investments (French Offices) Sarl (in liquidation)	100.00		186
James Capel & Co. Limited	100.00		19
James Capel (Channel Islands) Nominees Limited (in liquidation)	100.00		111
James Capel (Nominees) Limited	100.00		19
James Capel (Second Nominees) Limited (in liquidation)	100.00		36
James Capel (Taiwan) Nominees Limited	100.00		19
Jasmine22 Limited	100.00		187
John Lewis Financial Services Limited	100.00		19
Keyser Ullmann Limited	100.00	(99.99)	19
Kings Meadow Nominees Limited (in liquidation)	100.00		188
Legend Estates Limited (in liquidation)	100.00		19
Lion Corporate Services Limited	100.00		68
Lion International Corporate Services Limited	100.00		131
Lion International Management Limited	100.00		131
Lion Management (Hong Kong) Limited	100.00		68

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Lyndholme Limited	100.00		68
Marks and Spencer Financial Services plc	100.00		188
Marks and Spencer Retail Financial Services Holdings Limited (in liquidation)	100.00		188
Marks and Spencer Savings and Investments Limited	100.00		188
Marks and Spencer Unit Trust Management Limited	100.00		188
Maxima S.A. AFJP (in liquidation)	100.00	(99.98)	67
Mercantile Company Limited	100.00		19
Mexicana de Fomento, S.A. de C.V.	99.90		18
Midcorp Limited	100.00		19
Midland Bank (Branch Nominees) Limited	100.00		19
Midland Nominees Limited	100.00		19
MIL (Cayman) Limited	100.00		193
MIL (Jersey) Limited	100.00		150
MW Gestion SA	100.00		67
Promocion en Bienes Raices, S.A. de C.V.	99.99	(0.99)	3, 18
Prudential Client HSBC GIS Nominee (UK) Limited	100.00		19
PT Bank HSBC Indonesia	100.00	(98.93)	195
PT HSBC Sekuritas Indonesia	100.00	(85.00)	196
R/CLIP Corp.	100.00		29
Real Estate Collateral Management Company	100.00		29
Republic Nominees Limited	100.00		22
Republic Overseas Capital Corporation	100.00		117
RLUKREF Nominees (UK) One Limited	100.00		19
RLUKREF Nominees (UK) Two Limited	100.00		19
S.A.P.C. - Ufipro Recouvrement	99.97		11, 41
Saf Baiyun	100.00	(99.99)	4, 43
Saf Chang Jiang	100.00	(99.99)	4, 43
Saf Guangzhou	100.00	(99.99)	4, 43
Saf Zhu Jiang	100.00	(99.99)	4, 43
Saf Zhu Jiang Jiu	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Ba	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Er	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Jiu	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Liu	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Qi	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Wu	100.00	(99.99)	4, 43
SAS Bosquet -Audrain	100.00	(94.90)	4, 199
SAS Cyatheas Pasteur	100.00	(94.93)	4, 41
SAS Orona	100.00	(94.92)	1, 4, 200
SCI HSBC Assurances Immo	100.00	(99.99)	11, 46
SFM	99.99		4, 42
SFSS Nominees (Pty) Limited	100.00		163
Shandong Rongcheng HSBC Rural Bank Company Limited	100.00		12, 201
Sico Limited	100.00		202
SNC Dorique	100.00	(99.99)	1, 11, 203
SNC Kerouan	100.00	(99.99)	11, 43
SNC Les Mercuriales	100.00	(99.99)	1, 11, 43
SNC Les Oliviers D'Antibes	60.00		11, 46
SNC Makala	100.00	(99.99)	1, 11, 43
SNC Nuku-Hiva Bail	100.00	(99.99)	1, 11, 43
SNCB/M6 - 2008 A	100.00	(99.99)	1, 4, 43
SNCB/M6-2007 A	100.00	(99.99)	1, 4, 43
SNCB/M6-2007 B	100.00	(99.99)	1, 4, 43
Societe CCF Finance Moyen-Orient S.A.L. (in liquidation)	99.64	(99.08)	1, 32
Société Française et Suisse	100.00	(99.99)	4, 43
Societe Immobiliere Atlas S.A. (in liquidation)	100.00		151
Somers Dublin DAC	100.00	(99.99)	121
Somers Nominees (Far East) Limited	100.00		23
Sopingest	100.00	(99.99)	4, 43
South Yorkshire Light Rail Limited	100.00		19
St Cross Trustees Limited	100.00		19

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Sun Hung Kai Development (Lujiazui III) Limited	100.00		12, 206
Swan National Leasing (Commercials) Limited	100.00		19
Swan National Limited	100.00		19
Thasosfin	100.00	(99.99)	4, 46
The Hongkong and Shanghai Banking Corporation Limited	100.00		68
The Venture Catalysts Limited	100.00		19
Timberlink Settlement Services (USA) Inc.	100.00		29
Tooley Street View Limited	100.00		1, 2, 19
Tower Investment Management	100.00		207
Trinkaus Australien Immobilien Fonds Nr. 1 Brisbane GmbH & Co. KG	100.00	(80.67)	50
Trinkaus Australien Immobilien-Fonds Nr. 1 Treuhand-GmbH	100.00	(80.67)	6, 50
Trinkaus Europa Immobilien-Fonds Nr.3 Objekt Utrecht Verwaltungs-GmbH	100.00	(80.67)	50
Trinkaus Immobilien-Fonds Geschaeftsfuehrungs-GmbH	100.00	(80.67)	6, 50
Trinkaus Immobilien-Fonds Verwaltungs-GmbH	100.00	(80.67)	6, 50
Trinkaus Private Equity Management GmbH	100.00	(80.67)	50
Trinkaus Private Equity Verwaltungs GmbH	100.00	(80.67)	6, 50
Tropical Nominees Limited	100.00		193
Turnsonic (Nominees) Limited	100.00		19
Vadep Holding AG (in liquidation)	100.00		209
Valeurs Mobilières Elysées	100.00	(99.99)	4, 52
Wardley Limited	100.00		68
Wayfoong Credit Limited (in liquidation)	100.00		68
Wayfoong Finance Limited (in liquidation)	100.00		68
Wayfoong Nominees Limited	100.00		68
Wayhong (Bahamas) Limited	100.00		118
Westminster House, LLC	n/a		7, 29
Woodex Limited	100.00		23
Yan Nin Development Company Limited	100.00	(62.14)	48

Joint ventures

The undertakings below are joint ventures and equity accounted.

Joint ventures	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HCM Holdings Limited	50.99		36
House Network Sdn Bhd	25.00		15
HSBC Jintrust Fund Management Company Limited	49.00		12, 93
HSBC Saudi Arabia	49.00	(69.40)	191
ProServe Bermuda Limited	50.00		107
Sino AG	24.94	(20.11)	208
The London Silver Market Fixing Limited	n/a		1, 7, 180
Vaultex UK Limited	50.00		109

Associates

The undertakings below are associates and equity accounted.

Associates	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Bank of Communications Co., Ltd.	19.03		9, 126
Barrowgate Limited	24.64		137
BGF Group PLC	24.48		140
Bud Financial Limited	8.02		3, 9, 17
Canara HSBC Oriental Bank of Commerce Life Insurance Company Limited	26.00		148
CFAC Payment Scheme Limited	33.33		1, 3, 154
Chemi & Cotex (Rwanda) Limited	99.98	(33.99)	1, 160
Chemi & Cotex Kenya Limited	99.99	(33.99)	1, 166
Chemi and Cotex Industries Limited	100.00	(33.99)	1 , 179
EPS Company (Hong Kong) Limited	40.58		68
GZHS Research Co Ltd	33.00	(20.50)	1, 12, 181
HSBC Mortgage Limited Liability Partnership (in liquidation)	n/a		7, 190
Icon Brickell LLC (in liquidation)	n/a		7,192
Jeppe Star Limited	100.00	(33.99)	123
MENA Infrastructure Fund (GP) Ltd	33.33		142
Northstar Trade Finance Inc.	20.08		197
Novo Star Limited	33.99		198
PEF 2005 (A) Limited Partnership	n/a		7, 57
PEF 2005 (D) Limited Partnership	n/a		7, 57
PEF 2010 (A) Limited Partnership	n/a		7, 57
Peregrine Capital (India) Private Limited	33.46		91
Prisma Medios de Pago S.A.	7.06		1, 205
Quantexa Limited	10.51		9, 204
Services Epargne Entreprise	14.35		4, 9, 59
The London Gold Market Fixing Limited	n/a		1, 7, 180
The Saudi British Bank	40.00		194
Vizolution Limited	17.95		9, 123
We Trade Innovation Designated Activity Company	8.52		9, 84

Footnotes for Note 39

1	*Management has determined that these undertakings are excluded from consolidation in the Group accounts as these entities do not meet the definition of subsidiaries in accordance with IFRS. HSBC's consolidation policy is described in Note 1.2(a).*
2	*Directly held by HSBC Holdings plc*

Description of shares

3	*Preference Shares*
4	*Actions*
5	*Redeemable Preference Shares*
6	*GmbH Anteil*
7	*This undertaking is a partnership and does not have share capital*
8	*Liquidating Share Class*
9	*HSBC Holdings plc exercises control or significant influence over this undertaking notwithstanding its equity interest*
10	*Non-Participating Voting Shares*
11	*Parts*
12	*Registered Capital Shares*
13	*Russian Limited Liability Company Shares*
14	*Stückaktien*

Registered offices

15	*Lot 6.05, Level 6, KPMG Tower 8 First Avenue, Bandar Utama Petaling Jaya Selangor, Darul Ehsan, Malaysia 47800*
16	*Level 36 Tower 1 International Towers Sydney, 100 Barangaroo Avenue, Sydney, New South Wales, Australia, 2000*
17	*First Floor The Bower, 207 Old Street, London, England, EC1V 9NR*
18	*Paseo de la Reforma 347, Col. Cuauhtemoc, Mexico, 06500*
19	*8 Canada Square, London, United Kingdom, E14 5HQ*
20	*5 Donegal Square South, Belfast, Northern Ireland, BT1 5JP*

Registered offices

21	*Camden House West, The Parade, Birmingham, United Kingdom, B1 3PY*
22	*Arnold House St Julians Avenue, St Peter Port, Guernsey, GY1 3NF*
23	*37 Front Street, Hamilton, Bermuda, HM 11*
24	*PO Box 513, Strathvale House, Ground Floor, 90 North Church Street, George Town, Grand Cayman, Cayman Islands, KY1-1106*
25	*HSBC Main Building, 1 Queen's Road Central, Hong Kong*
26	*First Floor, Xinhua Bookstore Xindong Road (SE of roundabout), Miyun District, Beijing, China*
27	*95 Washington Street, Buffalo, New York, United States Of America, 14203*
28	*1209 Orange Street, Wilmington, Delaware, United States Of America, 19801*
29	*c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, Delaware, United States Of America, 19801*
30	*Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware, United States Of America, 19808*
31	*Unsoeldstrasse 2, Munich, Germany, 80538*
32	*Solidere - Rue Saad Zaghloul Immeuble - 170 Marfaa, PO Box 17 5476 Mar Michael 11042040, Beyrouth, Lebanon*
33	*No 1, Bei Huan East Road Dazu County, Chongqing, China*
34	*No 107, Ping Du Avenue (E), Sanhe Town, Fengdu County, Chongqing, China*
35	*No. 3, 5, 7, Haitang Erzhi Road, Changyuan, Rongchang, Chongqing, China, 402460*
36	*Hill House, 1 Little New Street, London, United Kingdom, EC4A 3TR*
37	*Bederstrasse 49, Zurich, Switzerland, CH-8002*
38	*Rawlinson and Hunter Limited, Woodbourne Hall, PO Box 3162, Road Town, Tortola, British Virgin Islands, VG1110*
39	*First & Second Floor, No.3 Nanshan Road, Pulandian, Dalian, Liaoning, China*
40	*CT Corporation System, 225 Hillsborough Street, Raleigh, North Carolina, United States Of America, 27603*
41	*39, rue de Bassano, Paris, France, 75008*
42	*103, avenue des Champs-Elysées, Paris, France, 75008*
43	*64, rue Galilée, Paris, France, 75008*
44	*MMG Tower, 23 floor, Ave. Paseo del Mar, Urbanizacion Costa del Este, Panama*
45	*Walkers Corporate Services Limited, Walker House, 87 Mary Street, George Town, Grand Cayman KY1-9005, Cayman Islands*
46	*15, rue Vernet, Paris, France, 75008*
47	*No. 1 1211 Yanjiang Zhong Road, Yongan, Fujian, China*
48	*83 Des Voeux Road Central, Hong Kong*
49	*c/o Maples Corporate Services Limited, Ugland House, PO Box 309, Grand Cayman, KY1-1104, Cayman Islands*
50	*Königsallee 21/23, Düsseldorf, Germany, 40212*
51	*No. 44, Xin Ping Road Central, Encheng, Enping, Guangdong, China, 529400*
52	*109 avenue des Champs-Elysees, Paris, France, 75008*
53	*Regency Court, Glategny Esplanade, St. Peter Port, Guernsey GY1 1WW*
54	*34/F and 36/F, Hang Seng Bank Tower, 1000 Lujiazui Ring Road,, China (Shanghai) Pilot Free Trade Zone,, Shanghai, China, 200120*
55	*11-17 Ludwig-Erhard-Str., Hamburg, Germany, 20459*
56	*Commerce House, Wickhams Cay 1, P.O. Box 3140, Road Town, Tortola, Tortola, British Virgin Islands*
57	*Suite 1020, 885 West Georgia Street, Vancouver, BC, V6C 3E8*
58	*The Corporation Trust Company of Nevada 311 S. Division Street, Carson City, Nevada, United States Of America, 89703*
59	*32 Rue du Champ de Tir, 44300 Nantes*
60	*HSBC House Esplanade, St. Helier, Jersey, JE4 8UB*
61	*10th Floor, North Tower 2 Leboh Ampang, Kuala Lumpur, Malaysia, 50100*
62	*13th Floor, South Tower 2 Leboh Ampang, Kuala Lumpur, Malaysia, 50100*
63	*21 Collyer Quay, #13-02 HSBC Building, Singapore, 049320*
64	*Bouchard 557, Piso 18°, Cdad. Autónoma de Buenos Aires, Argentina, 1106*
65	*52/60 M G Road, Fort, Mumbai, India, 400 001*
66	*PO Box 513 HSBC House, 68 West Bay Road, George Town, Grand Cayman, Cayman Islands, KY1-1102*
67	*557 Bouchard, Level 22, Ciudad de Buenos Aires, Capital federal, Argentina, C1106ABG*
68	*1 Queen's Road Central, Hong Kong*
69	*3rd Floor, Merchantile Bank Chamber 16, Veer Nariman Road, Fort, Mumbai, India, 400001*

Registered offices	
70	Isidora Goyenechea 2800, 23rd floor, Las Condes, Santiago, Chile, 7550647
71	HSBC Building Shanghai ifc, 8 Century Avenue, Pudong, Shanghai, China, 200120
72	6th floor, HSBC Centre, 18, Cybercity, Ebene, Mauritius
73	2 Paveletskaya square, building 2, Moscow, Russian Federation, 115054
74	13F-14F, 333 Keelung Road, Sec.1, Taipei, 110
75	25 de Mayo 471, Montevideo, Uruguay, 11000
76	The Metropolitan 235 Dong Khoi Street, District 1, Ho Chi Minh City, Viet Nam
77	Esentepe mah. Büyükdere Caddesi, No.128 Istanbul 34394, Turkey
78	66 Teryan Street, Yerevan, Armenia, 0009
79	885 West Georgia Street, 3rd Floor, Vancouver, British Columbia, Canada, V6C 3E9
80	306 Corniche El Nil, Maadi, Egypt, 11728
81	116 Archbishop Street, Valletta, Malta
82	Level 1, Building No. 8, Gate Village Dubai International Financial Centre, PO Box 502601, United Arab Emirates
83	Tour Crystal 1 10EME Etage BD Al Mohades 20000, Morocco
84	10 Earlsfort Terrace, Dublin, Ireland D02 T380
85	HSBC House Esplanade, St. Helier, Jersey, JE1 1HS
86	Al Khuwair Office, PO Box 1727 PC111 CPO Seeb, Muscat, Oman
87	Rondo ONZ 1, Warsaw, Poland, 00-124
88	1800 Tysons Corner, Boulevard Suite 50, Tysons Corner, Virginia, United States Of America, 22102
89	Rua Funchal, n° 160, SP Corporate Towers, Torre Norte, 19° andar, cj 191A - Parte, São Paulo, Brazil, 04551-060
90	66 Wellington Street West, Suite 5300, Toronto, Ontario, Canada, M5K 1E6
91	Rahejas, 4th Floor, Corner of Main Avenue & V.P. Road, Santacruz (West), Mumbai - 400054
92	90 North Church Street, Strathvale House - Ground Floor, PO Box 1109, George Town, Grand Cayman, Grand Cayman, Cayman Islands, KY1-1102
93	17F, HSBC Building, Shanghai ifc 8 Century Avenue, Pudong, Shanghai, China
94	c/o Rogers Capital, St. Louis Business Centre, Cnr Desroches & St Louis Streets, Port Louis, Mauritius
95	49 avenue J.F. Kennedy, Luxembourg, Luxembourg, 1855
96	4-17/F, Office Tower 2 TaiKoo Hui, No. 381 Tian He Road, Tian He District, Guangzhou, Guangdong, China
97	Suite 1005, 10th Floor, Wisma Hamzah Kwong Hing No. 1, Leboh Ampang, Kuala Lumpur, Malaysia, 50100
98	HSBC, Filinvest One Bldg, Northgate Cyberzone, Filinvest Corporate City, Alabang, Muntinlupa City, Philippines
99	HSBC House, Plot No.8, Survey No.64 (Part), Hightec City Layout Madhapur, Hyderabad, India, 500081
100	439, Sri Jayawardenapura Mawatha Welikada, Rajagiriya, Colombo, Sri Lanka
101	Smart Village 28th Km Cairo- Alexandria Desert Road Building, Cairo, Egypt
102	HSBC Chambers, Corner of Jalan Sultan / Jalan Pemancha , Bandar Seri Begawan, Brunei Darussalam, BS8811
103	Suite 300, 3381 Steeles Avenue East, Toronto, Ontario, Canada, M2H 3S7
104	Centre Ville 1341 Building - 4th Floor Patriarche Howayek Street (facing Beirut Souks), PO Box Riad El Solh, Lebanon, 9597
105	First Floor, Building No. 5, Emaar Square, P.O. Box 502601, Dubai, Dubai, United Arab Emirates, 00000
106	World Trade Center Montevideo Avenida Luis Alberto de Herrera 1248, Torre 1, Piso 15, Oficina 1502, Montevideo, Uruguay, CP 11300
107	c/o MUFG Fund Services (Bermuda) Limited, The Belvedere Building, 69 Pitts Bay Road, Pembroke, Bermuda, HM08
108	Level 12, HSBC Building 37, Chilpae-ro, Jung-gu, Seoul, Korea, Republic Of (South)
109	All Saints Triangle, Caledonian Road, London, United Kingdom, N19UT
110	Immeuble Coeur Défense 110, Esplanade du Général de Gaulle- La défense 4, Courbevoie, France, 92400
111	HSBC House Esplanade, St. Helier, Jersey, JE4 8WP
112	HSBC Building 11-1, Nihonbashi 3-chome, Chuo-ku, Tokyo, Japan, 103-0027
113	80 Mill Street, Qormi, Malta, QRM 3101
114	Herrengasse 1-3, Wien, Austria, 1010
115	Gartenstrasse 26, Zurich, Switzerland

Registered offices	
116	24th Fl., 97-99, Sec.2, Tunhwa S. Rd., Taipei, Taiwan, R.O.C., Taiwan
117	452 Fifth Avenue, New York NY10018, United States Of America
118	Mareva House, 4 George Street, Nassau, Bahamas
119	70 York Street, Toronto, Ontario, Canada, M5H 1S9
120	Breite Str. 29/31, Düsseldorf, Germany, 40213
121	1 Grand Canal Square, Grand Canal Harbour, Dublin 2, D02 P820, Ireland
122	HSBC Centre Eighteen, Cybercity, Ebene, Mauritius
123	Office Block A, Bay Studios Business Park, Fabian Way, Swansea, United Kingdom, SA1 8QB
124	18th Floor, Tower 1, HSBC Centre, 1 Sham Mong Road, Kowloon, Hong Kong
125	Level 32, HSBC Main Building, 1 Queen's Road Central, Hong Kong SAR, Hong Kong
126	No.188, Yin Cheng Zhong Road China (Shanghai) Pilot Free Trade Zone, Shanghai, China
127	7/F HSBC Centre 3058 Fifth Ave West, Bonifacio Global City, Taguig City, Philippines
128	1 More London Place, London, United Kingdom, SE1 2AF
129	HSBC Building Minet El Hosn, Riad el Solh, Beirut 1107-2080, PO Box 11-1380, Lebanon
130	300 Delaware Avenue Suite 1400, Wilmington, Delaware, United States Of America, 19801
131	Craigmuir Chambers, PO Box 71, Road Town, Tortola, British Virgin Islands
132	Woodbourne Hall, Road Town PO Box 916, Tortola, British Virgin Islands
133	9-11 Floors, NESCO IT Park Building No. 3 Western Express Highway, Goregaon (East), Mumbai, India, 400063
134	3, Aboul Feda Street, Zamalek, Cairo, Egypt
135	300 - 885 West Georgia Street, Vancouver, British Columbia, Canada, V6C 3E9
136	16 Boulevard d'Avranches, Luxembourg, L-1160
137	49/F, The Lee Gardens, 33 Hysan Avenue, Hong Kong
138	21 Farncombe Rd, Worthing, Sussex, BN11 2BW
139	c/o Kross Border Trust Services Limited St. Louis Business Centre, Cnr Desroches & St Louis Streets, Port Louis, Mauritius
140	13 - 15 York Buildings, London, United Kingdom, WC2N 6JU
141	Plot No.312-878 Mezzanine Floor, Bldg. of Sheikh Hamdan Bin Rashid, Dubai Creek, Dubai, United Arab Emirates
142	Precinct Building 4, Level 3 Dubai International Financial Centre, Dubai, United Arab Emirates, PO BOX 506553
143	HSBC Bank Middle East Building - Level 5, building 5, Emaar, Dubai, United Arab Emirates, 502601
144	885 West Georgia Street Suite 300, Vancouver, British Columbia, Canada, V6C 3E9
145	HSBC House, Level 9, One Queen Street, Auckland, New Zealand, 1010
146	Büyükdere Cad. No.122 D Blok Esentepe Sisli Istanbul, Turkey
147	21-23 Yorckstraße, Düsseldorf, Nordrhein-Westfalen, Germany, 40476
148	Unit No. 208, 2nd Floor, Kanchenjunga Building 18 Barakhamba Road, New Delhi - 110001, India
149	The Corporation Trust Incorporated, 2405 York Road, Suite 201, Lutherville Timonium, Maryland, United States Of America, 21093
150	HSBC House Esplanade, St. Helier, Jersey, JE1 1GT
151	Quai des Bergues 9-17, Geneva, Switzerland, 1201
152	Paseo de la Reforma 359, 6th Floor, Mexico, 06500
153	Büyükdere Cad. No.128 D Blok Esentepe Sisli Istanbul, Turkey
154	6th Floor, 65 Gresham Street, London, United Kingdom, EC2V 7NQ
155	17, avenue d'Ostende, Monaco, 98000
156	1441 Brickell Avenue, Miami, Florida, United States Of America, 33131
157	2910 Virtual Way, Vancouver, British Columbia, Canada, V5M 0B2
158	Block 27 A&B, Qianhai Enterprise Dream Park No. 63 Qianwan Yi Road, Shenzhen-Hong Kong Cooperation Zone, Shenzhen, China, 518052
159	St Nicholas House, 10th Floor Catholic Mission St Lagos, Nigeria
160	Kacyiru BP 3094, Kigali, Rwanda
161	Unit 1 GF The Commercial Complex, Madrigal Avenue, Ayala Alabang Village, Muntinlupa City, Philippines, 1770
162	7/F The Enterprise Centre - Tower I, 6766 Ayala Avenue corner Paseo De Roxas, Makati City, Philippines
163	2 Exchange Square, 85 Maude Street, Sandown, Sandton, South Africa, 2196
164	13F 333 Keelung Road, Sec.1, Taipei, Taiwan, 110
165	Palm Grove House PO Box 438, Road Town, Tortola, British Virgin Islands

Registered offices

166	R No. 1758/13 Grevella Grove Road, Kalamu House PO Box 47323-00100, Nairobi, Kenya
167	Kapelanka 42A, Krakow, Poland, 30-347
168	MB&H Corporate Services Ltd, Mareva House, 4 George Street, Nassau, Bahamas
169	The Corporation Trust Company, 820 Bear Tavern Road, West Trenton, New Jersey, United States Of America, 08628
170	Suite 2400, 745 Thurlow Street, Vancouver, Canada, BC V6E 0C5
171	L22, Office Tower 2, Taikoo Hui, 381 Tianhe Road, Tianhe District, Guangzhou, Guangdong, Guangdong, China
172	HSBC Centre River Side, West Avenue, 25B Raheja woods, Kalyaninagar, Pune, India, 411006
173	Level 19, HSBC Building, Shanghai ifc 8 Century Avenue Pudong, Shanghai, China
174	Yorckstraße 21 - 23 40476, Duesseldorf, Germany
175	300 Delaware Avenue, Suite 1401, Wilmington, Delaware, United States Of America, 19801
176	PO Box 484, Strathvale House, Ground Floor, 90 North Church Street, George Town, Grand Cayman, Cayman Islands, KY1-1106
177	c/o HSBC Bank (Mauritius) Limited, 6th Floor, HSBC Centre, 18 Cyber City, Ebene, Mauritius
178	1 Centenary Square, Birmingham, United Kingdom, B1 1HQ
179	Plot No. 89-90 Mbezi Industrial Area Box 347, Dar es Salaam City
180	c/o Hackwood Secretaries Limited, One Silk Street, London, United Kingdom, EC2Y 8HQ
181	Room 1303, 106 Feng Ze Dong Road, Nansha District, Guangzhou, Guangdong, China
182	No. 56, Yu Rong Street, Macheng, China, 438300
183	No. 205, Lie Shan Road Suizhou, Hubei, China
184	Building 3, Yin Zuo Di Jing Wan Tianmen New City, Tianmen, Hubei Province, China
185	RM101, 102 & 106 Sunshine Fairview, Sunshine Garden, Pedestrian Walkway, Pingjiang, China
186	6, rue Adolphe, Luxembourg, L-1116
187	1 Queen's Road Central, Hong Kong
188	Kings Meadow Chester Business Park, Chester, United Kingdom, CH99 9FB
189	2-3/F, Unit 21A, Qianhai Enterprise Dream Park, No. 63 Qian Wan Yi Road,, Qianhai Shenzhen-Hongkong Cooperation Zone, Shenzhen, China
190	40a Station Road, Upminster, United Kingdom, RM14 2TR
191	HSBC Building 7267 Olaya - Al Murrooj, Riyadh, Saudi Arabia, 12283 - 2255
192	C T Corporation System, 1200 South Pine Island Road, Plantation, Florida, United States Of America, 33324
193	PO Box 1109, Strathvale House, 90 North Church Street, George Town, Grand Cayman, Cayman Islands
194	Al Amir Abdulaziz Ibn Mossaad Ibn Jalawi Street, Riyadh, Saudi Arabia
195	World Trade Center 1, Floor 8-9 Jalan Jenderal Sudirman Kavling 29 - 31, Jakarta, Indonesia, 12920
196	5th Floor, World Trade Center, J1, Jend. Sudirman Kav. 29-31, Jakarta, Indonesia, 12920
197	833 Three Bentall Centre, 595 Burrard Street, Vancouver, British Columbia, Canada, V7X 1C4
198	Jayla Place Wickhams Cay I, PO Box 3190, Road Town, British Virgin Islands
199	15 rue Guynemer BP 412, Noumea, 98845
200	10, rue Jean Jaurès BP Q5, Noumea, New Caledonia, 98845
201	No.198-2, Chengshan Avenue (E), Rongcheng, China, 264300
202	Woodbourne Hall, Road Town PO Box 3162, Tortola, British Virgin Islands
203	43 rue de Paris, Saint Denis, 97400
204	75 Park Lane, Croydon, Surrey, United Kingdom, CR9 1XS
205	Avda. Corrientes 1437, 2° y 3° piso Ciudad Autonoma de Buenos Aires Argentina C1042AAA
206	RM 2112, HSBC Building, Shanghai ifc No. 8 Century Road, Pudong, Shanghai, China, 200120
207	11 Dr. Roy's Drive PO Box 694GT, Grand Cayman, Cayman Islands, KY1-1107
208	Ernst-Schneider-Platz 1, Duesseldorf, Germany, 40212
209	Philippe Kaiser Baarerstrasse 8, Zug, Switzerland, 6300
210	1 Royal Plaza, Royal Avenue, St Peter Port, Guernsey, Channel Islands, GY1 2HL

40 Non-statutory accounts

The information set out in these accounts does not constitute the Company's statutory accounts for the years ended 31 December 2018 or 2017. Those accounts have been reported on by the Company's auditors: their reports were unqualified and did not contain a statement under Section 498(2) or (3) of the Companies Act 2006. The accounts for 2017 have been delivered to the Registrar of Companies and those for 2018 will be delivered in due course.

Shareholder information

A glossary of terms used in this Annual Report and Accounts *can be found in the Investors section of www.hsbc.com.*

Fourth interim dividend for 2018

The Directors have declared a fourth interim dividend for 2018 of $0.21 per ordinary share. Information on the scrip dividend scheme and currencies in which shareholders may elect to have the cash dividend paid will be sent to shareholders on or about 6 March 2019. The timetable for the dividend is:

	Footnotes	
Announcement		**19 February 2019**
Shares quoted ex-dividend in London, Hong Kong, Paris and Bermuda and American Depositary Shares ('ADS') quoted ex-dividend in New York		**21 February 2019**
Record date – London, Hong Kong, New York, Paris, Bermuda	1	**22 February 2019**
Mailing of *Annual Report and Accounts 2018* and/or *Strategic Report 2018* and dividend documentation		**6 March 2019**
Final date for receipt by registrars of forms of election, Investor Centre electronic instructions and revocations of standing instructions for scrip dividends		**21 March 2019**
Exchange rate determined for payment of dividends in sterling and Hong Kong dollars		**25 March 2019**
Payment date: dividend warrants, new share certificates or transaction advices and notional tax vouchers mailed and shares credited to stock accounts in CREST		**8 April 2019**

1 *Removals to and from the Overseas Branch register of shareholders in Hong Kong will not be permitted on this date.*

Interim dividends for 2019

The Board has adopted a policy of paying quarterly interim dividends on ordinary shares. Under this policy it is intended to have a pattern of three equal interim dividends with a variable fourth interim dividend. It is envisaged that the first interim dividend in respect of 2019 will be $0.10 per ordinary share.

Dividends are declared in US dollars and, at the election of the shareholder, paid in cash in one of, or in a combination of, US dollars, pounds sterling and Hong Kong dollars, or, subject to the Board's determination that a scrip dividend is to be offered in respect of that dividend, may be satisfied in whole or in part by the issue of new shares in lieu of a cash dividend.

Other equity instruments

Additional tier 1 capital – contingent convertible securities

HSBC continues to issue contingent convertible securities that are included in its capital base as fully CRD IV-compliant additional tier 1 capital securities on an end point basis. These securities are marketed principally and subsequently allotted to corporate investors and fund managers. The net proceeds of the issuances are used for HSBC's general corporate purposes and to further strengthen its capital base to meet requirements under CRD IV. These securities bear a fixed rate of interest until their initial call dates. After the initial call dates, if they are not redeemed, the securities will bear interest at rates fixed periodically in advance for five-year periods based on credit spreads, fixed at issuance, above prevailing market rates. Interest on the contingent convertible securities will be due and payable only at the sole discretion of HSBC, and HSBC has sole and absolute discretion at all times to cancel for any reason (in whole or part) any interest payment that would otherwise be payable on any payment date. Distributions will not be paid if they are prohibited under UK banking regulations or if the company has insufficient reserves or fails to meet the solvency conditions defined in the securities' terms.

The contingent convertible securities are undated and are repayable at the option of HSBC in whole at the initial call date or on any fifth anniversary after this date. In addition, the securities are repayable at the option of HSBC in whole for certain regulatory or tax reasons.

Any repayments require the prior consent of the PRA. These securities rank *pari passu* with HSBC's dollar and sterling preference shares and therefore rank ahead of ordinary shares. The contingent convertible securities will be converted into fully paid ordinary shares of HSBC at a predetermined price, should HSBC's consolidated end point CET1 ratio fall below 7.0%. Therefore, in accordance with the terms of the securities, if the end point CET1 ratio breaches the 7.0% trigger, the securities will convert into ordinary shares at fixed contractual conversion prices in the issuance currencies of the relevant securities, equivalent to £2.70 at the prevailing rate of exchange on the issuance date, subject to anti-dilution adjustments.

Additional tier 1 capital instruments issued during 2018

	Nominal	Issue price	Market price	Net price	Issue date
	$m	%	%	%	
$2,350m 6.250% perpetual subordinated contingent convertible securities	2,350	100.00	93.80	100.00	23 March 2018
$1,800m 6.500% perpetual subordinated contingent convertible securities	1,800	100.00	91.75	100.00	23 March 2018
SGD750m 5.000% perpetual subordinated contingent convertible securities	550	100.00	100.29	100.00	24 September 2018
£1,000m 5.875% perpetual subordinated contingent convertible securities	1,301	100.00	95.89	100.00	28 September 2018

2018 Annual General Meeting

All resolutions considered at the 2018 Annual General Meeting held at 11.00am on 20 April 2018 at the Queen Elizabeth II Conference Centre, London SW1P 3EE were passed on a poll.

Earnings releases and interim results

Earnings releases are expected to be issued on or around 3 May 2019 and 28 October 2019. The interim results for the six months to 30 June 2019 are expected to be issued on 5 August 2019.

Shareholder enquiries and communications

Enquiries

Any enquiries relating to shareholdings on the share register (for example, transfers of shares, changes of name or address, lost share certificates or dividend cheques) should be sent to the Registrars at the address given below. The Registrars offer an online facility, Investor Centre, which enables shareholders to manage their shareholding electronically.

Principal Register:

Computershare Investor Services PLC
The Pavilions
Bridgwater Road
Bristol BS99 6ZZ
United Kingdom
Telephone: +44 (0) 370 702 0137
Email via website:
www.investorcentre.co.uk/contactus

Investor Centre:
www.investorcentre.co.uk

Hong Kong Overseas Branch Register:

Computershare Hong Kong Investor
Services Limited
Rooms 1712-1716, 17th Floor
Hopewell Centre
183 Queen's Road East
Hong Kong
Telephone: +852 2862 8555
Email: hsbc.ecom@computershare.com.hk

Investor Centre:
www.investorcentre.com/hk

Bermuda Overseas Branch Register:

Investors Relations Team
HSBC Bank Bermuda Limited
37 Front Street
Hamilton HM 11
Bermuda
Telephone: +1 441 299 6737
Email: hbbm.shareholder.services@hsbc.bm

Investor Centre:
www.investorcentre.com/bm

Any enquiries relating to ADSs should be sent to the depositary:

The Bank of New York Mellon
Shareowner Services
PO Box 505000
Louisville, KY 40233-5000
USA
Telephone (US): +1 877 283 5786
Telephone (International): +1 201 680 6825
Email: shrrelations@cpushareownerservices.com
Website: www.mybnymdr.com

Any enquiries relating to shares held through Euroclear France, the settlement and central depositary system for NYSE Euronext Paris, should be sent to the paying agent:

CACEIS Corporate Trust
14, rue Rouget de Lisle
92130 Issy-Les-Moulineaux
France
Telephone: +33 1 57 78 34 28
Email: ct-service-ost@caceis.com
Website: www.caceis.com

If you have elected to receive general shareholder communications directly from HSBC Holdings, it is important to remember that your main contact for all matters relating to your investment remains the registered shareholder, or custodian or broker, who administers the investment on your behalf. Therefore any changes or queries relating to your personal details and holding (including any administration of it) must continue to be directed to your existing contact at your investment manager or custodian or broker. HSBC Holdings cannot guarantee dealing with matters directed to it in error.

Shareholders who wish to receive a hard copy should contact HSBC's Registrars. Please visit www.hsbc.com/investors/investor-contacts for further information. You can also download an online version of the report from www.hsbc.com.

Electronic communications

Shareholders may at any time choose to receive corporate communications in printed form or to receive notifications of their availability on HSBC's website. To receive notifications of the availability of a corporate communication on HSBC's website by email, or revoke or amend an instruction to receive such notifications by email, go to www.hsbc.com/ecomms. If you provide an email address to receive electronic communications from HSBC, we will also send notifications of your dividend entitlements by email. If you received a notification of the availability of this document on HSBC's website and would like to receive a printed copy, or if you would like to receive future corporate communications in printed form, please write or send an email (quoting your shareholder reference number) to the appropriate Registrars at the address given above. Printed copies will be provided without charge.

Chinese translation

A Chinese translation of this *Annual Report and Accounts 2018* will be available upon request after 6 March 2019 from the Registrars:

Computershare Hong Kong Investor Services Limited
Rooms 1712-1716, 17th Floor
Hopewell Centre
183 Queen's Road East
Hong Kong

Computershare Investor Services PLC
The Pavilions
Bridgwater Road
Bristol BS99 6ZZ
United Kingdom

Please also contact the Registrars if you wish to receive Chinese translations of future documents, or if you have received a Chinese translation of this document and do not wish to receive them in future.

《2018年報及賬目》備有中譯本，各界人士可於2019年3月6日之後，向上列股份登記處索閱。

閣下如欲於日後收取相關文件的中譯本，或已收到本文件的中譯本但不希望繼續收取有關譯本，均請聯絡股份登記處。

Stock symbols

HSBC Holdings ordinary shares trade under the following stock symbols:

London Stock Exchange	HSBA*	Euronext Paris	HSB
Hong Kong Stock Exchange	5	Bermuda Stock Exchange	HSBC.BH
New York Stock Exchange (ADS)	HSBC		

*HSBC's Primary market

Investor relations

Enquiries relating to HSBC's strategy or operations may be directed to:

Richard O'Connor, Global Head of Investor Relations
HSBC Holdings plc
8 Canada Square
London E14 5HQ
United Kingdom
Telephone: +44 (0) 20 7991 6590
Email: investorrelations@hsbc.com

Hugh Pye, Head of Investor Relations, Asia-Pacific
The Hongkong and Shanghai Banking
Corporation Limited
1 Queen's Road Central
Hong Kong
Telephone: 852 2822 4908
Email: investorrelations@hsbc.com.hk

Where more information about HSBC is available

This *Annual Report and Accounts 2018*, and other information on HSBC, may be downloaded from HSBC's website: www.hsbc.com.

Reports, statements and information that HSBC Holdings files with the Securities and Exchange Commission are available at www.sec.gov. Investors can also request hard copies of these documents upon payment of a duplicating fee by writing to the SEC at the Office of Investor Education and Advocacy, 100 F Street N.E., Washington, DC 20549-0213 or by emailing PublicInfo@sec.gov. Investors should call the Commission at (1) 202 551 8090 if they require further assistance. Investors may also obtain the reports and other information that HSBC Holdings files at www.nyse.com (telephone number (1) 212 656 3000).

HM Treasury has transposed the requirements set out under CRD IV and issued the Capital Requirements Country-by-Country Reporting Regulations 2013. The legislation requires HSBC Holdings to publish additional information in respect of the year ended 31 December 2018 by 31 December 2019. This information will be available on HSBC's website: www.hsbc.com/tax.

Taxation of shares and dividends

Taxation – UK residents

The following is a summary, under current law and the current published practice of UK HM Revenue and Customer ("HMRC"), of certain UK tax considerations that are likely to be material to the ownership and disposition of HSBC Holdings ordinary shares. The summary does not purport to be a comprehensive description of all the tax considerations that may be relevant to a holder of shares. In particular, the summary deals with shareholders who are resident solely in the UK for UK tax purposes and only with holders who hold the shares as investments and who are the beneficial owners of the shares, and does not address the tax treatment of certain classes of holders such as dealers in securities. Holders and prospective purchasers should consult their own advisers regarding the tax consequences of an investment in shares in light of their particular circumstances, including the effect of any national, state or local laws.

Taxation of dividends

Currently, no tax is withheld from dividends paid by HSBC Holdings.

UK resident individuals

UK resident individuals are generally entitled to a tax-free annual allowance in respect of dividends received. The amount of the allowance for the tax year beginning 6 April 2018 is £2,000. To the extent that dividend income received by an individual in the relevant tax year does not exceed the allowance, a nil tax rate will apply. Dividend income in excess of this allowance will be taxed at 7.5% for basic rate taxpayers, 32.5% for higher rate taxpayers and 38.1% for additional rate taxpayers.

UK resident companies

Shareholders that are within the charge to UK corporation tax should generally be entitled to an exemption from UK corporation tax on any dividends received from HSBC Holdings. However, the exemptions are not comprehensive and are subject to anti-avoidance rules.

If the conditions for exemption are not met or cease to be satisfied, or a shareholder within the charge to UK corporation tax elects for an otherwise exempt dividend to be taxable, the shareholder will be subject to UK corporation tax on dividends received from HSBC Holdings at the rate of corporation tax applicable to that shareholder.

Scrip dividends

Information on the taxation consequences of the HSBC Holdings scrip dividends offered in lieu of the 2017 fourth interim dividend and the first, second and third interim dividends for 2018 was set out in the Secretary's letters to shareholders of 7 March, 31 May, 29 August and 24 October 2018. In no case was the difference between the cash dividend forgone and the market value of the scrip dividend in excess of 15% of the market value. Accordingly, for individual shareholders, the amount of the dividend income chargeable to tax, and the acquisition price of the HSBC Holdings ordinary shares for UK capital gains tax purposes, was the cash dividend forgone.

Taxation of capital gains

The computation of the capital gains tax liability arising on disposals of shares in HSBC Holdings by shareholders subject to UK tax on capital gains can be complex, partly depending on whether, for example, the shares were purchased since April 1991, acquired in 1991 in exchange for shares in The Hongkong and Shanghai Banking Corporation Limited, or acquired subsequent to 1991 in exchange for shares in other companies.

For capital gains tax purposes, the acquisition cost for ordinary shares is adjusted to take account of subsequent rights and capitalisation issues. Any capital gain arising on a disposal of shares in HSBC Holdings by a UK company may also be adjusted to take account of indexation allowance if the shares were acquired before 1 January 2018, although the level of indexation allowance that is given in calculating the gain would be frozen at the value that would apply to the disposal of assets acquired on or after 1 January 2018. If in doubt, shareholders are recommended to consult their professional advisers.

Stamp duty and stamp duty reserve tax

Transfers of shares by a written instrument of transfer generally will be subject to UK stamp duty at the rate of 0.5% of the consideration paid for the transfer (rounded up to the next £5), and such stamp duty is generally payable by the transferee. An agreement to transfer shares, or any interest therein, normally will give rise to a charge to stamp duty reserve tax at the rate of 0.5% of the consideration. However, provided an instrument of transfer of the shares is executed pursuant to the agreement and duly stamped before the date on which the stamp duty reserve tax becomes payable, under the current published practice of HMRC it will not be necessary to pay the stamp duty reserve tax, nor to apply for such tax to be cancelled. Stamp duty reserve tax is generally payable by the transferee.

Paperless transfers of shares within CREST, the UK's paperless share transfer system, are liable to stamp duty reserve tax at the rate of 0.5% of the consideration. In CREST transactions, the tax is calculated and payment made automatically. Deposits of shares into CREST generally will not be subject to stamp duty reserve tax, unless the transfer into CREST is itself for consideration. Following the case HSBC pursued before the European Court of Justice (Case C-569/07 HSBC Holdings plc and Vidacos Nominees Ltd v The Commissioners for HM Revenue & Customs) and a subsequent case in relation to depositary receipts, HMRC accepts that the charge to stamp duty reserve tax at 1.5% on the issue of shares (and transfers integral to capital raising) to a depositary receipt issuer or a clearance service is incompatible with European Union law, and will not be imposed.

At Autumn Budget 2017, the UK government announced that it will continue its policy of not charging a 1.5% stamp duty and stamp duty reserve tax on issues of shares to overseas clearance services and depositary receipt issuers following the UK's departure from the European Union, although no further confirmations or assurances have been given since then.

Taxation – US residents

The following is a summary, under current law, of the principal UK tax and US federal income tax considerations that are likely to be material to the ownership and disposition of shares or American Depositary Shares ('ADSs') by a holder that is a US holder, as defined below, and who is not resident in the UK for UK tax purposes.

The summary does not purport to be a comprehensive description of all of the tax considerations that may be relevant to a holder of shares or ADSs. In particular, the summary deals only with US holders that hold shares or ADSs as capital assets, and does not address the tax treatment of holders that are subject to special tax rules, such as banks, tax-exempt entities, insurance companies, dealers in securities or currencies, persons that hold shares or ADSs as part of an integrated investment (including a 'straddle' or 'hedge') comprised of a share or ADS and one or more other positions, and persons that own, directly or indirectly, 10% or more (by vote or value) of the stock of HSBC Holdings. This discussion is based on laws, treaties, judicial decisions and regulatory interpretations in effect on the date hereof, all of which are subject to change.

For the purposes of this discussion, a 'US holder' is a beneficial holder that is a citizen or resident of the United States, a US domestic corporation or otherwise is subject to US federal income taxes on a net income basis in respect thereof.

Holders and prospective purchasers should consult their own advisers regarding the tax consequences of an investment in shares or ADSs in light of their particular circumstances, including the effect of any national, state or local laws.

Any US federal tax advice included in this *Annual Report and Accounts 2018* is for informational purposes only; it was not intended or written to be used, and cannot be used, for the purpose of avoiding US federal tax penalties.

Taxation of dividends

Currently, no tax is withheld from dividends paid by HSBC Holdings. For US tax purposes, a US holder must include cash dividends paid on the shares or ADSs in ordinary income on the date that such holder or the ADS depositary receives them, translating dividends paid in UK pounds sterling into US dollars using the exchange rate in effect on the date of receipt. A US holder that elects to receive shares in lieu of a cash dividend must include in ordinary income the fair market value of such shares on the dividend payment date, and the tax basis of those shares will equal such fair market value.

Subject to certain exceptions for positions that are held for less than 61 days, and subject to a foreign corporation being considered a 'qualified foreign corporation' (which includes not being classified for US federal income tax purposes as a passive foreign investment company), certain dividends ('qualified dividends') received by an individual US holder generally will be subject to US taxation at preferential rates. Based on the company's audited financial statements and relevant market and shareholder data, HSBC Holdings was not and does not anticipate being classified as a passive foreign investment company. Accordingly, dividends paid on the shares or ADSs generally should be treated as qualified dividends.

Taxation of capital gains

Gains realised by a US holder on the sale or other disposition of shares or ADSs normally will not be subject to UK taxation unless at the time of the sale or other disposition the holder carries on a trade, profession or vocation in the UK through a branch or agency or permanent establishment and the shares or ADSs are or have been used, held or acquired for the purposes of such trade, profession, vocation, branch or agency or permanent establishment. Such gains will be included in income for US tax purposes, and will be long-term capital gains if the shares or ADSs were held for more than one year. A long-term capital gain realised by an individual US holder generally will be subject to US tax at preferential rates.

Inheritance tax

Shares or ADSs held by an individual whose domicile is determined to be the US for the purposes of the United States-United Kingdom Double Taxation Convention relating to estate and gift taxes (the 'Estate Tax Treaty') and who is not for such purposes a national of the UK will not, provided any US federal estate or gift tax chargeable has been paid, be subject to UK inheritance tax on the individual's death or on a lifetime transfer of shares or ADSs except in certain cases where the shares or ADSs (i) are comprised in a settlement (unless, at the time of the settlement, the settlor was domiciled in the US and was not a national of the UK), (ii) are part of the business property of a UK permanent establishment of an enterprise, or (iii) pertain to a UK fixed base of an individual used for the performance of independent personal services. In such cases, the Estate Tax Treaty generally provides a credit against US federal tax liability for the amount of any tax paid in the UK in a case where the shares or ADSs are subject to both UK inheritance tax and to US federal estate or gift tax.

Stamp duty and stamp duty reserve tax – ADSs

If shares are transferred to a clearance service or American Depositary Receipt ('ADR') issuer (which will include a transfer of shares to the Depositary) under the current published HMRC practice, UK stamp duty and/or stamp duty reserve tax will be payable. The stamp duty or stamp duty reserve tax is generally payable on the consideration for the transfer and is payable at the aggregate rate of 1.5%.

The amount of stamp duty reserve tax payable on such a transfer will be reduced by any stamp duty paid in connection with the same transfer.

No stamp duty will be payable on the transfer of, or agreement to transfer, an ADS, provided that the ADR and any separate instrument of transfer or written agreement to transfer remain at all times outside the UK, and provided further that any such transfer or written agreement to transfer is not executed in the UK. No stamp duty reserve tax will be payable on a transfer of, or agreement to transfer, an ADS effected by the transfer of an ADR.

US backup withholding tax and information reporting

Distributions made on shares or ADSs and proceeds from the sale of shares or ADSs that are paid within the US, or through certain financial intermediaries to US holders, are subject to information reporting and may be subject to a US 'backup' withholding tax. General exceptions to this rule happen when the US holder: establishes that it is a corporation (other than an S corporation) or other exempt holder; or provides a correct taxpayer identification number, certifies that no loss of exemption from backup withholding has occurred and otherwise complies with the applicable requirements of the backup withholding rules. Holders that are not US taxpayers generally are not subject to information reporting or backup withholding tax, but may be required to comply with applicable certification procedures to establish that they are not US taxpayers in order to avoid the application of such information reporting requirements or backup withholding tax to payments received within the US or through certain financial intermediaries.

Information about the enforceability of judgments made in the US

HSBC Holdings is a public limited company incorporated in England and Wales. Most of the Directors and executive officers live outside the US. As a result, it may not be possible to serve process on such persons or HSBC Holdings in the US or to enforce judgments obtained in US courts against them or HSBC Holdings based on civil liability provisions of the securities laws of the US. There is doubt as to whether English courts would enforce:

- civil liabilities under US securities laws in original actions; or
- judgments of US courts based upon these civil liability provisions.

In addition, awards of punitive damages in actions brought in the US or elsewhere may be unenforceable in the UK. The enforceability of any judgment in the UK will depend on the particular facts of the case as well as the laws and treaties in effect at the time.

Exchange controls and other limitations affecting equity security holders

Other than certain economic sanctions that may be in force from time to time, there are currently no UK laws, decrees or regulations that would prevent the import or export of capital or remittance of distributable profits by way of dividends and other payments to holders of HSBC Holdings' equity securities who are not residents of the UK. There are also no restrictions under the laws of the UK or the terms of the Memorandum and Articles of Association concerning the right of non-resident or foreign owners to hold HSBC Holdings' equity securities or, when entitled to vote, to do so.

Dividends on the ordinary shares of HSBC Holdings

HSBC Holdings has paid dividends on its ordinary shares every year without interruption since it became the HSBC Group holding company by a scheme of arrangement in 1991. The dividends declared, per ordinary share, in respect of each of the last five years were:

		First interim	Second interim	Third interim	Fourth interim[1]	Total[2]
2018	$	**0.100**	**0.100**	**0.100**		
	£	**0.076**	**0.076**	**0.078**		
	HK$	**0.785**	**0.785**	**0.783**		
2017	$	0.100	0.100	0.100	0.210	0.510
	£	0.079	0.076	0.076	0.148	0.379
	HK$	0.780	0.781	0.780	1.647	3.988
2016	$	0.100	0.100	0.100	0.210	0.510
	£	0.075	0.077	0.080	0.167	0.399
	HK$	0.776	0.776	0.776	1.631	3.959
2015	$	0.100	0.100	0.100	0.210	0.510
	£	0.064	0.064	0.066	0.148	0.342
	HK$	0.775	0.775	0.775	1.629	3.954
2014	$	0.100	0.100	0.100	0.200	0.500
	£	0.059	0.062	0.064	0.134	0.319
	HK$	0.775	0.777	0.776	1.550	3.878

1 *The fourth interim dividends have been translated into pounds sterling and Hong Kong dollars at the closing rate on 31 December. The fourth interim dividend for 2018 of $0.21 per ordinary share will be paid on 8 April 2019.*
2 *The above dividends declared are accounted for as disclosed in Note 9 on the Financial Statements.*

American Depositary Shares

A holder of HSBC Holdings' American Depositary Shares ('ADSs') may have to pay, either directly or indirectly (via the intermediary through whom their ADSs are held) fees to the Bank of New York Mellon as depositary. Fees may be paid or recovered in several ways: by deduction from amounts distributed; by selling a portion of distributable property; by deduction from dividend distributions; by directly invoicing the holder; or by charging the intermediaries who act for them. Fees for the holders of the HSBC ADSs include:

For:	HSBC ADS holders must pay:
Each issuance of HSBC ADSs, including as a result of a distribution of shares (including through a stock dividend, stock split or distribution of rights or other property)	$5.00 (or less) per 100 HSBC ADSs or portion thereof
Each cancellation of HSBC ADSs, including if the deposit agreement terminates	$5.00 (or less) per 100 HSBC ADSs or portion thereof
Transfer and registration of shares on our share register to/from the holder's name to/from the name of The Bank of New York Mellon or its agent when the holder deposits or withdraws shares	Registration or transfer fees (of which there currently are none)
Conversion of non-US currency to US dollars	Charges and expenses incurred by The Bank of New York Mellon with respect to the conversion
Each cash distribution to HSBC ADS holders	$0.02 or less per ADS
Transfers of HSBC ordinary shares to the depositary in exchange for HSBC ADSs	Any applicable taxes and/or other governmental charges
Distribution of securities by the depository to HSBC ADS holders	A fee equivalent to the fee that would be payable if securities distributed to you had been shares and those shares had been deposited for issuance of ADSs
Any other charges incurred by the depositary or its agents for servicing shares or other securities deposited	As applicable

The depositary may generally refuse to provide fee-attracting services until its fees for those services are paid.

The depositary has agreed to reimburse us for expenses we incur, and to pay certain out-of-pocket expenses and waive certain fees, in connection with the administration, servicing and maintenance of our ADS programme. There are limits on the amount of expenses for which the depositary will reimburse us. During the year ended 31 December 2018, the depositary reimbursed, paid and/or waived fees and expenses totalling $125,879 in connection with the administration, servicing and maintenance of the programme.

Nature of trading market

HSBC Holdings ordinary shares are listed or admitted to trading on the London Stock Exchange ('LSE'), the Stock Exchange of Hong Kong Limited ('HKEx'), Euronext Paris, the Bermuda Stock Exchange, and on the New York Stock Exchange ('NYSE') in the form of ADSs. HSBC Holdings maintains its principal share register in England and overseas branch share registers in Hong Kong and Bermuda (collectively, the 'share register').

As at 31 December 2018, there were a total of 199,065 holders of record of HSBC Holdings ordinary shares on the share register.

As at 31 December 2018, a total of 19,517,811 of the HSBC Holdings ordinary shares were registered in the HSBC Holdings' share register in the name of 14,089 holders of record with addresses in the US. These shares represented 0.10% of the total HSBC Holdings ordinary shares in issue.

As at 31 December 2018, there were 5,850 holders of record of ADSs holding approximately 162.1m ADSs, representing approximately 810.9m HSBC Holdings ordinary shares, 5,745 of these holders had addresses in the US, holding approximately 162.1m ADSs, representing 810.9m HSBC Holdings ordinary shares. At 31 December 2018, approximately 3.98% of the HSBC Holdings ordinary shares were represented by ADSs held by holders of record with addresses in the US.

Memorandum and Articles of Association

The disclosure under the caption 'Memorandum and Articles of Association' contained in Form 20F for the years ended 31 December 2000, 2001 and 2014 is incorporated by reference herein, together with the disclosure below.

The 2018 Annual General Meeting of HSBC Holdings approved alterations to the Articles of Association to:

-remove provisions related to the creation of bearer shares, as these are now prohibited by law;

- allow for meetings to be held electronically as well as physically, in accordance with applicable law. The changes allow for meetings to be held and conducted in such a way that persons who are not present together at the same place may attend, speak and vote at the meeting by electronic means or at a different satellite meeting location. The changes will not permit meetings to be held solely by electronic means; a physical meeting will still be required;

-amend the provisions relating to shareholders who are considered to be untraced after a period of 12 years to provide that HSBC may sell the shares of such shareholders and can use the proceeds of that sale for the purposes of its business. The proceeds of such sale will be treated as forfeited by the former shareholder following the sale of the shares and the former shareholder will have no further rights to claim the proceeds;

-remove the requirement for retirement by rotation and provide for automatic retirement of all of HSBC Holdings' Directors at each annual general meeting, where they will be subject to annual re-election by shareholders; and

-update the manner in which dividends are paid, including the payment of scrip dividends using treasury shares.

History and development of HSBC

2018	We completed the establishment of our UK ring-fenced bank.
2018	We maintained our annual dividend levels, and completed $2.0 billion in return of capital to our investors.
2018	We welcomed John Flint to his new role as Group Chief Executive.

Differences in HSBC Holdings/New York Stock Exchange corporate governance practices

Under the NYSE's corporate governance rules for listed companies and the applicable rules of the SEC, as a NYSE-listed foreign private issuer, HSBC Holdings must disclose any significant ways in which its corporate governance practices differ from those followed by US companies subject to NYSE listing standards. HSBC Holdings believes the following to be the significant differences between its corporate governance practices and NYSE corporate governance rules applicable to US companies.

US companies listed on the NYSE are required to adopt and disclose corporate governance guidelines. The Listing Rules of the FCA require each listed company incorporated in the UK to include in its annual report and accounts a statement of how it has applied the principles of The UK Corporate Governance Code issued by the Financial Reporting Council and a statement as to whether or not it has complied with the code provisions of The UK Corporate Governance Code throughout the accounting period covered by the annual report and accounts. A company that has not complied with the code provisions, or complied with only some of the code provisions or (in the case of provisions whose requirements are of a continuing nature) complied for only part of an accounting period covered by the report, must specify the code provisions with which it has not complied, and (where relevant) for which part of the reporting period such non-compliance continued, and give reasons for any non-compliance. As stated above, HSBC Holdings complied throughout 2018 with the applicable code provisions of The UK Corporate Governance Code. The UK Corporate Governance Code does not require HSBC Holdings to disclose the full range of corporate governance guidelines with which it complies.

Under NYSE standards, companies are required to have a nominating/corporate governance committee composed entirely of directors determined to be independent in accordance with the NYSE's corporate governance rules. All of the members of the Nomination Committee during 2018 were independent non-executive Directors, as determined in accordance with the UK Corporate Governance Code. The terms of reference of our Nomination Committee, which comply with the UK Corporate Governance Code, require a majority of members to be independent non-executive Directors. In addition to identifying individuals qualified to become Board members, a nominating/corporate governance committee must develop and recommend to the Board a set of corporate governance principles. The Nomination Committee's terms of reference do not require it to develop and recommend corporate governance principles for HSBC Holdings, as HSBC Holdings is subject to the corporate governance principles of The UK Corporate Governance Code. The Board of Directors is responsible under its terms of reference for the development and review of Group policies and practices on corporate governance.

Under the NYSE standards, companies are required to have a compensation committee composed entirely of directors determined to be independent in accordance with the NYSE's corporate governance rules. All of the members of the Group Remuneration Committee during 2018 were independent non-executive Directors, as determined in accordance with the UK Corporate Governance Code. The terms of reference of our Group Remuneration Committee, which comply with the UK Corporate Governance Code, require at least three members to be independent non-executive Directors. A compensation committee must review and approve corporate goals and objectives relevant to chief executive officer compensation and evaluate a chief executive officer's performance in light of these goals and objectives. The Group Remuneration Committee's terms of reference require it to review and approve performance-based remuneration of the executive Directors by reference to corporate goals and objectives that are set by the Board of Directors.

Pursuant to NYSE listing standards, non-management directors must meet on a regular basis without management present and independent directors must meet separately at least once per year.

The Group Chairman meets with the independent non-executive Directors without the executive Directors in attendance after each Board meeting and otherwise, as necessary. HSBC Holdings' practice, in this regard, complies with The UK Corporate Governance Code.

In accordance with the requirements of The UK Corporate Governance Code, HSBC Holdings discloses in its *Annual Report and Accounts* how the Board, its committees and the Directors are evaluated (on page 216) and provides extensive information regarding Directors' compensation in the Directors' remuneration report (on page 217). The terms of reference of HSBC Holdings' Group Audit, Group Nomination, Group Remuneration and Group Risk Committees are available at www.hsbc.com/our-approach/corporate-governance/board-committees.

NYSE listing standards require US companies to adopt a code of business conduct and ethics for directors, officers and employees, and promptly disclose any waivers of the code for directors or executive officers.

In 2009, the Board endorsed three HSBC Values statements underpinned by the continued use of our Business Principles, in replacement of the Group Business Principles and Values. In addition to the HSBC Values statements and Business Principles (and previously the Group Business Principles and Values), which apply to the employees of all our companies, pursuant to the requirements of the Sarbanes-Oxley Act the Board of HSBC Holdings has adopted a code of ethics applicable to the Group Chairman and the Group Chief Executive, as the principal executive officers, and to the Group Chief Financial Officer and Group Chief Accounting Officer. HSBC Holdings' code of ethics is available on www.hsbc.com/our-approach/corporate-governance/corporate-governance-codes/obligations-of-senior-financial-officers or from the Group Company Secretary at 8 Canada Square, London E14 5HQ. If the Board amends or waives the provisions of the Code of Ethics, details of the amendment or waiver will appear at the same website address. During 2018, HSBC Holdings made no amendments to its code of ethics and granted no waivers from its provisions. The references to the standards to be followed by all employees reflect the Board's endorsement of HSBC Values statements underpinned by the continued use of our Business Principles. The HSBC Values statements and Business Principles are available on www.hsbc.com/our-approach/our-values.

Under NYSE listing rules applicable to US companies, independent directors must comprise a majority of the board of directors. Currently, more than three-quarters of HSBC Holdings' Directors are independent.

Under The UK Corporate Governance Code the HSBC Holdings Board determines whether a Director is independent in character and judgement and whether there are relationships or circumstances that are likely to affect, or could appear to affect, the Director's judgement. Under the NYSE rules, a director cannot qualify as independent unless the board affirmatively determines that the director has no material relationship with the listed company; in addition the NYSE rules prescribe a list of circumstances in which a director cannot be independent. The UK Corporate Governance Code requires a company's board to assess director independence by affirmatively concluding that the director is independent of management and free from any business or other relationship that could materially interfere with the exercise of independent judgement. Lastly, a chief executive officer of a US company listed on the NYSE must annually certify that he or she is not aware of any violation by the company of NYSE corporate governance standards. In accordance with NYSE listing rules applicable to foreign private issuers, HSBC Holdings' Group Chief Executive is not required to provide the NYSE with this annual compliance certification. However, in accordance with rules applicable to both US companies and foreign private issuers, the Group Chief Executive is required promptly to notify the NYSE in writing after any executive officer becomes aware of any material non-compliance with the NYSE corporate governance standards applicable to HSBC Holdings.

HSBC Holdings is required to submit annual and interim written affirmations of compliance with applicable NYSE corporate governance standards, similar to the affirmations required of NYSE-listed US companies.

Glossary of accounting terms and US equivalents

Accounting term	US equivalent or brief description
Accounts	Financial Statements
Articles of Association	Articles of incorporation
Called up share capital	Shares issued and fully paid
Creditors	Payables
Debtors	Receivables
Deferred tax	Deferred income tax
Finance lease	Capital lease
Freehold	Ownership with absolute rights in perpetuity
Interests in associates and joint ventures	Interests in entities over which we have significant influence or joint control, which are accounted for using the equity method
Loans and advances	Loans
Loan capital	Long-term debt
Nominal value	Par value
One-off	Non-recurring
Ordinary shares	Common stock
Overdraft	A line of credit, contractually repayable on demand unless a fixed-term has been agreed, established through a customer's current account
Preference shares	Preferred stock
Premises	Property
Provisions	Liabilities of uncertain timing or amount
Share premium account	Additional paid-in capital
Shares in issue	Shares outstanding
Write-offs	Charge-offs

Reconciliations

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Abbreviations

Currencies

£	British pound sterling
CA$	Canadian dollar
€	Euro
HK$	Hong Kong dollar
MXN	Mexican peso
RMB	Chinese renminbi
SGD	Singapore dollar
$	United States dollar

A

ABS[1]	Asset-backed security
ADR	American Depositary Receipt
ADS	American Depositary Share
AFS	Available for sale
AGM	Annual General Meeting
AIEA	Average interest-earning assets
ALCM	Asset, Liability and Capital Management
ALCO	Asset and Liability Management Committee
AML	Anti-money laundering
AML DPA	Five-year deferred prosecution agreement with the US Department of Justice, entered into in December 2012
ASEAN	Association of Southeast Asian Nations
AT1	Additional tier 1

B

Basel	Basel Committee on Banking Supervision
Basel II[1]	2006 Basel Capital Accord
Basel III[1]	Basel Committee's reforms to strengthen global capital and liquidity rules
BIS	Bank for International Settlements
BoCom	Bank of Communications Co., Limited, one of China's largest banks
BoE	Bank of England
Bps[1]	Basis points. One basis point is equal to one-hundredth of a percentage point
BRRD	Bank Recovery and Resolution Directive
BSA	Bank Secrecy Act (US)
BSM	Balance Sheet Management
BVI	British Virgin Islands

C

C&L	Credit and Lending
CAPM	Capital asset pricing model
CCAR	Federal Reserve Comprehensive Capital Analysis and Review
CCP	Central counterparty
CD	Certificates of deposit
CDOs	Collateralised debt obligations
CDS[1]	Credit default swap
CEA	Commodity Exchange Act (US)
CET1[1]	Common equity tier 1
CFPB	Consumer Financial Protection Bureau
CGUs	Cash-generating units
CMA	Competition and Markets Authority (UK)
CMB	Commercial Banking, a global business
CMC	Capital maintenance charge
CML[1]	Consumer and Mortgage Lending (US)
CODM	Chief Operating Decision Maker
COSO	2013 Committee of the Sponsors of the Treadway Commission (US)
CP[1]	Commercial paper
CRD[1]	Capital Requirements Directive
CRD IV	Capital Requirements Regulation and Directive
CRR[1]	Customer risk rating
CSA	Credit support annex
CFTC	Commodity Futures Trading Commission (US)
CVA[1]	Credit valuation adjustment

D

DDOS	Distributed denial of service
Deferred Shares	Awards of deferred shares define the number of HSBC Holdings ordinary shares to which the employee will become entitled, generally between one and seven years from the date of the award, and normally subject to the individual remaining in employment
Dodd-Frank	Dodd-Frank Wall Street Reform and Consumer Protection Act (US)
DoJ	US Department of Justice
DPA	Deferred prosecution agreement
DPD	Days past due
DPF	Discretionary participation feature of insurance and investment contracts
DVA[1]	Debit valuation adjustment

E

EAD[1]	Exposure at default
EBA	European Banking Authority
EC	European Commission
ECB	European Central Bank
ECF	Enhanced Competency Framework
EEA	European Economic Area
ECL	Expected credit losses. In the income statement, ECL is recorded as a change in expected credit losses and other credit impairment charges. In the balance sheet, ECL is recorded as an allowance for financial instruments to which only the impairment requirements in IFRS 9 are applied.
EL[1]	Expected loss
ESG	Environmental, Social and Governance
EU	European Union
Euribor	Euro interbank offered rate
EVE	Economic value of equity

F

FCA	Financial Conduct Authority (UK)
FFVA	Funding fair value adjustment estimation methodology on derivative contracts
FIRO	Financial Institutions (Resolution) Ordinance
FPA	Fixed pay allowance
FPC	Financial Policy Committee (BoE)
FRB	Federal Reserve Board (US)
FRC	Financial Reporting Council
FSB	Financial Stability Board
FSCS	Financial Services Compensation Scheme
FSMA	Financial Services and Markets Act 2000 (UK)
FSVC	Financial System Vulnerabilities Committee
FTE	Full-time equivalent staff
FTSE	Financial Times – Stock Exchange index
FuM	Funds under management
FVOCI[1]	Fair value through other comprehensive income
FVPL[1]	Fair value through profit or loss
FX DPA	Three-year deferred prosecution agreement with the US Department of Justice, entered into in January 2018

G

GAAP	Generally accepted accounting principles
GAC	Group Audit Committee
GB&M	Global Banking and Markets, a global business
GDP	Gross domestic product
GDPR	General Data Protection Regulation
GLCM	Global Liquidity and Cash Management
Global Markets	HSBC's capital markets services in Global Banking and Markets
GMB	Group Management Board
GMP	Guaranteed minimum pension
GPB	Global Private Banking, a global business

GPSP	Group Performance Share Plan
GRC	Group Risk Committee
Group	HSBC Holdings together with its subsidiary undertakings
GSM	The Group's Global Standards Manual
GTRF	Global Trade and Receivables Finance

H

Hang Seng Bank	Hang Seng Bank Limited, one of Hong Kong's largest banks
HKEx	The Stock Exchange of Hong Kong Limited
HKMA	Hong Kong Monetary Authority
HMRC	HM Revenue and Customs
HNAH	HSBC North America Holdings Inc.
Holdings ALCO	HSBC Holdings Asset and Liability Management Committee
Hong Kong	Hong Kong Special Administrative Region of the People's Republic of China
HOST	HSBC Operations Services and Technology
HQLA	High-quality liquid assets
HSBC	HSBC Holdings together with its subsidiary undertakings
HSBC Bank	HSBC Bank plc
HSBC Bank Middle East	HSBC Bank Middle East Limited
HSBC Bank USA	HSBC Bank USA, N.A., HSBC's retail bank in the US
HSBC Canada	The sub-group, HSBC Bank Canada, HSBC Trust Company Canada, HSBC Mortgage Corporation Canada and HSBC Securities Canada, consolidated for liquidity purposes
HSBC Colombia	HSBC Bank (Colombia) S.A.
HSBC Finance	HSBC Finance Corporation, the US consumer finance company (formerly Household International, Inc.)
HSBC France	HSBC's French banking subsidiary, formerly CCF S.A.
HSBC Holdings	HSBC Holdings plc, the parent company of HSBC
HSBC Private Bank (Suisse)	HSBC Private Bank (Suisse) SA, HSBC's private bank in Switzerland
HSBC UK	HSBC UK Bank plc
HSBC USA	The sub-group, HSBC USA Inc (the holding company of HSBC Bank USA) and HSBC Bank USA, consolidated for liquidity purposes
HSI	HSBC Securities (USA) Inc.
HSSL	HSBC Securities Services (Luxembourg)
HTIE	HSBC International Trust Services (Ireland) Limited
HTM	Held to maturity

I

IA	Insurance Authority
IAS	International Accounting Standards
IASB	International Accounting Standards Board
Ibor	Interbank offered rate
ICAAP	Internal capital adequacy assessment process
IFRSs	International Financial Reporting Standards
IHC	Intermediate holding company
ILAAP	Individual liquidity adequacy assessment process
IRB[1]	Internal ratings-based
IRRBB	Interest rate risk in the banking book
ISDA	International Swaps and Derivatives Association

J

Jaws	Adjusted jaws measures the difference between the rates of change in adjusted revenue and adjusted operating expenses.

K

KMP	Key Management Personnel

L

LCR	Liquidity coverage ratio
LFRF	Liquidity and funding risk management framework
LGBT+	Lesbian, gay, bisexual and transgender. The plus sign denotes other non-mainstream groups on the spectrums of sexual orientation and gender identity
LGD[1]	Loss given default
Libor	London interbank offered rate
LICs	Loan impairment charges and other credit risk provisions
LMA	Loan Markets Association
LSE	London Stock Exchange
LTI	Long-term incentive
LTV[1]	Loan-to-value ratio

M

Mainland China	People's Republic of China excluding Hong Kong
Malachite	Malachite Funding Limited, a term-funding vehicle
Mazarin	Mazarin Funding Limited, an asset-backed CP conduit
MBS	US mortgage-backed security
MENA	Middle East and North Africa
MOCs	Model Oversight Committees
Monoline	Monoline insurance company
MPF	Mandatory Provident Fund
MREL	Minimum requirements for own funds and eligible liabilities
MRT[1]	Material Risk Taker

N

NII	Net interest income
NSFR	Net stable funding ratio
NYSE	New York Stock Exchange

O

OCC	Office of the Comptroller of the Currency (US)
OCI	Other comprehensive income
OECD	Organisation of Economic Co-operation and Development
OFAC	Office of Foreign Assets Control
ORMF	Operational risk management framework
OTC[1]	Over-the-counter

P

PD[1]	Probability of default
Performance shares[1]	Awards of HSBC Holdings ordinary shares under employee share plans that are subject to corporate performance conditions
Ping An	Ping An Insurance (Group) Company of China, Ltd, the second-largest life insurer in the PRC
POCI	Purchased or originated credit-impaired financial assets
PBT	Profit before tax
PIT	Point-in-time
PPI	Payment protection insurance
PRA	Prudential Regulation Authority (UK)
PRC	People's Republic of China
Principal plan	HSBC Bank (UK) Pension Scheme
PVIF	Present value of in-force long-term insurance business and long-term investment contracts with DPF
PwC	The member firms of the PwC network, including PricewaterhouseCoopers LLP

R

RAS	Risk appetite statement
RBWM	Retail Banking and Wealth Management, a global business
Repo[1]	Sale and repurchase transaction
Reverse repo	Security purchased under commitments to sell
RFB	Ring-fenced bank
RFR	Risk-free rate
RMM	Risk Management Meeting of the Group Management Board
RNIV	Risk not in VaR
RoE	Return on equity
RoRWA	Return on average risk-weighted assets
RoTE	Return on tangible equity
RWA[1]	Risk-weighted asset

S

SAPS	Self-administered pension scheme
SDG	United Nation's Sustainable Development Goals
SE[1]	Structured entity
SEC	Securities and Exchange Commission (US)
SEF	Swap execution facilities
ServCo group	Separately incorporated group of service companies planned in response to UK ring-fencing proposals
SFC	Securities and Futures Commission
SFR	Stable funding ratio
Sibor	Singapore interbank offered rate
SIC	Securities investment conduit
SID	Senior Independent Director
SME	Small- and medium-sized enterprise

Solitaire	Solitaire Funding Limited, a special purpose entity managed by HSBC
SPE[1]	Special purpose entity
SPPI	Solely payments of principal and interest
SRI	Socially responsible investment
SSM	The EU's Single Supervisory Mechanism
T	
T1	Tier 1
T2	Tier 2
TCFD[1]	Task Force on Climate-related Financial Disclosures
TLAC[1]	Total loss-absorbing capacity
TSR[1]	Total shareholder return
U	
UAE	United Arab Emirates
UK	United Kingdom
UN	United Nations
UN PRI	United Nations Principles of Responsible Investment
US	United States of America
US run-off portfolio	Includes our CML, vehicle finance and Taxpayer Financial Services businesses and insurance, commercial, corporate and treasury activities in HSBC Finance on an IFRSs management basis
V	
VaR[1]	Value at risk
VIU	Value in use

1 *A full definition is included in the glossary to* the Annual Report and Accounts 2018 *which is available at www.hsbc.com/investors.*

HSBC Holdings plc

Incorporated in England on 1 January 1959 with limited liability under the UK Companies Act
Registered in England: number 617987

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Web: www.investorcentre.com/bm

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Photography

Highlights (pages 2 to 3): Lavender field in Provence, France. Taken by Andrea A Attard, who works in our corporate treasury solutions team in Malta

Our strategy (pages 10 to 13): Boat navigating off the coast of Thailand. Taken by Joanna S Ellis, who supports with retail customer due diligence and is based in India

Global businesses (pages 18 to 21): Hong Kong skyline at night. Taken by John Oldham, who works in the legal team in the UK

How we do business (pages 22 to 23): Fish off Raja Ampat, Indonesia, one of the world's most diverse marine regions. Taken by Faith Li, who works in asset management in China

How we do business (pages 28 to 29): Thrunton Woods, Northumberland. Taken by Ciara Jennings, who works in the UK's digital technology team

Risk overview (pages 30 to 31): Raindrops on a peacock feather. Taken by Noman Anwar, who works in communications in Bangladesh

Inside back cover: Crowds below an escalator in Incheon Airport, South Korea. Taken by Michael Hu, who works in China's finance team

Group Chairman and Group Chief Executive portraits: Taken by Charles Best

Item 19. Exhibits

Documents files as exhibits to this Form 20-F:

Exhibit Number	Description
1.1	Memorandum and Articles of Association of HSBC Holdings plc.
2.1	The total amount of long-term debt securities of HSBC Holdings plc authorized under any instrument does not exceed 10 percent of the total assets of the Group on a consolidated basis. HSBC Holdings plc hereby agrees to furnish to the Commission, upon its request, a copy of any instrument defining the rights of holders of long-term debt of HSBC Holdings plc or of its subsidiaries for which consolidated or unconsolidated financial statements are required to be filed.
4.1	Undertaking by HSBC Holdings plc to the Financial Services Authority (incorporated by reference to Exhibit 99.3 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on December 12, 2012), as replaced by the Direction by the Financial Conduct Authority to HSBC Holdings plc (incorporated by reference to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on April 12, 2013).
4.2	Cease and Desist Order issued by the Board of Governors of the United States Federal Reserve System in the Matter of HSBC Holdings plc (incorporated by reference to Exhibit 99.5 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on December 12, 2012).
4.3	Settlement Agreement between HSBC Holdings plc, and the United States Department of the Treasury's Office of Foreign Assets Control (incorporated by reference to Exhibit 99.7 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on December 12, 2012).
4.4	Consent Order dated December 11, 2012, of the Comptroller of the Currency of the United States in the Matter of HSBC Bank USA, N.A. (incorporated by reference to Exhibit 99.8 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on December 12, 2012).
4.5	Agreement by and between HSBC Bank USA, N.A. McLean, Virginia and the Office of the Comptroller of the Currency dated December 11, 2012 (incorporated by reference to Exhibit 99.10 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on December 12, 2012).
4.6	Deferred Prosecution Agreement dated January 17, 2018, between HSBC Holdings plc and the United States Department of Justice.
4.7	Service Agreement dated June 25, 2018 between HSBC Holdings plc and Ewen Stevenson.
4.8	Service Agreement dated December 9, 2010 between HSBC Holdings plc and Marc Moses, as amended by a letter agreement dated November 1, 2013 by HSBC Holdings plc (incorporated by reference to Exhibit 4.1 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on February 28, 2014).
4.9	Service Agreement dated October 12, 2017, between HSBC Group Management Services Limited and John Flint (incorporated by reference to Exhibit 4.10 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on February 20, 2018).
4.10	Engagement Letter dated March 12, 2017, between HSBC Holdings plc and Mark Tucker (incorporated by reference to Exhibit 4.11 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on February 20, 2018).
8.1	Subsidiaries of HSBC Holdings plc (set forth in Note 39 to the consolidated financial statements included in this Form 20-F).
12.1	Certificate of HSBC Holdings plc's Group Chief Executive pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
12.2	Certificate of HSBC Holdings plc's Group Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
13.1	Annual Certification of HSBC Holdings plc's Group Chief Executive and Group Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
15.1	Consent of PricewaterhouseCoopers LLP
15.2	Pages of HSBC Holdings plc's 2000 Form 20-F/A dated February 26, 2001 relating to the Memorandum and Articles of Association of HSBC Holdings plc (incorporated by reference to Exhibit 14.2 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on March 20, 2006).
15.3	Pages of HSBC Holdings plc's 2001 Form 20-F dated March 13, 2002 relating to the Memorandum and Articles of Association of HSBC Holdings plc (incorporated by reference to Exhibit 14.3 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on March 20, 2006).
15.4	Consent of C G Singer.

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

HSBC Holdings plc

By: /s/ E J Stevenson

Name: E J Stevenson

Title: Group Chief Financial Officer

Dated: 20 February 2019