HSBC Bank Canada

Annual Report and Accounts 2018

HSBC

Connecting customers to opportunities

We aim to be where the growth is, enabling business to thrive and economies to prosper, and ultimately helping people to fulfill their hopes and realize their ambitions.

About us

Who we are

The HSBC Group has an unrivalled global position with an extensive network in 66 countries and territories that provides access to more than 90% of global GDP, trade and capital flows. With more than 130 branches and assets of $103.4bn, HSBC is Canada's leading international bank. No international bank has our Canadian presence and no domestic bank has our international reach. We have unique expertise in trade and receivables finance, RMB, emerging markets funds and offer a unique take on infrastructure financing; are a global leader in managing financial crime risk; and offer unique banking solutions for internationally minded individuals and businesses. No one is better placed to serve Canadian companies that are doing business here at home and internationally or individuals with a global outlook. Canada is an important contributor to the HSBC Group strategy and a key player in the Group's work to support customers and drive growth, leveraging its footprint across all key trade corridors, including North America, alongside the United States and Mexico, and with China.

Our values

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

Dependable	Open	Connected
We are dependable, standing firm for what is right and delivering on commitments.	We are open to different ideas and cultures, and value diverse perspectives.	We are connected to our customers, communities, regulators and each other, caring about individuals and their progress.

Contents

Highlights

Our customers value HSBC's extensive network as they travel and do business around the world. Coupled with our universal banking model and capital strength, this delivers significant long-term value to our customers and our shareholder.

HSBC Bank Canada performance

For the year ended 31 December 2018[1]

Total operating income ($m)

Dec 2018	**2,264**
Dec 2017	2,070

(2017: $2,070m)

$2,264m ▲9.4%

Profit before income tax expense ($m)

Dec 2018	**991**
Dec 2017	895

(2017: $895m)

$991m ▲10.7%

Profit attributable to the common shareholder ($m)

Dec 2018	**681**
Dec 2017	630

(2017: $630m)

$681m ▲8.1%

As at 31 December 2018

Total assets ($bn)

Dec 2018	**103.4**
Dec 2017	96.4

(2017: $96.4bn)

$103.4bn ▲7.3%

Return on average common equity (%)

Dec 2018	**14.5%**
Dec 2017	13.3%

(2017: 13.3%)

14.5% ▲120bps

Common equity tier 1 ratio (%)

Dec 2018	**11.3%**
Dec 2017	10.5%

(2017: 10.5%)

11.3% ▲80bps

Select awards and recognition

Below are some examples of awards received in the year. More details can be found on page 10.

Canada's #1 Trade Finance Bank and Best Bank for Service Quality
Euromoney (2018 – 2019)

World's #1 Global Trade Finance Bank
Euromoney (2018-2019)

2018 Best 50 Corporate Citizens in Canada
Corporate Knights (2012 - 2018)

Our digital journey

Investing in digital is a key priority for us and below are some examples of the advances we made during the year.

Launched HSBC eCREDIT: A new service to streamline banking for small businesses

Launched Aki, our first digital employee, who speeds up routine transactions

Automated mortgage renewals to reduce processing time

Product enhancements in the year

Below are some examples of product enhancements during the year.

We "waived" goodbye to monthly banking fees for HSBC Advance customers[2]

We were one of the first banks in the country to offer personal banking customers $0 transfer fees on international foreign exchange wires under $10,000 or equivalent[3]

Launched HSBC Wealth Compass™, a simple way to receive advice and invest online

Our global businesses[4]

Our operating model consists of three global businesses and a Corporate Centre, supported by HSBC Operations Services and Technology, and 11 global functions.

Commercial Banking ('CMB')

We support business customers with banking products and services to help them operate and grow. Our customers range from small enterprises, through to large companies that operate globally.

Global Banking and Markets ('GB&M')

We provide financial services and products to corporates, governments and institutions. Our comprehensive range of products and solutions can be combined and customized to meet our customers' specific objectives - from primary equity and debt capital to global trade and receivables finance.

Retail Banking and Wealth Management ('RBWM')

We offers a full range of competitive banking products and services for all Canadians to help them manage their finances, buy their homes, and save and invest for the future. Our business also has an international flavor with a large suite of global investment products and other specialized services available.

For the year ended 31 December 2018[1]

	CMB	GB&M	RBWM
Total operating income	(2017: $885m) $954m ▲7.8%	(2017: $302m) $331m ▲9.6%	(2017: $675m) $737m ▲9.2%
Profit before income tax expense	(2017: $590m) $589m ▼0.2%	(2017: $170m) $180m ▲5.9%	(2017: $80m) $71m ▼11.3%
Customer Assets[5]	(2017: $23.3bn) $27.2bn ▲16.7%	(2017: $4.9bn) $5.7bn ▲16.3%	(2017: $26.9bn) $28.1bn ▲4.5%

1 *Effective 1 January 2018 the bank adopted IFRS 9 'Financial Instruments' on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39 'Financial Instruments: Recognition and Measurement'.*

2 *Subject to terms and conditions. See full details: https://www.hsbc.ca/1/2/personal/banking/hsbc-advance/offer-landing%20-%20dis.*

3 *Subject to terms and conditions. For more information visit: https://www.hsbc.ca/1/2/personal/banking/ways-to-bank/personal-internet-banking/wire-transfers.*

4 *We manage and report our operations around three global businesses and the results presented are for these businesses. The consolidated HSBC Bank Canada results presented on the previous page also include the Corporate Centre (see page 20 of Management's Discussion and Analysis for more information). The equivalent results for the Corporate Centre were as follows: Total operating income $242m (2017: $208m), profit before income tax expense $151m (2017: $55m) and Customer Assets nil (2017: nil).*

5 *Customer assets includes loans and advances to customers and customers' liability under acceptances.*

Message from the President and Chief Executive Officer

This is my third year as President and CEO at HSBC Bank Canada, one of the top contributors to the HSBC Group's profits. Each year we have benefited from HSBC Group investments in the country and we have worked hard to build our business in ways that make it better, faster and safer for our customers, enriched by our knowledge of other markets and supported by HSBC's extensive global network. This year's 11% increase in profit before tax, 9% increase in revenue and our first year reporting over $100 billion in assets were the result of solid sustainable growth across our three business lines. The investments we continue to make were more than offset by strong revenue growth.

In Commercial Banking, the biggest contributor to our bottom line, customers are recognizing the value that we bring to their businesses: lending balances grew at the highest level since 2010, lending market share increased, customer service surveys have shown marked improvement and revenue grew by 8%.

In Global Banking and Markets we continued to provide tailored financial solutions as a top tier bank and deepen connections with HSBC's other businesses and regions, ranking number one in P3 bond league tables and delivering a 10% increase in revenue.

In Retail Banking and Wealth Management, focusing on customer needs led to strong growth in total relationship balances (lending, deposits and wealth balances) and growing market share in deposits and mortgages. Our brand is more visible in the market as we deliver new digital products and services that save our customers time and allow them to bank when it's most convenient – for example, launching e-credit for small business and digital investing through HSBC Wealth Compass – and competitive pricing, resulting in revenue growth of 9%.

Looking back on 2018, I am thankful to be surrounded by many hard working, smart and thoughtful colleagues in Canada and around the world, who, regardless of their role, are driven by a desire to put our customers first in everything we do. I appreciate the trust placed in us by our many long time and new customers.

I am proud of all that we have accomplished and equally proud of how we achieved it.

We are a recognized leader in diversity and inclusion in the market. The Board of Directors and Executive Committee of HSBC Bank Canada are gender balanced and 47% of our staff are members of a visible minority. As a result, our discussions are richer, with genuine challenge leading to stronger decision making. As our example makes clear, diversity leads to healthy outcomes. We celebrate all those businesses and their leaders that champion a more diverse work place as both the smart and right thing to do.

We were also busy supporting the communities where we operate. This year in Canada, we contributed more than $3.8 million to charitable programs in the areas of future skills, sustainable supply chains and entrepreneurship – benefiting more than 135,000 people. These investments are personal for me and many of my colleagues, who collectively spent more than 5,000 work hours and many more personal hours volunteering in our communities.

I admire our customers, who are finding ways to thrive. While 2018 was a strong year for the Canadian economy generally, it was also a year of geopolitical uncertainty. According to our Navigator survey in 2018, 80% of Canadian companies were confident of success in the current environment.

There continue to be opportunities to grow. We will be here to help our customers as they look to source more affordable materials from other countries, branch out into new markets and explore the world. With the Canada US Mexico Trade Agreement (CUSMA) signed, Trans-Pacific Partnership (TPP) coming into force and Canada-Europe Trade Agreement (CETA) fully in force, along with many other trade agreements, there are ample opportunities for them to do so.

Change is the only way that we grow. In the coming year we will continue to execute on our strategy and focus on growth and value creation while actively managing our risks and costs. And we'll be here for our customers whether in Retail Banking and Wealth Management, Commercial Banking, or Global Banking and Markets as they navigate the world whatever the future may bring.

Sandra Stuart
President and Chief Executive Officer
HSBC Bank Canada
15 February 2019

How we do business

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

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

To achieve our purpose, we need to build and maintain strong relationships with all of our stakeholders – including customers, employees, and the communities in which we operate. In 2018, the Group launched its ambition to become the healthiest human system in the financial services industry as a way to create stronger connections across these groups. This will enable us to deliver our strategy with our long-term values, and operate the business in a way that is sustainable.

HSBC Group publishes regularly updated information on our performance in relation to environmental, social and governance issues. This can be accessed on our website at https://www.hsbc.com/our-approach/measuring-our-impact.

HSBC Bank Canada also publishes a Public Accountability Statement, called '*HSBC Bank Canada in the Community*' which details our community investment programs, contribution to the economy and initiatives that are making it easier for our customers to reach their financial goals. This can be accessed on our website at: https://www.about.hsbc.ca/hsbc-in-canada/community.

In this section, we provide information about our customers, employees and our approach to creating a responsible business culture.

Customers

We create value by providing the products and services our customers need, and aim to do so in a way that makes it easy for them. This helps us to build and maintain a healthy and sustainable relationships with our customers. We maintain trust by protecting our customers' data and information, and delivering fair outcomes for them - and if things go wrong, we aim to address complaints in a timely manner. Operating to highest standards of conduct is central to our long-term success and underpins our ability to serve our customers.

We have made significant investments to improve our products and services, based on feedback from our customers and analysis of emerging market trends. We are committed to continuing to support our customers' evolving needs as we continue to simplify processes and improve the digital experience. We understand that asking our customers' opinion on our service is core to understanding their needs and concerns and will continue to be an important part of how we determine where to best invest our resources in the future.

In the table below we highlight some examples of how customer feedback has driven improvements across RBWM and CMB in Canada:

What our customers are telling us	Our response
Making it easier to do business	
New Commercial Banking customers said it took too long and was too complicated to become a customer.	We streamlined the process and simplified the documentation needed. Then we launched a process that allows customers to have their identities verified electronically without visiting a branch.
Reducing Service Disruption for our Customers	
MasterCard customers told us that disruptions during renewal periods for expiring cards were inconvenient, particularly for our many customers that travel frequently.	To minimize potential disruptions due to travel, we now send replacement cards 60 days in advance of expiry.
Enabling our Customers to Easily and Securely Bank Anywhere	
Customers said our old mobile app wasn't user–friendly.	We launched a completely redesigned app with a clean, user–friendly design, with Touch ID and simplified process for making payments and transfers.

Investing in digital

As part of our strategy, we are committed to enhancing our customer experience through investments in technology. Below are just some examples of the digital enhancements that were rolled out this year:

- launched a new mobile banking app
- launched Aki, our first digital employee, who performs and speeds up routine transactions
- launched HSBC Wealth Compass™, a simple way to receive advice and invest online
- automated mortgage renewals to reduce processing time
- introduced online originations of credit cards to customers

Taking responsibility for the experiences we deliver

We take a long term view of serving our customers well and this has been central to our success throughout our history. We are committed to delivering fair outcomes for our customers and doing our part to ensure the orderly and transparent operation of financial markets. We have clear policies, frameworks and governance in place to help us achieve these goals.

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.

Our employees

Our success is built on our ability to attract, develop and retain a diverse workforce comprised of the best and brightest talent. With a footprint that spans the globe, diversity of thought, perspective and experience is part of our DNA.

Our people are critical to our success and it is important that we listen to them and encourage them to speak up. We work to foster a culture that encourages and promotes the right behavior, where people feel empowered to voice their opinions and concerns. We believe gender balance and diversity across the organization will help to create an environment where people can thrive and enable us to better support our customers and the communities we serve.

Listening to our people

Understanding how our people feel about the bank is vital. It helps us ensure that we are giving them the right support to fulfill their potential and do the right thing for our customers. One way we support employees in speaking up is through HSBC Exchanges-meetings with no agendas, where managers and leaders listen and employees speak. Exchanges provide a forum for people to share their views on any issue and talk about what matters most to them. In addition, our quarterly Snapshot survey tests the views of a representative sample of colleagues on topics such as our strategy, regulation, culture and customer experience. The results of which are discussed with our Board and Executive Committee.

Enabling a diverse and inclusive environment for all

Our commitment

We are committed to enabling a thriving environment where people are valued, respected and supported to fulfill their potential. By leveraging the extraordinary range of ideas, backgrounds, styles and perspectives of our employees to effectively meet the needs of our different stakeholder groups, we can drive better business outcomes for all.

In Canada we employ 5,779 people. We work hard to build and maintain our inclusive, positive and performance-oriented culture. In 2018, for the third year in a row, HSBC Bank Canada was recognized by the Government of Canada with an Employment Equity Achievement Award for outstanding commitment to creating a diverse and inclusive workplace.

We offer opportunities across our organization for employees to build a fulfilling career and work with colleagues and customers around the world. We reward performance, and we offer extensive training and career development opportunities as well as flexible benefit packages and working arrangements.

Gender balance at senior levels

We continue to focus on improving gender balance in senior leadership. The Board of Directors and Executive Committee of HSBC Bank Canada are gender balanced.

Employee resource groups

We have eight employee resource groups which provide an important space where colleagues can speak up about internal and commercial issues and opportunities, create connections, and learn from others. The groups focus on gender, age, ethnicity and culture, LGBT+, and ability.

To learn more about our approach to diversity and inclusion, benefits packages and career opportunities, visit www.hsbc.ca/careers.

Whistleblowing

Having a culture where our people feel able to speak up is important. Though individuals are actively encouraged to raise concerns about wrongdoing or unethical conduct through the usual reporting and escalation channels, we understand that in some circumstances employees would prefer a more discreet way to raise their concerns. HSBC Confidential, provides a platform that enables all employees to raise concerns on any issues, outside the usual escalation channels, in confidence and without fear of retaliation. Multiple whistleblowing channels have been established to raise issues, including telephone hotlines, online and email, and these channels deal with a broad range of concerns at different severity levels.

The bank does not condone or tolerate any acts of retaliation against anyone who reasonably believes that the concern that they have raised is true. Concerns raised are investigated thoroughly and independently.

Common themes included issues with employees' behaviour or conduct, allegations of fraud, and weaknesses with information security. Remedial activity has been undertaken where appropriate. This has included disciplinary action, adjustments to variable pay and/or performance and behaviour ratings.

The Group Audit Committee has overall responsibility for reviewing the Group's whistleblowing policy and procedures, and receives regular updates on relevant concerns raised under these procedures, together with management actions taken in response.

A responsible business culture

Our 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 an end-to-end view of non-financial risks, enhancing focus on the risks that matter the most and associated controls. Further details on our non-financial risks may be found in the Risk section on page 26.

Financial crime compliance

The HSBC Group, including HSBC Bank Canada, has a responsibility to help protect the integrity of the global financial system. In order to fulfill that responsibility, we have made, and continue to make, significant investments in our ability to detect, deter and prevent financial crime. HSBC Group has exited customers and products in multiple countries, including Canada, where we deemed the financial crime risk too high to manage and an HSBC Affiliate review program is in place to ensure each Affiliate can adequately protect the Group. We are also working with governments and other banks to advance our collective interests in this area. These steps are enabling us to much more effectively reduce the risk of financial crime.

Anti-bribery and corruption

As part of financial crime risk management, we have a global anti-bribery and corruption policy. The policy gives practical effect to global initiatives such as the Organization 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 99% of our workforce was trained via a mandatory e-learning course 'My Financial Crime Risk Responsibilities'.

Tax

We are committed to follow the letter and spirit of tax laws where ever we operate, including in Canada. We aim to have an open and transparent relationship with the tax authorities, ensuring that any areas of uncertainty or dispute are agreed and resolved in a timely and effective manner. As a consequence, we believe that we pay our fair share of taxes in Canada. We manage our tax risk in a formal tax risk management framework and apply global initiatives to improve transparency such as the U.S. Foreign Account Tax Compliance Act (FATCA) and the OECD Standard for Automatic Exchange of Financial Account Information (also known as the Common Reporting Standard).

Basis of preparation

HSBC Bank Canada and its subsidiary undertakings (together 'the bank', 'we', 'our') is an indirectly wholly-owned subsidiary of HSBC Holdings plc ('HSBC Holdings'). Throughout the Management's Discussion and Analysis ('MD&A'), the HSBC Holdings Group is defined as the 'HSBC Group' or the 'Group'.

The MD&A is provided to enable readers to assess our financial condition and results of operations for the quarter and year-ended 31 December 2018, compared to the same periods in the preceding year. The MD&A should be read in conjunction with our 2018 consolidated financial statements and related notes for the year-ended 31 December 2018 ('consolidated financial statements'). This MD&A is dated 15 February 2019, the date that our consolidated financial statements and MD&A were approved by our Board of Directors ('the Board'). The references to 'notes' throughout this MD&A refer to notes on the consolidated financial statements for the year-ended 31 December 2018.

The bank has prepared its consolidated financial statements in accordance with International Financial Reporting Standards ('IFRS') and in consideration of the accounting guidelines as issued by the Office of the Superintendent of Financial Institutions Canada ('OSFI'), as required under Section 308(4) of the Bank Act. The abbreviations '\$m' and '\$bn' represent millions and billions of Canadian dollars, respectively. All tabular amounts are in millions of dollars except where otherwise stated.

Our continuous disclosure materials, including interim and annual filings, are available through a link on the bank's website at www.hsbc.ca. These documents, together with the bank's *Annual Information Form*, are also available on the Canadian Securities Administrators' website at www.sedar.com. Complete financial, operational and investor information for HSBC Holdings and the HSBC Group, including HSBC Bank Canada, can be obtained from its website, www.hsbc.com, including copies of *HSBC Holdings Annual Report and Accounts 2018*. Information contained in or otherwise accessible through the websites mentioned does not form part of this report.

MD&A Contents

Caution regarding forward-looking statements

This document contains forward-looking information, including statements regarding the business and anticipated actions of the bank. These statements can be identified by the fact that they do not pertain strictly to historical or current facts. Forward-looking statements often include words such as 'anticipates', 'estimates', 'expects', 'projects', 'intends', 'plans', 'believes' and words and terms of similar substance in connection with discussions of future operating or financial performance. Examples of forward-looking statements in this document include, but are not limited to, statements made in 'Message from the President and Chief Executive Officer' on page 4, 'Our strategic priorities' on page 9, 'Economic review and outlook' on page 21, 'Regulatory developments' on page 22, and 'Employee compensation and benefits' on page 77. By their very nature, these statements require us to make a number of assumptions and are subject to a number of inherent risks and uncertainties that may cause actual results to differ materially from those contemplated by the forward-looking statements. We caution you to not place undue reliance on these statements as a number of risk factors could cause our actual results to differ materially from the expectations expressed in such forward-looking statements. The risk management section of the MD&A describes the most significant risks to which the bank is exposed and, if not managed appropriately, could have a material impact on our future financial results. These risk factors include: credit risk, liquidity and funding risk, market risk, operational risks (including regulatory compliance, financial crime risk, security risk, and fiduciary risks), reputational risks, pension risks and sustainability risks. Refer to the 'Risk management' section of this report for a description of these risks. Additional factors that may cause our actual results to differ materially from the expectations expressed in such forward-looking statements include: general economic and market conditions, fiscal and monetary policies, changes in laws, regulations and approach to supervision, level of competition and disruptive technology, changes to our credit rating, operational and infrastructure risks, and other risks such as the physical risks associated with climate change, changes in accounting standards, changes in tax rates, tax law and policy, and our ability to attract, develop and retain key personnel. Refer to the 'Factors that may affect future results' section of this report for a description of these risk factors. We caution you that the risk factors disclosed above are not exhaustive, and there could be other uncertainties and potential risk factors not considered here which may adversely affect our results and financial condition. Any forward-looking statements in this document speak only as of the date of this document. We do not undertake any obligation to, and expressly disclaim any obligation to, update or alter our forward-looking statements, whether as a result of new information, subsequent events or otherwise, except as required under applicable securities legislation.

Who we are

HSBC Bank Canada is the leading international bank in the country. We help companies and individuals across Canada to do business and manage their finances here and internationally through three global businesses: Commercial Banking, Global Banking and Markets, and Retail Banking and Wealth Management. No international bank has our Canadian presence and no domestic bank has our international reach.

Canada is an important contributor to the HSBC Group growth strategy and a key player in the Group's work to support customers and drive growth, leveraging its footprint across all key trade corridors, including in North America, alongside the United States and Mexico, and with China.

The HSBC Group is one of the world's largest banking and financial services groups with assets of US$2,558bn at 31 December 2018. The HSBC Group serves customers worldwide through an international network across 66 countries and territories in Europe, Asia, North and Latin America, and the Middle East and North Africa.

Throughout our history we have been where the growth is, connecting customers to opportunities, enabling businesses to thrive and economies to prosper, helping people fulfill their hopes and dreams and realize their ambitions.

Shares in HSBC Holdings are listed on the London, Hong Kong, New York, Paris and Bermuda stock exchanges. The shares are traded in New York in the form of American Depositary Receipts.

Our strategy

Our long-term strategy positions us to capture value from our international network, capitalizing on global trends affecting the industry and our unique combination of strategic advantages.

Strategic advantages

World's leading international bank	HSBC Bank Canada is an integral part of one of the most international banking and financial services organizations in the world. The value of our international network comes from our connections to the people and companies that drive economic activity across the globe. We provide products and services to meet diverse financial needs - from purchasing a music download to financing large infrastructure projects such as expansion of a regional hospital. Our relationships reflect the geographic reach of our network and the range of customers we support.
Unparalleled access to high-growth markets and coverage of trade corridors between them	Our network of customers provides us with significant insight into trade and capital flows across supply chains. When we bank customers on both sides of a transaction, we can help them overcome obstacles and operate more efficiently. We are uniquely positioned to be the bridge for customers, both large and small, between Canada and the rest of the world.
Business growth	HSBC Bank Canada is focused on growth, with a strong capital, funding and liquidity position and diversified business model.

Our strategic priorities

As communicated to investors in June 2018, the HSBC Group has entered the next phase of its strategy, focused on growth and value creation. To achieve this, eight strategic priorities were put together with targeted outcomes by 2020. These eight priorities aim to deliver growth, turn around low-return businesses, put our customers at the centre of everything we do and empower our people.

Of these eight strategic priorities, five are directly applicable to Canada:

Gain market share and deliver growth from our international network	**International Network** The HSBC Group has an unparalleled international network that provides access to more than 90% of global domestic product ('GDP'), trade and capital flows. We use the network to offer products to customers that facilitate trade and investment, and help them participate in global growth opportunities. HSBC continues to invest in key product areas, digitizing and growing trade finance and strengthening our leadership position in liquidity and cash management. Our global network and extensive expertise in international markets helps us build deeper and more enduring relationships with businesses and individuals with international needs, and provides a competitive advantage in serving Canadian retail and wealth management customers. **Opportunities in the North American trade corridor** We continue to realize value from the network across North America as our business works closely with our affiliates in the U.S. and Mexico. We work together in fulfilling our customers' cross border banking needs, including cross border product and sales initiatives and improvements in systems and processes to provide efficient cross border service. In 2018, HSBC was once again named North America's Best Bank for Transaction Services at Euromoney magazine's annual Awards for Excellence. **Focus on Greater China** Identifying new opportunities where the Group is present in Greater China and its ability to undertake transactions in the RMB currency can add value for our customers. We continue to work closely with our colleagues in Greater China to assist our clients in conducting business in this key trade corridor. In May 2018, HSBC was named 'Best RMB Bank in Canada' by The Asset as part of their Triple A Treasury, Trade, Supply Chain and Risk Management Awards.
Create capital efficiency	Our balanced mix of businesses supports a strong capital and funding base, provides competitive rewards to employees, and generates stable shareholder returns. We continue to focus on optimization of risk-weighted assets and ensuring the returns are commensurate with the risks in the current environment.
Create capacity for investments through efficiency	Our strong revenue growth has helped to support sustained investments as we continue to grow our digital capabilities and realize efficiency gains through automating or re-engineering processes. We continue to simplify our technology and maintain strong cost discipline and control to create capacity for increased investment. Our aim is to sustain cost discipline and control by continuing to benchmark our costs with the market, absorbing inflation through productivity gains and maintaining our focus on improving business productivity.

Enhance customer service through investments in technology

Invest in digital capabilities to deliver improved customer service

We continued to invest in people and technology to improve how we serve our customers across our core businesses. For example, we used technology to simplify applications and automate lending decisions for small business customers and continue to digitize trade services. Digital enhancements are also delivering improved customer service for our Commercial Banking customers.

Safeguard our customers and deliver industry-leading financial crime standards

Our aim is to safeguard our customers, ourselves and the financial services industry from financial crime. We have made significant investments in Global Standards and have made strong progress on strengthening our Know Your Customer policies and procedures across our business.

Digital enhancements have strengthened our capabilities to manage financial crime risk and increase cyber security.

Simplify the organization and empower our people

We continue to focus on simplifying processes and reducing organizational complexity to facilitate growth and support our people.

We are investing in training and development focused on leadership, technical capabilities and digital and future skills to ensure our talent is empowered to shape and develop their own career paths.

Selected awards and recognition

Award	Awarded by
HSBC Bank Canada awards	
Canada's #1 Trade Finance Bank and Best Bank for Service Quality	Euromoney (2018 – 2019)
Canada's Best RMB Bank	The Asset Triple A Treasury, Trade, Supply Chain and Risk Management Awards (2018)
2018 Best 50 Corporate Citizens in Canada	Corporate Knights (2012 - 2018)
Sector Distinction & Outstanding Commitment	Employment Equity Awards - Government of Canada (2016 - 2018)
Direct Brokerage Service Award	DALBAR (2012 - 2018)
HSBC Group awards	
Most innovative Investment Bank globally	The Banker (2018)
World's #1 Global Trade Finance Bank	Euromoney (2018 - 2019)
Global Bank of the Year for Cash and Liquidity Management & Best Bank for Financial Supply Chain Management in North America	Treasury Management International (TMI) (2018)

Use of non-IFRS financial measures

In measuring our performance, the financial measures that we use include those which have been derived from our reported results. However, these are not presented within the consolidated financial statements and are not defined under IFRS. These are considered non-IFRS financial measures and are unlikely to be comparable to similar measures presented by other companies. The following non-IFRS financial measures are used throughout this document.

Return on average common shareholder's equity is calculated as profit attributable to the common shareholder for the period divided by average[1] common equity.

Return on average risk-weighted assets is calculated as profit before income tax expense divided by the average[1] risk-weighted assets.

Cost efficiency ratio is calculated as total operating expenses as a percentage of total operating income.

Operating leverage/jaws is calculated as the difference between the rates of change for revenue and operating expenses.

Net interest margin is net interest income expressed as a percentage of average[1] interest earning assets.

Change in expected credit losses to average gross loans and advances and acceptances is calculated as the change in expected credit losses[2] as a percentage of average[1] gross loans and advances to customers and acceptances.

Change in expected credit losses on stage 3 loans and advances and acceptances to average gross loans and advances and acceptances is calculated as the change in expected credit losses[2] on stage 3[2] assets as a percentage of average[1] gross loans and advances to customers and acceptances.

Total stage 3 allowance for expected credit losses to gross stage 3 loans and advances and acceptances is calculated as the total allowance for expected credit losses relating to stage 3[2] loans and advances to customers and acceptances as a percentage of stage 3[2] loans and advances to customers and acceptances.

Net write-offs as a percentage of average customer advances and acceptances is calculated as net write-offs as a percentage of average[1] net customer advances and acceptances.

1. *Average balances are calculated using quarter-end balances.*
2. *Effective 1 Jan 2018 under IFRS 9 the terms 'change in expected credit losses' and 'stage 3 assets' are used. The equivalent terms prior to 1 Jan 2018 under IAS 39 are 'loan impairment charges and other credit risk provisions' and 'impaired assets' respectively.*

Financial highlights

Financial performance and position

	Footnote	Year ended 31 Dec 2018[1]	31 Dec 2017	31 Dec 2016
Financial performance for the year ended 31 December				
Total operating income		**2,264**	2,070	2,079
Profit before income tax expense		**991**	895	715
Profit attributable to the common shareholder		**681**	630	486
Change in expected credit losses - release		**27**	n/a	n/a
Loan impairment recoveries/(charges) and other credit risk provisions		**n/a**	108	(107)
Operating expenses		**(1,300)**	(1,289)	(1,255)
Basic and diluted earnings per common share ($)		**1.36**	1.26	0.97
Financial position at 31 December				
Total assets		**103,406**	96,379	94,657
Loans and advances to customers		**57,123**	50,337	46,907
Customer accounts		**59,812**	57,054	56,674
Ratio of customer advances to customer accounts (%)	2	**95.5**	88.2	82.2
Common shareholder's equity		**4,733**	4,860	4,565

Financial and capital measures

	Footnotes	Year ended 31 Dec 2018[1]	31 Dec 2017
Financial measures %	2		
Return on average common shareholder's equity		**14.5**	13.3
Return on average risk-weighted assets	3, 4	**2.3**	2.1
Cost efficiency ratio		**57.4**	62.2
Operating leverage/jaws		**8.5**	(3.1)
Net interest margin		**1.53**	1.50
Change in expected credit losses to average gross loans and advances and acceptances	5	**n/a**	n/a
Change in expected credit losses on stage 3 loans and advances and acceptances to average gross loans and advances and acceptances	5	**n/a**	n/a
Total stage 3 allowance for expected credit losses to gross stage 3 loans and advances and acceptances	5	**35.8**	35.8
Net write-offs as a percentage of average loans and advances and acceptances		**0.15**	0.14
Capital measures	3		
Common equity tier 1 capital ratio (%)		**11.3**	10.5
Tier 1 ratio (%)		**13.4**	12.4
Total capital ratio (%)		**16**	14.7
Leverage ratio (%)		**4.6**	4.9
Risk-weighted assets ($m)		**40,142**	45,035
Liquidity coverage ratio (%)		**132**	137

1. *Effective 1 Jan 2018 the bank adopted IFRS 9 Financial Instruments ('IFRS 9') on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39 Financial Instruments: Recognition and Measurement ('IAS 39').*
2. *Refer to the 'Use of non-IFRS financial measures' section of this document for a discussion of non-IFRS financial measures.*
3. *The bank assesses capital adequacy against standards established in guidelines issued by OSFI in accordance with the Basel III capital adequacy framework.*
4. *In Jan 2018, OSFI announced its decision to update the existing capital floor for institutions using advanced approaches for credit risk and operational risk. Effective from the second quarter of 2018, the capital floor was based on the Standardized approach under Basel II framework with the floor factor transitioned in over three quarters. The floor factor was set at 70% for the second quarter of 2018, increasing to 72.5% in the third quarter of 2018 and 75% in the fourth quarter of 2018.*
5. *Effective 1 Jan 2018 under IFRS 9 the terms 'change in expected credit losses' and 'stage 3 assets' are used. The equivalent terms prior to 1 Jan 2018 under IAS 39 were 'loan impairment charges and other credit risk provisions' and 'impaired assets' respectively. n/a is shown where the bank is in a net release position resulting in a negative ratio.*

Financial performance

Summary consolidated income statement

	Quarter ended		Year ended	
	31 Dec 2018[1]	31 Dec 2017	**31 Dec 2018**[1]	31 Dec 2017
	$m		**$m**	$m
Net interest income	**335**	318	**1,292**	1,177
Net fee income	**164**	159	**673**	653
Net income from financial instruments held for trading (2017: Net trading income)	**26**	31	**136**	125
Other items of income	**40**	32	**163**	115
Total operating income	**565**	540	**2,264**	2,070
Change in expected credit losses- (charge)/release	**(19)**	n/a	**27**	n/a
Loan impairment (charges)/recoveries and other credit risk provisions	**n/a**	(1)	**n/a**	108
Net operating income	**546**	539	**2,291**	2,178
Total operating expenses	**(324)**	(333)	**(1,300)**	(1,289)
Operating profit	**222**	206	**991**	889
Share of profit in associates	**—**	—	**—**	6
Profit before income tax expense	**222**	206	**991**	895
Income tax expense	**(65)**	(54)	**(273)**	(227)
Profit for the period	**157**	152	**718**	668

1. *Effective 1 Jan 2018 the bank adopted IFRS 9 on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39.*

HSBC Bank Canada reported strong results for the quarter and year. Total operating income increased by $25m, or 4.6%, for the quarter and $194m, or 9.4%, for the year as we continue to execute our strategy and focus on growth and value creation, building on our solid momentum while continuing to lay a foundation for future performance.

Our results were driven by higher net interest income from growth in both lending and deposits balances and improved margins from higher interest rates. In addition, higher gains on the disposal of financial investments and increased revenue from information technology services provided to affiliated Group companies also contributed to our results.

In Commercial Banking, growth was seen across most products and business segments which lead to an increase in operating income of $10m, or 4.2%, for the quarter and $69m, or 7.8%, for the year. We continued to invest in growth initiatives and digital capabilities and are seeing the results of our efforts with lending balances growing at the highest level since 2010.

In Global Banking and Markets, total operating income for the quarter decreased by $1m, or 1.3%, as higher net interest income from increased interest rates and credit and lending activities was offset by unfavourable credit and debit valuation, and funding fair value adjustments. For the year, total operating income increased by $29m, or 9.6%, as a result of strong revenue driven by increased infrastructure debt capital markets transactions, increased interest rates, and higher sales and trading in foreign exchange products.

In Retail Banking and Wealth Management, we continued to achieve strong growth in total relationship balances[1] and to grow market share, primarily in deposits and mortgages. This, in addition to higher margins, led to an increase in total operating income of $8m, or 4.5%, for the quarter and $62m, or 9.2%, for the year.

Active risk management together with favourable credit conditions led to a net release of $27m in the change in expected credit losses[2] for the year, a reduction from the elevated recovery levels experienced in 2017. For the quarter, the change in expected credit losses resulted in a charge of $19m as a result of a number of small charges in the non-performing wholesale portfolio, as well as an increase in expected credit losses for performing loans driven by forward looking economic factors in both the wholesale and retail portfolios.

We continue to invest in people and technology to grow our business and make it more convenient for our customers to bank with us. As a result, operating expenses increased in the global businesses. This was partially offset by a decrease in the Corporate Centre as certain restructuring and streamlining initiatives undertaken from 2015 to 2017 are now complete. The overall result was a decrease in operating expenses of $9m, or 2.7%, for the quarter and an increase of $11m, or 0.9%, for the year.

Profit before income tax expense increased by $16m, or 7.8%, for the quarter and $96m, or 10.7%, for the year as strong revenue growth, active risk management, favourable credit conditions and closely managed costs more than covered the cost of business investment.

1. *Total relationship balances are comprised of lending, deposits and wealth balances.*
2. *Effective 1 Jan 2018 under IFRS 9 the term 'change in expected credit losses' is used. The equivalent term prior to 1 Jan 2018 under IAS 39 was 'loan impairment charges and other credit risk provisions'.*

Performance by income and expense item

For the quarter and year-ended 31 December 2018 compared with the same periods in the prior year.

Net interest income

Net interest income increased by $17m, or 5.3%, for the quarter and by $115m, or 9.8%, for the year. Contributing to the increase for both the quarter and the year were volume growth in both lending and deposits within Retail Banking and Wealth Management, and higher loans and advances in Commercial Banking and Global Banking and Markets. In addition, we benefited from improved margins as a result of higher interest rates. This was partially offset by lower interest from impaired loans and a reduction in deposit balances in Commercial Banking and Global Banking and Markets as some of our customers responded to U.S. tax reforms by repatriating balances to their U.S. parent companies.

Summary of interest income by types of assets

		Quarter ended						Year ended					
		31 Dec 2018[1]			31 Dec 2017			**31 Dec 2018[1]**			31 Dec 2017		
	Footnotes	**Average balance**	**Interest income**	**Yield**	Average balance	Interest income	Yield	**Average balance**	**Interest income**	**Yield**	Average balance	Interest income	Yield
		$m	**$m**	**%**	$m	$m	%	**$m**	**$m**	**%**	$m	$m	%
Short-term funds and loans and advances to banks		**785**	**1**	**0.62**	1,179	2	0.70	**804**	**4**	**0.53**	1,137	10	0.88
Loans and advances to customers		**55,095**	**514**	**3.70**	49,171	421	3.42	**52,599**	**1,858**	**3.53**	47,445	1,561	3.29
Reverse repurchase agreements - non-trading		**7,076**	**31**	**1.78**	6,927	21	1.21	**6,782**	**113**	**1.67**	7,495	62	0.83
Financial investments		**24,981**	**126**	**2.01**	23,038	82	1.41	**23,877**	**442**	**1.85**	22,458	277	1.23
Other interest-earning assets		**434**	**2**	**2.28**	—	—	—	**340**	**4**	**1.28**	—	—	—
Total interest-earning assets (A)		**88,371**	**674**	**3.03**	80,315	526	2.61	**84,402**	**2,421**	**2.87**	78,535	1,910	2.43
Trading assets and financial assets designated at fair value	2	**4,422**	**25**	**2.19**	4,887	22	1.79	**4,885**	**101**	**2.06**	5,875	72	1.23
Non-interest-earning assets		**11,941**	**—**	**—**	11,099	—	—	**11,544**	**—**	**—**	11,171	—	—
Total		**104,734**	**699**	**2.65**	96,301	548	2.27	**100,831**	**2,522**	**2.50**	95,581	1,982	2.07

Summary of interest expense by type of liability and equity

		Quarter ended						Year ended					
		31 Dec 2018[1]			31 Dec 2017			**31 Dec 2018[1]**			31 Dec 2017		
	Footnotes	**Average balance**	**Interest expense**	**Cost**	Average balance	Interest expense	Cost	**Average balance**	**Interest expense**	**Cost**	Average balance	Interest expense	Cost
		$m	**$m**	**%**	$m	$m	%	**$m**	**$m**	**%**	$m	$m	%
Deposits by banks	3	**926**	**1**	**0.39**	981	1	0.11	**928**	**2**	**0.25**	952	1	0.10
Financial liabilities designated at fair value - own debt issued		**—**	**—**	**—**	—	—	—	**—**	**—**	**—**	109	1	1.22
Customer accounts	4	**52,700**	**187**	**1.41**	50,394	116	0.92	**51,471**	**623**	**1.21**	49,519	394	0.80
Repurchase agreements - non-trading		**8,807**	**40**	**1.79**	5,433	15	1.14	**7,688**	**128**	**1.66**	5,396	45	0.84
Debt securities in issue and subordinated debt		**14,696**	**96**	**2.60**	11,059	63	2.29	**13,133**	**330**	**2.52**	10,654	235	2.21
Other interest-bearing liabilities		**2,118**	**15**	**2.75**	2,615	13	2.09	**1,852**	**46**	**2.45**	2,299	57	2.49
Total interest bearing liabilities (B)		**79,247**	**339**	**1.69**	70,482	208	1.18	**75,072**	**1,129**	**1.50**	68,929	733	1.06
Trading liabilities	2	**2,008**	**12**	**2.34**	3,092	14	1.84	**2,658**	**58**	**2.18**	3,469	49	1.42
Non-interest bearing current accounts		**6,264**	**—**	**—**	6,393	—	—	**6,141**	**—**	**—**	6,207	—	—
Total equity and other non-interest bearing liabilities		**17,215**	**—**	**—**	16,334	—	—	**16,960**	**—**	**—**	16,976	—	—
Total		**104,734**	**351**	**1.33**	96,301	222	0.92	**100,831**	**1,187**	**1.18**	95,581	782	0.82
Net interest income (A-B)			**335**			318			**1,292**			1,177	

1. *Effective 1 Jan 2018 the bank adopted IFRS 9 on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39. Refer to the table 'Reconciliation of consolidated balance sheet as at 31 December 2017 and 1 Jan 2018' in note 33 of the consolidated financial statements for further details of balance sheet presentation changes.*
2. *Interest income and expense on trading assets and liabilities is reported in 'Net income from financial instruments held for trading' in the consolidated income statement.*
3. *Includes interest-bearing bank deposits only.*
4. *Includes interest-bearing customer accounts only.*

Net fee income

	Quarter ended		Year ended	
	31 Dec 2018	31 Dec 2017[1]	**31 Dec 2018**	31 Dec 2017[1]
	$m	$m	**$m**	$m
Account services	**16**	14	**64**	63
Broking income	**3**	3	**10**	9
Cards	**16**	15	**61**	55
Credit facilities	**80**	68	**294**	269
Funds under management	**46**	49	**190**	191
Imports/exports	**4**	4	**12**	11
Insurance agency commission	**2**	0	**6**	6
Other	**6**	13	**44**	46
Remittances	**9**	7	**34**	30
Underwriting	**7**	9	**47**	49
Fee income	**189**	182	**762**	729
Less: fee expense	**(25)**	(23)	**(89)**	(76)
Net fee income	**164**	159	**673**	653

1. *Certain prior period amounts have been reclassified to conform to the current period presentation.*

Net fee income increased by $5m, or 3.1%, for the quarter and $20m, or 3.1%, for the year. Credit facility fees increased as a result of higher volumes of bankers' acceptances in both periods. This was partially offset in the quarter by reductions in funds under management and underwriting fees, and for the year by lower net credit card revenues related to enhanced credit card rewards and incentives.

Net income from financial instruments held for trading

	Quarter ended		Year ended	
	31 Dec 2018	31 Dec 2017	**31 Dec 2018**	31 Dec 2017
	$m	$m	**$m**	$m
Trading activities	**18**	28	**92**	106
Credit valuation, debit valuation and funding fair value adjustments	**(5)**	(3)	**–**	(1)
Net interest from trading activities	**13**	8	**43**	23
Hedge ineffectiveness	**–**	(2)	**1**	(3)
Net income from financial instruments held for trading (2017: Net trading income)	**26**	31	**136**	125

Net income from financial instruments held for trading for the quarter decreased by $5m, or 16.1%. The decrease was primarily due to unfavourable credit and debit valuation and funding fair value adjustments together with accounting volatility from balance sheet management activities. This was partially offset by increased volumes of foreign exchange transactions, higher net interest from trading activities from higher yields and product mix, and favourable hedge ineffectiveness.

Net income from financial instruments held for trading for the year increased by $11m, or 8.8%, primarily due to increased volumes of foreign exchange transactions, higher net interest from trading activities from higher yields and product mix, and favourable hedge ineffectiveness. This was partially offset by a loss relating to accounting volatility from balance sheet management activities.

Other items of income

	Quarter ended		Year ended	
	31 Dec 2018	31 Dec 2017	**31 Dec 2018**	31 Dec 2017
	$m	$m	**$m**	$m
Changes in fair value of long-term debt (2017: Net expense from financial instruments designated at fair value)	**(2)**	–	**(2)**	(4)
Gains less losses from financial investments	**11**	6	**56**	31
Dividend income	**–**	–	**1**	–
Other operating income	**31**	26	**108**	88
Other items of income	**40**	32	**163**	115

Other items of income increased by $8m, or 25%, for the quarter and $48m, or 41.7%, for the year. The increase for both the quarter and the year was primarily due to higher income from HSBC Group entities for the provision of information technology services to Group companies. In addition, we benefited from higher gains on the disposal of financial investments arising from the re-balancing of the bank’s liquid asset portfolio.

Change in expected credit losses

	Quarter ended	Year ended
	31 Dec 2018[1]	**31 Dec 2018[1]**
	$m	**$m**
Change in expected credit loss - performing loans (stage 1 and 2) - charge	**12**	**8**
Change in expected credit loss - non-performing loans (stage 3) - charge/(release)	**7**	**(35)**
Change in expected credit loss - charge/(release)	**19**	**(27)**

IAS 39 comparative	31 Dec 2017	31 Dec 2017
Collectively assessed recoveries	(15)	(49)
Individually assessed charges/(recoveries)	25	(14)
Loan impairment charges/(recoveries)	10	(63)
Other credit risk provisions	(9)	(45)
Net loan impairment charges/(recoveries) and other credit risk provisions	1	(108)

1. *Effective 1 Jan 2018 the bank adopted IFRS 9 on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39.*

The change in expected credit losses for the quarter was a charge of $19m compared with loan impairment charges and other credit risk provisions of $1m for the same period in the prior year.

The result in the current quarter is primarily due to a number of small charges in the non-performing Commercial Banking portfolio, as well as an increase in expected credit losses for performing loans, driven by forward looking economic factors, across all of the global businesses.

The change in expected credit losses for the year resulted in a release of $27m compared with loan impairment recoveries and other credit risk provisions of $108m for the prior year. The release in the current year was driven by provision releases in the Commercial Banking non-performing portfolio from improving credit conditions primarily relating to specific energy services customers.

The elevated recoveries in 2017 were driven by significant reversals of specific provisions in the energy industry, as well as releases in collective provisions, reflecting overall improvements in credit quality.

Total operating expenses

	Quarter ended		Year ended	
	31 Dec 2018	31 Dec 2017	**31 Dec 2018**	31 Dec 2017
	$m	$m	**$m**	$m
Employee compensation and benefits	**157**	168	**696**	705
General and administrative expenses	**154**	149	**555**	537
Depreciation of property, plant and equipment	**8**	10	**32**	33
Amortization of intangible assets	**5**	6	**17**	14
Total operating expenses	**324**	333	**1,300**	1,289

Total operating expenses decreased by $9m, or 2.7%, for the quarter. We continue to invest in our people and technology to grow all of our global businesses, however, this investment was more than offset by a reduction of operating expenses in the Corporate Centre as certain transformation and streamlining initiatives undertaken from 2015 to 2017 are now complete. In addition, we benefited from lower marketing and depreciation expenses in the quarter.

Total operating expenses increased by $11m, or 0.9%, for the year as we continue to invest in growing our business and making it more convenient for our customers to bank with us. This was partially offset by lower operating expenses in the Corporate Centre, as referenced earlier, plus lower costs associated with a reduction in our office space and leveraging the scale of centralizing specific business activities in the Group.

Share of profit/loss in associates

Share of profit/loss in associates for the quarter and year were nil compared with nil for the quarter and a gain of $6m for the year in 2017. The share of profits represents changes in the value of the bank's investments in private equity funds.

Income tax expense

The effective tax rate for the quarter was 29.4%, compared with 26.1% for the same period in the prior year. The effective tax rate for the year was 27.6%, compared with 25.4% for 2017. The difference for both the quarter and the year was due to additional tax liabilities recorded.

Movement in financial position

Summary consolidated balance sheet

	31 Dec 2018[1] $m	31 Dec 2017 $m
Assets		
Cash and balances at central bank	**78**	411
Trading assets	**3,875**	5,373
Derivatives	**4,469**	3,675
Loans and advances	**58,344**	51,558
Reverse repurchase agreements – non-trading	**5,860**	6,153
Financial investments	**24,054**	22,913
Customers' liability under acceptances	**3,932**	4,801
Other assets	**2,794**	1,495
Total assets	**103,406**	96,379
Liabilities and equity		
Liabilities		
Deposits by banks	**1,148**	1,696
Customer accounts	**59,812**	57,054
Repurchase agreements – non-trading	**8,224**	4,604
Trading liabilities	**2,164**	3,701
Derivatives	**4,565**	3,516
Debt securities in issue	**13,863**	10,820
Acceptances	**3,937**	4,801
Other liabilities	**4,110**	4,477
Total liabilities	**97,823**	90,669
Total equity	**5,583**	5,710
Total liabilities and equity	**103,406**	96,379

1. *Effective 1 Jan 2018 the bank adopted IFRS 9 on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39. Refer to the table "Reconciliation of consolidated balance sheet as at 31 December 2017 and 1 January 2018" in note 33 of the consolidated financial statements for further details of balance sheet presentation changes.*

Assets

Total assets at 31 December 2018 were $103.4bn, an increase of $7.0bn, or 7.3%, from 31 December 2017. This was primarily driven by strong growth in loans and advances of $6.8bn, across all of our global businesses. Commercial Banking saw excellent growth across all regions, in line with our strategic plan, leading to the highest lending balance growth since 2010. Strong branding, innovation, and strategic investments, coupled with competitive mortgage rates led to residential mortgage growth within our Retail Banking and Wealth Management business. Increased trade finance activity led to growth in our Global Banking and Markets business.

Other assets increased by $1.3bn primarily due to higher cash collateral posted as a result of movements in the fair value of the derivative portfolio and higher unsettled balances at the period end. Balance sheet management activities led to an increase in financial investments of $1.1bn.

These increases in assets were partially offset by a reduction in trading assets of $1.5bn as part of normal trading activity and a reduction in customers' liability under acceptances of $0.9bn as a result of lower volumes.

Liabilities

Total liabilities at 31 December 2018 were $97.8bn, an increase of $7.1bn, or 7.9%, from 31 December 2017. Higher repurchase volumes and balance sheet management activities led to an increase in non-trading repurchase agreements of $3.6bn. Debt securities in issue increased by $3bn, primarily due to increased wholesale funding.

Customer accounts increased by $2.8bn primarily as a result of successful campaigns run across all global businesses. This growth was partially offset as some of our customers responded to U.S. tax reforms by repatriating balances to their U.S. parent companies.

These increases were partially offset by a reduction in trading liabilities of $1.5bn due to lower net short positions held at period end as a result of normal trading activities.

Equity

Total equity at 31 December 2018 was $5.6bn, a decrease of $0.1bn, or 2.2%, from 31 December 2017, primarily as a result of profits generated in the period of $0.7bn net of dividends paid in the period of $0.8bn, including a special dividend of $0.4m on HSBC Bank Canada common shares paid during the year.

Global businesses

We manage and report our operations around the following global businesses: Commercial Banking, Global Banking and Markets, and Retail Banking and Wealth Management. The latter segment also includes the run-off Consumer Finance portfolio following a previous decision to wind-down this business in Canada.

Commercial Banking

Commercial Banking ('CMB') offers a full range of commercial financial services and tailored solutions to customers ranging from small enterprises focused primarily on their domestic markets to corporates operating globally. The HSBC Group serves approximately 1.7 million CMB customers globally in 53 countries and territories. Canada is a priority market for HSBC's Commercial Banking business and the fourth largest contributor to CMB profits. We aim to be recognized as the leading international trade and business bank by connecting customers to global markets and by enhancing collaboration within the Group.

Our customers are segmented based on their needs and degree of complexity: Business Banking for small enterprises with standard banking needs; and Corporate Banking for companies with complex banking needs and a global footprint. Our front line is represented in four regions, British Columbia, Prairies, Ontario and Atlantic, and Quebec with dedicated relationship managers supporting either Business Banking or Corporate Banking customers.

Products and services

- *Credit and Lending:* we offer a broad range of domestic and cross-border financing, including overdrafts, corporate cards, term loans and syndicated, leveraged, acquisition and project finance.
- *Global Trade and Receivables Finance:* we support customers' access to the world's trade flows and provide unrivaled experience in addressing today's most complex trade challenges. Our comprehensive suite of products and services, letters of credit, collections, guarantees, receivables finance, supply chain solutions, commodity and structured finance and risk distribution, can be combined into global solutions that make it easier for businesses to manage risk, process transactions and fund activities throughout the trade cycle.
- *Global Liquidity and Cash Management:* we are part of a global network strategically located where most of the world's payments and capital flows originate. We provide local, regional and global transaction banking services including payments, collections, account services, e-commerce and liquidity management via digital platforms such as HSBCNet and HSBC Connect. We have a market leading suite of Renminbi services to support Canadian customers' growing needs.
- *Collaboration:* our CMB franchise represents a key customer base for products and services provided by GB&M and RBWM, including foreign exchange, interest rate, capital markets and advisory services, personal accounts services, wealth management and wealth transition services.

Strategic direction

We support our customers with tailored relationship management and financial solutions to allow them to operate efficiently and to grow. We are focused on creating value from our network which covers 90% of the global GDP, trade and capital flows. This includes providing customers with working capital, term loans, payment services, international trade facilitation, project finance and the expertise for acquisitions and access to the financial markets.

Building long-term relationships with reputable customers is core to our growth strategy and organizational values. We continue to invest in our technology and products to support the growth of our customers in a rapidly changing world. For example, in 2018 the HSBC Group completed the first trade finance transaction on scalable Blockchain technology in the world. It underscores our leadership of the trade finance industry and demonstrates our ability to harness the power of innovation to make transactions easy for our clients, by making it more straightforward, faster and more secure.

In Canada, our strategic plan is focused on growing market share through expansion in the Eastern region (particularly Ontario and Quebec), increasing productivity by deepening product penetration, streamlining processes, leveraging our differentiated product suite in Global Trade and Receivable Finance and Global Liquidity and Cash Management, and building on our position as the leading international bank with enhanced positioning in key trade corridors. In 2018, these strategic actions led to: 16% growth in lending balances - the highest since 2010; 8% revenue growth overall, and double digit revenue growth in multiple regions and segments including the Ontario region, International Subsidiary Banking and the North American Corridor. We continue to enhance our product offering with new products such as Receivable Finance, Supply Chain Finance, Corporate Cards and additional deposit instruments, which is one of the key drivers for our growth. Our investment in online technology and process enhancements has enabled us to drastically increase the speed of completing customer due diligence, to the benefit of new and existing clients. This is reflected in our customer survey, which has shown marked improvement - the percentage of customers rating our onboarding experience as Excellent has doubled since December 2017.

Review of financial performance

Summary income statement

	Year ended	
	31 Dec 2018[1]	31 Dec 2017
	$m	$m
Net interest income	**586**	545
Non-interest income	**368**	340
Total operating income	**954**	885
Change in expected credit losses - release	**38**	n/a
Loan impairment recoveries and other credit risk provisions	**n/a**	93
Net operating income	**992**	978
Total operating expenses	**(403)**	(388)
Profit before income tax expense	**589**	590

1. *Effective 1 Jan 2018 the bank adopted IFRS 9 on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39.*

Overview[1]

Total operating income in Commercial Banking increased by $69m, or 7.8% for the year. Growth was seen across most products and business segments, in line with the execution of our strategic plan, coupled with the benefit of higher interest rates.

Profit before income tax was largely flat, as higher operating income was offset by lower loan impairment recoveries than in the prior year. In addition operating expenses increased as a result of investments in the front line and technology to drive business growth.

Financial performance by income and expense item[1]

Net interest income increased by $41m, or 7.5%. The growth reflects higher loans and advances from new and existing customers and improved margins from interest rate increases. This was partly offset by lower interest recoveries on impaired loans. Deposit balances grew as a result of new product offerings, but this was more than offset by portfolio transfers between global businesses[2] and our customers' response to U.S. tax reforms by repatriating balances to their U.S. parent companies.

Non-interest income increased by $28m, or 8.2%. This was primarily due to higher average bankers' acceptance balances during the period, as well as higher foreign exchange and interest rate swaps revenue.

Change in expected credit losses resulted in a release of $38m, driven mainly by provision releases in the non-performing portfolio from improving credit conditions, primarily relating to specific energy services customers.

Loan impairment recoveries and other credit risk provisions under IAS 39 for the prior year resulted in a recovery of $93m for the year, driven by improving credit conditions, primarily from exposures in the energy sector.

Total operating expenses increased by $15m, or 3.9%. This reflected our continued planned investment in growth initiatives and digital capabilities.

1. *For the year ended 31 Dec 2018 compared with the same period in the prior year.*
2. *Effective 1 Jan 2018, $696m of customer accounts from Commercial Banking were reclassified to Retail Banking and Wealth Management.*

Global Banking and Markets

Global Banking and Markets ('GB&M') provides tailored financial services and products to major government, corporate and institutional customers worldwide. Our comprehensive range of products and solutions across capital financing, advisory and transaction banking services, can be combined and customized to meet clients' specific objectives.

Strategic direction

GB&M continues to pursue its well-established strategy to provide tailored financial solutions, aiming to be a top tier bank to our priority customers. This strategy has evolved to include a greater emphasis on connectivity between HSBC's global businesses across regions leveraging the HSBC Group's extensive distribution network.

We focus on four strategic initiatives:

- leveraging our distinctive geographical network which connects developed and faster-growing regions;
- connecting customers to global growth opportunities;
- being well positioned in products that will benefit from global trends; and
- enhancing collaboration with other global businesses to serve the needs of our international customers.

Operating with high standards of conduct is central to our long-term success and ability to serve customers, and we have clear policies, frameworks and governance in place to support our delivery of that commitment. Our management of financial crime and other risks, and simplifying processes also remain top priorities for GB&M.

Products and services

GB&M takes a long-term relationship management approach to build a full understanding of customers' financial requirements and strategic goals. Customer coverage is centralized in Banking, under relationship managers who work to understand customer needs and provide holistic solutions by bringing together our broad array of products and extensive global network.

Our customer coverage and product teams are supported by a unique customer relationship management platform and a comprehensive customer planning process. Our teams use these platforms to better serve global customers and help connect them to international growth opportunities.

GB&M provides wholesale capital markets and transaction banking services through the following businesses.

- *Credit and Rates:* sells, trades and distributes fixed income securities to customers including corporates, financial institutions, sovereigns, agencies and public sector issuers. They assist customers in managing risk via interest rate derivatives and facilitate customer facing financing activities.
- *Foreign Exchange:* provides spot and derivative products to meet the investment demands of institutional investors, the hedging needs of businesses of all sizes as well as the needs of retail and commercial customers.
- *Capital Financing:* provides clients with a single integrated financing business, focused across a client's capital structure. Our expertise ranges from primary equity and debt capital markets, specialized structured financing solutions such as asset finance, leveraged and acquisition finance, infrastructure project and export finance, transformative merger and acquisition advisory and execution, and relationship-based credit and lending.
- *Global Liquidity and Cash Management:* helps customers move, control, access and invest their cash. Products include non-retail deposit taking and international, regional and domestic payments and cash management services.
- *Global Trade and Receivables Finance* provides trade services to support customers throughout their trade cycle.

Review of financial performance

Summary income statement

	Year ended	
	31 Dec 2018[1]	31 Dec 2017
	$m	$m
Net interest income	**107**	98
Non-interest income	**224**	204
Total operating income	**331**	302
Change in expected credit losses - charge	**(1)**	n/a
Loan impairment recoveries and other credit risk provisions	**n/a**	6
Net operating income	**330**	308
Total operating expenses	**(150)**	(138)
Profit before income tax expense	**180**	170

1. *Effective 1 Jan 2018 the bank adopted IFRS 9 on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39.*

Overview[1]

Global Banking and Markets total operating income increased by $29m, or 9.6%, driven by increased infrastructure debt capital markets transactions, increased interest rates, and higher sales and trading in foreign exchange products.

We continue to leverage the Group's global network to provide products and solutions to meet our global clients' needs. We have also increased the scale of our Multinational business by improving product penetration with existing customers.

For the year, profit before income tax was $180m, an increase of $10m, or 5.9%, as strong revenue growth more than covered the cost of business investment and a higher change in expected credit losses charge for the year, compared to recoveries in the prior year.

Financial performance by income and expense item[1]

Net interest income increased by $9m, or 9.2%, mainly due to the impact of the Bank of Canada interest rate increases in 2017 and 2018, together with increased credit and lending activities.

Non-interest income increased by $20m, or 9.8%, primarily due to higher sales and trading activities in foreign exchange products and infrastructure debt capital markets transactions.

Change in expected credit losses resulted in a charge of $1m compared with loan impairment recoveries and other credit risk provisions of $6m in the prior year. Recoveries in the prior year were a result of the continued improvements in the energy industry.

Total operating expenses increased by $12m, or 8.7%, as we invested in Global Banking client coverage and risk and compliance initiatives.

1. *For the year ended 31 Dec 2018 compared with the same period in the prior year.*

Retail Banking and Wealth Management

Retail Banking and Wealth Management ('RBWM') offers a full range of competitive banking products and services for all Canadians to help them manage their finances, buy their homes, and save and invest for the future. Our business also has an international flavor with a large suite of global investment products and other specialized services available.

HSBC Premier and Advance propositions are aimed at mass affluent and emerging affluent customers who value a relationship based approach to banking. In addition, Jade offers an exclusive service for high-net-worth customers.

These services are offered by a skilled and dedicated team through our national network of branches and ATMs, and via telephone, online and mobile banking.

Products and services

We accept deposits and provide transactional banking services to enable customers to manage their day-to-day finances and save. We offer credit facilities to assist customers with their borrowing requirements, and we provide wealth advisory and investment services to help them to manage their finances.

Strategic direction

In delivering a full range of banking and wealth products and services through our branches and direct channels to individuals we focus on:

- building a consistent, high standard wealth management service for retail customers drawing on our wealth advisory and asset management businesses, putting the customer at the heart of what we do;
- leveraging global expertise to efficiently provide a high standard of banking solutions and service to our customers;
- leveraging our international capabilities to differentiate our offering; and
- investing in transformation activities to improve processes and the customer experience, while reducing cost, uplifting distribution capability (primarily digital) and improving product offering across wealth and retail.

To support these initiatives, we are making deepening customer relationships and enhancing our distribution capabilities a priority. Our management of financial crime and other risks also remain a top priority for RBWM.

Review of financial performance

Summary income statement

	Year ended	
	31 Dec 2018[1]	31 Dec 2017
	$m	$m
Net interest income	**489**	425
Non-interest income	**248**	250
Total operating income	**737**	675
Change in expected credit losses - charge	**(10)**	n/a
Loan impairment recoveries and other credit risk provisions	**n/a**	9
Net operating income	**727**	684
Total operating expenses	**(656)**	(604)
Profit before income tax expense	**71**	80

1. *Effective 1 Jan 2018 the bank adopted IFRS 9 on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39.*

Profit before income tax expense

	Year ended	
	31 Dec 2018[1]	31 Dec 2017
	$m	$m
Ongoing Retail Banking and Wealth Management business	**60**	56
Run-off consumer finance portfolio	**11**	24
Profit before income tax expense	**71**	80

Overview[1]

Total operating income in RBWM increased by $62m, or 9.2%. We continued to achieve strong growth in total relationship balances[2] and to grow market share primarily in deposits and mortgages, due to strong branding, innovation and strategic investments to make our bank simpler, faster and better for our clients.

During the year we introduced competitive qualification criteria for customers in our Premier and Advance propositions, launched a Mortgage Centre, a specialist group specifically created to better serve our mortgage customers, and waived our foreign exchange fees on outgoing transfers up to a certain limit. We also continued to invest in digital technologies, including, digital customer on-boarding and online originations of credit cards to customers. In addition, we launched a new mobile banking app and HSBC Wealth Compass™, a simple way to receive advice and invest online, and automated mortgage renewals to improve turnaround time for our customers.

Profit before income tax expense decreased by $9m, or 11.3%, due to continued investments to grow our business, the higher cost base associated with our enhanced service model, and to support the growth already achieved. For example, we continued to invest in the roll-out of retail business banking, unsecured lending, and Jade, an exclusive service for high-net-worth customers. Profit before income tax was further impacted by the change in expected credit losses and lower revenue from our run-off consumer finance portfolio, which are discussed in more detail below. These increases were partly offset by higher revenues due to strong growth in total relationship balances[2], and benefit from higher margins.

Profit before income tax expense relating to the run-off consumer finance portfolio decreased by $13m, or 54.2%, primarily due to lower expected credit loss recoveries and lower interest income from declining loan balances.

Financial performance of the ongoing business by income and expense item[1]

Net interest income was $478m, an increase of $69m, or 16.9%, primarily due to growth in both lending and deposits balances and higher margins.

Non-interest income was $248m, mostly unchanged compared with prior year.

Change in expected credit losses resulted in a charge of $14m, primarily due to the impact of forward looking economic factors on our real estate secured personal lending portfolio and write-offs.

Loan impairment charges and other credit provisions for the prior year resulted in a charge of $3m primarily due to write-offs, net of recoveries related to our cards portfolio.

Total operating expenses were $652m, an increase of $53m, or 8.8%. This was primarily due to strategic investments to grow our business and higher cost base associated with offering an enhanced service model to our growing client base.

1. *For the year ended 31 Dec 2018 compared with the same period in the prior year.*
2. *Total relationship balances is comprised of lending, deposits and wealth balances.*

Corporate Centre

Corporate Centre contains Balance Sheet Management; interests in associates and joint ventures; the results of movements in fair value of own debt; income related to information technology services provided to HSBC Group companies on an arm's length basis with associated recoveries; and other transactions which do not directly relate to our global businesses.

Review of financial performance

Summary income statement

	Year ended	
	31 Dec 2018[1]	31 Dec 2017
	$m	$m
Net interest income	**110**	109
Non-interest income	**132**	99
Net operating income	**242**	208
Total operating expenses	**(91)**	(159)
Operating profit	**151**	49
Share of profit in associates	**–**	6
Profit before income tax expense	**151**	55

1. *Effective 1 Jan 2018 the bank adopted IFRS 9 on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39.*

Overview[1]

Net operating income increased by $34m, or 16.3%, primarily as a result of higher gains from the disposal of securities as part of balance sheet management activities.

Operating expenses decreased by $68m, or 42.8%, as we completed certain transformation and streamlining initiatives undertaken from 2015 to 2017.

The impact of these movements was an increase in profit before income tax of $96m for the year.

1. *For the year ended 31 Dec 2018 compared with the same period in the prior year.*

Summary quarterly performance

Summary consolidated income statement

	Quarter ended							
	2018[1]				2017			
	Dec 31	**Sep 30**	**Jun 30**	**Mar 31**	Dec 31	Sep 30	Jun 30	Mar 31
	$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Net interest income	**335**	**332**	**319**	**306**	318	292	285	282
Net fee income	**164**	**175**	**179**	**155**	159	169	165	160
Net income from financial instruments held for trading (2017: Net trading income)	**26**	**35**	**39**	**36**	31	41	22	31
Other items of income	**40**	**46**	**33**	**44**	32	26	24	33
Total operating income	**565**	**588**	**570**	**541**	540	528	496	506
Change in expected credit losses - (charge)/release	**(19)**	**7**	**11**	**28**	n/a	n/a	n/a	n/a
Loan impairment (charges)/recoveries and other credit risk provisions	**n/a**	**n/a**	**n/a**	**n/a**	(1)	14	46	49
Net operating income	**546**	**595**	**581**	**569**	539	542	542	555
Total operating expenses	**(324)**	**(324)**	**(334)**	**(318)**	(333)	(327)	(318)	(311)
Operating profit	**222**	**271**	**247**	**251**	206	215	224	244
Share of profit/(loss) in associates	**–**	**–**	**–**	**–**	–	3	4	(1)
Profit before income tax expense	**222**	**271**	**247**	**251**	206	218	228	243
Income tax expense	**(65)**	**(73)**	**(67)**	**(68)**	(54)	(56)	(60)	(57)
Profit for the period	**157**	**198**	**180**	**183**	152	162	168	186
Profit attributable to:								
– common shareholder	**148**	**189**	**171**	**173**	142	153	158	177
– preferred shareholder	**9**	**9**	**9**	**10**	10	9	10	9
Basic and diluted earnings per common share ($)	**0.29**	**0.38**	**0.34**	**0.35**	0.28	0.31	0.32	0.35

1. *Effective 1 Jan 2018 the bank adopted IFRS 9 on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39.*

Comments on trends over the past eight quarters

Net interest income has been trending upwards from the third quarter of 2017 as a result of increased interest rates together with growth in loans and advances and customer accounts, following a period of relative stability in the early part of 2017.

Net fee income decreased in the fourth quarter of 2018 as a result of lower underwriting fees and higher credit card reward incentives paid to new customers together with higher clearing fees expenses due to the timing of expenses. This follows two quarters of strong growth, primarily as a result of higher credit facility fees as bankers' acceptance volumes grew and higher underwriting fees. Fee income declined in the fourth quarter of 2017 due to lower underwriting fees following steady growth for the first three quarter 2017.

Due to the nature of net income from financial instruments held for trading, it can fluctuate from quarter to quarter. Net income from financial instruments held for trading increased in 2018, primarily as a result increased volumes of foreign exchange transactions, higher net interest from trading activities from higher yields and product mix, and favourable hedge ineffectiveness. This was partially offset by a loss relating to accounting volatility from balance sheet management activities.

Other items of income include gains and losses from the sale of financial investments, which can fluctuate quarterly due to underlying balance sheet management activities. In addition, it includes income from Group entities, which can fluctuate due to the timing of recharges to Group. For the year, other items of income increased as a result of higher income from HSBC Group entities for information technology services performed by the bank, together with higher gains on the disposal of financial investments arising from the re-balancing of the bank's liquid asset portfolio.

Effective 1 January 2018 the bank adopted IFRS 9. Strong credit performance together with active risk management led to a net release on the change in expected credit losses[1] for most periods since the beginning of 2017, although this has reduced in 2018 from the high release levels experienced in the prior year. 2017 saw recoveries from improvements in several sectors, primarily the energy services sector. The fourth quarter of 2017 saw an increase in specific loan impairment charges in Commercial Banking, leading to a net charge for that period. The first three quarters of 2018 saw recoveries as a result of improvements in several sectors, most notably the energy services and manufacturing sector, together with allowance reversals relating to certain energy services, manufacturing, construction, and real estate companies. There was a charge of $19m in the fourth quarter of 2018 as a result of a number of small charges in the non-performing wholesale portfolio, as well as an increase in expected credit losses for performing loans driven by forward looking economic factors in both the wholesale and retail portfolios.

On a year-to-date basis there has been a small (0.9%) increase in operating expenses. From 2015 - 2017 operating expenses increased as we invested in risk and compliance activities and certain restructuring and streamlining initiatives. Our focus is now on growing our business in support of our strategic plan, and operating expenses have increased to reflect this, partially offset by lower costs associated with a reduction in office space and leveraging the scale of centralizing specific business activities throughout the Group. The timing of expenses incurred led to the variances between the quarters.

1. *Effective 1 Jan 2018 under IFRS 9 the term 'Change in expected credit losses' is used. The equivalent term prior to 1 Jan 2018 under IAS 39 was 'Loan impairment charges and other credit risk provisions'.*

Economic review and outlook

The predictions and forecasts in this section are based on information and assumptions from sources we consider reliable. If this information or these assumptions are not accurate, actual economic outcomes may differ materially from the outlook presented in this section.

The headwinds facing the economy stiffened toward the end of 2018. Not the least of these headwinds was intense downward pressure on a key Canadian oil price benchmark, Western Canada Select ('WCS'). The decline in WCS arose owing to a confluence of developments, including a significant increase in production over the past two years that absorbed remaining pipeline export capacity coupled with almost full capacity of storage facilities. As a result, WCS fell to a record low price of USD13.50 per barrel. In response, the Province of Alberta announced in early December 2018 that it was mandating a cut in oil production of 325,000 bbl/day to start in January 2019. The Federal government also announced a support package for the oil sector. While these policy moves lifted the downward pressure on WCS, they reflect the challenges that will limit exports, employment and investment in the oil patch in early 2019.

There were other challenges as well, most notably, increased trade tensions between the U.S. and China. This created heightened uncertainty about global economic growth in 2019 that weighed on global stock market indices and commodity prices. Amid these developments, a barometer of small business sentiment produced by the Canadian Federation of Independent Businesses in December posted its largest monthly drop since the 2008/09 financial crisis.

These developments are set to weigh on GDP growth in Q4 2018 and Q1 2019. In our most recent forecast, we project that GDP growth in these two quarters will average 1.3%. This is down from an average 1.7% in our prior forecast. With these downward revisions, we have lowered our forecast for economic growth in 2019 to 1.6%.

However, as headwinds dissipate, GDP growth is expected to improve through the rest of 2019, and we look for GDP growth to pick up to 1.8% in 2020. We had previously anticipated economic growth of 1.7% in both 2019 and 2020.

Free Trade Agreements

A notable potential positive for the economy is that Canada now has free trade deals with 51 countries. This includes NAFTA, which remains in force until the Canada, U.S., Mexico Agreement ('CUSMA') is approved. It also includes free trade with the 28 nations of the European Union, as the Comprehensive Economic and Trade Agreement ('CETA') has been in force on a provisional basis since September 2017. Most recently, Canada has added more free trade counterparties as the Comprehensive and Progressive Trans-Pacific Partnership ('CPTTPP') came into force at the end of 2018 in six Pacific Basin countries - Australia, Japan, Mexico, New Zealand and Singapore, as well as Canada.

Canada's recent push to increase the number of free trade partners has come amid an increase in protectionist sentiment, most notably in the U.S. However, the sheer number of free trade partners gives Canadian firms a unique opportunity to seek a more diverse set of global customers. While current global economic turbulence might lead to firms postponing efforts to boost exports, we think that firms should respond quickly to expand knowledge on potential export markets, so that trade can expand as global headwinds dissipate. We expect increased free trade agreements to result in exports growing.

Drivers

Despite the export growth, we continue to see Canadian economic growth remaining moderate in the next few years. A key reason for this is that we believe that housing and household consumption will provide less support than in recent years. In part, this will reflect higher interest rates that will result in households having to devote more resources to debt service. We also believe that job and income growth will be more moderate compared to 2017 and 2018. This will squeeze disposable incomes and could lead to some households struggling to make ends meet.

One measure of the pressure that the household sector face is that mortgage interest costs, as reported in the Consumer Price Index, have increased by 7.2% over the past year, the fastest rate of increase in a decade. Other costs have also increased, including home and auto insurance premiums, property taxes, child care and housekeeping costs, and, until very late in 2018, gasoline prices.

In our view, the upward pressure on prices is not a reflection of excess demand. For example, rising mortgage interest costs reflect Bank of Canada rate hikes. Meanwhile, rising home insurance premiums reflect the response of insurance companies to increasing claims caused by extreme weather events. Similarly, rising auto insurance premiums also reflect an increase in claims, this time related to the growing number of distracted driving accidents and the rising costs of auto-body repairs. Child care and housekeeping costs have also risen as a result of mandated increases in minimum wages, and, other charges, such as carbon taxes and property taxes, are rising as a result of government policy measures.

Hence, we see the main sources of inflation as squeezing disposable income, particularly as many of these expenditures are difficult to avoid. We have thus observed that retail sales growth has virtually stalled compared to a rate of growth of 8% year-on-year in mid-2017. This occurred even as households strove to support spending by reducing savings. The savings rate fell to 0.8% of disposable income in Q3 2018 from an already low 1.3% in Q1 2018. The Bank of Canada's 9 January 2019 policy statement conceded that consumption spending and housing investment have been weaker than expected. We believe that the slowdown in consumption is a reflection of the increased sensitivity of the household sector to higher interest rates owing to historically high levels of outstanding debt.

Another reason housing markets have slowed is due to the tighter mortgage regulations introduced in January 2018. These new regulations have made it more difficult for potential homeowners to take excessive financial risk to enter the housing market. As a result, mortgage borrowers in 2018 are generally better able to manage increased interest rates. Nonetheless, the private non-financial debt-to-GDP ratio remains historically high at nearly 215%.

Given the high level of debt, we expect the Bank of Canada to raise rates slightly from the current 1.75%. The Bank of Canada has discussed raising rates to neutral, which would be a policy rate between 2.5% and 3.5%. However, we expect the vulnerability of the economy to interest rates will limit the policy rate increases to just 2.25%.

Regulatory developments

Like all Canadian financial institutions, we face an increasing pace of regulatory change. The following is a summary of some key regulatory changes with the potential to impact our results or operations:

Deposit Insurance Modernization

Changes to the Canada Deposit Insurance ('CDIC') Act passed on 21 June 2018 have expanded the scope of CDIC coverage to foreign currency deposits for the first time as well as other types of deposits not previously covered. In addition, new rules for classifying and collecting mandatory information about trust accounts are being introduced to aid in fast resolution of claims in the event of bank failure. The bank is in the process of considering the impact of these changes.

Consumer Protection

The Financial Consumer Agency of Canada ('FCAC') conducted a comprehensive review of Canadian bank sales practices in 2018 and also issued a report on best practices in financial consumer protection. Amendments were subsequently made to the Bank Act in December 2018 to add a Financial Consumer Protection framework which includes new obligations for banks related to disclosure, corporate governance, business conduct and protection of retail consumers. Greater powers have also been given to the FCAC through legislative amendments passed in December 2018.

Privacy

Effective 1 November 2018, banks became required under Federal Privacy Law to keep records of all personal information breaches and to report breaches above a certain threshold to the Federal Privacy Commissioner and the individuals affected by the breach. The Privacy Commissioner is calling for further legislative reforms to grant the Commissioner authority to commence investigations and levy fines against organizations for non-compliance. We do not anticipate the impact of these changes to be significant to the bank.

Payments Modernization

Planned modernization of Canada's national payments infrastructure will replace existing platforms with new core systems that will operate under an enhanced risk, regulatory and rules framework. Once implemented, the enhanced regime is expected to help clear transactions faster and more frequently for customers.

Open Banking

The Department of Finance launched consultations in January 2019 on the merits of introducing Open Banking into the Canadian marketplace. Open Banking has the potential to drive changes to traditional bank business models.

Prudential Regulatory Reform

Revisions to capital adequacy reporting guidelines

Revised Basel Capital Floor

On 12 January 2018, OSFI announced its decision to update the existing capital floor for institutions using advanced approaches for credit risk and operational risk. The capital floor of 90%, based on the Basel I capital accord, was replaced by a more risk-sensitive capital floor based on the Basel II framework. It was implemented effective the second quarter of 2018 with the floor factor transitioned in over three quarters. The floor factor was set at 70% in the second quarter of 2018, increasing to 72.5% in the third quarter of 2018 and 75% in the fourth quarter of 2018. The capital floor will be further updated over time as changes are made to OSFI's capital framework. This interim step will improve the risk-sensitivity of the capital floor while ensuring the objectives of the floor continue to be met until the proposed implementation of the Basel III capital floor begins in 2022.

Revised Standardized Approach for Measuring Counterparty Credit Risk Exposures ('SA-CCR')

Starting 1 January 2019, counterparty credit risk exposures arising from derivatives are calculated under SA-CCR, a new Basel Committee on Banking Supervision Standardized approach adopted by OSFI. Capital requirements for exposures to central counterparties have also been revised. The impact of these changes on credit risk RWA, Credit Valuation Adjustment RWA and Leverage Ratio is immaterial.

Basel III Reforms

In December, 2017 the Basel Committee ('Basel') published revisions to the Basel III framework with the key objectives to reduce variability of Risk Weighted Assets and provide a regulatory foundation for a resilient Banking System. The final package includes widespread changes to the risk weights under the standardized approach to credit risk; a change in the scope of application of the internal ratings based ('IRB') approach to credit risk; revisions to the IRB methodology, operational risk and credit valuation adjustment ('CVA') capital framework; aggregate output capital floor; and changes to the exposure measure for the leverage ratio. Basel has announced that the package will be implemented on 1 January 2022.

Canada

OSFI expressed its support for implementing the Basel III reforms published by the Basel in December 2017. However, in July, 2018 OSFI proposed to make certain modifications to the reforms for implementation in Canada, with the objective to accommodate the unique characteristics of the Canadian market. We have provided response to the consultation paper through Canadian Bankers' Association in October 2018. We will participate in OSFI's domestic consultations on the revised Basel III reforms rules in 2019.

Revisions to the Minimum capital requirements for market risk

In January, 2019, the Basel published its final standard on the Minimum capital requirements for market risk, upon the completion of the fundamental review of the trading book ('FRTB') project. The standard specified stricter criteria for the assignment of instruments to the trading book; overhauled the internal models approach to better address risks; reinforced the supervisory approval process; and introduced a new, more risk-sensitive standardized approach. This revised standard is expected to come into effect on 1 January 2022.

Critical accounting estimates and judgments

The preparation of financial information requires the use of estimates and judgments about future conditions.

In view of the inherent uncertainties and the high level of subjectivity involved in the recognition or measurement of items discussed below, it is possible that the outcomes in the next financial year could differ from those on which management's estimates are based, resulting in materially different conclusions from those reached by management for the purposes of the 2018 consolidated financial statements. Management's selection of the bank's accounting policies which contain critical estimates and judgments are discussed below; it reflects the materiality of the items to which the policies are applied and the high degree of judgment and estimation uncertainty involved.

Expected credit loss

The bank's accounting policy for determining expected credit loss ('ECL') is described in note 2. The most significant judgments 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 which are highly subjective and very sensitive to the risk factors.

The probability of default ('PD'), loss given default ('LGD'), and exposure at default ('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 recently been applied, there has been limited time available to make these comparisons. Therefore, the underlying models and their calibrations, including how they react to forward-looking economic conditions, remain subject to refinement. This is particularly relevant for lifetime PDs, which have not been previously used in regulatory modeling and for incorporation of 'upside scenarios' which have not generally been subject to experience gained through stress testing.

The exercise of judgment in making estimations requires the use of assumptions which 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 'measurement uncertainty and sensitivity analysis of ECL estimates' section of this report sets out the assumptions underlying the scenarios and information about how scenarios are developed in relation to the bank's top and emerging risks and its judgments, informed by consensus forecasts of professional industry forecasters.

Hedge accounting

Currently, the most significant accounting judgments regarding the replacement of interbank lending benchmark interest rates relate to continuing hedge accounting for those hedging relationships which refer to the Interbank Offered Rates ('IBOR') benchmark portion of cash flows or risk.

Various jurisdictions are in the process of replacing existing interbank benchmark unsecured interbank lending rates with alternative risk free rates, and different jurisdictions are moving at different speeds with different solutions for replacements. There is uncertainty as to the timing and the method of transition for many products, and whether some existing benchmarks will continue to be supported in some way. Judgment is needed to determine how the existing hedge accounting relationships are impacted by the transition. On balance, there is sufficient support for continuing hedge accounting for those relationships which are impacted.

Valuation of financial instruments

The bank's accounting policy for determining the fair value of financial instruments is described in note 2. The best evidence of fair value is a quoted price in an actively traded principal market. The fair values of financial instruments that are quoted in active markets are based on bid prices for assets held and offer prices for liabilities issued. When a financial instrument has a quoted price in an active market, the fair value of the total holding of the financial instrument is calculated as the product of the number of units and the quoted price. The judgment as to whether a market is active may include, but is not restricted to, consideration of factors such as the magnitude and frequency of trading activity, the availability of prices and the size of bid/offer spreads. The bid/offer spread represents the difference in prices at which a market participant would be willing to buy compared with the price at which they would be willing to sell. Valuation techniques may incorporate assumptions about factors that other market participants would use in their valuations, including:

- the likelihood and expected timing of future cash flows on the instrument. Judgment may be required to assess the counterparty's ability to service the instrument in accordance with its contractual terms. Future cash flows may be sensitive to changes in market rates;
- selecting an appropriate discount rate for the instrument. Judgment is required to assess what a market participant would regard as the appropriate spread of the rate for an instrument over the appropriate risk-free rate; and
- judgment to determine what model to use to calculate fair value in areas where the choice of valuation model is particularly subjective, for example, when valuing complex derivative products.

A range of valuation techniques is employed, dependent on the instrument type and available market data. Most valuation techniques are based upon discounted cash flow analyses, in which expected future cash flows are calculated and discounted to present value using a discounting curve. Prior to considering credit risk, the expected future cash flows may be known, as would be the case for the fixed leg of an interest rate swap, or may be uncertain and require projection, as would be the case for the floating leg of an interest rate swap. 'Projection' utilizes market forward curves, if available. In option models, the probability of different potential future outcomes must be considered. In addition, the value of some products is dependent on more than one market factor, and in these cases it will typically be necessary to consider how movements in one market factor may affect the other market factors. The model inputs necessary to perform such calculations include interest rate yield curves, exchange rates, volatilities, correlations and prepayment and default rates. For interest rate derivatives with collateralized counterparties and in significant currencies, the bank uses a discount curve that reflects the overnight interest rate.

The majority of valuation techniques employ only observable market data. However, certain financial instruments are valued on the basis of valuation techniques that feature one or more significant market inputs that are unobservable, where the measurement of fair value is more judgmental. An instrument in its entirety is classified as valued using significant unobservable inputs if, in the opinion of management, a significant proportion of the instrument's inception profit or 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).

Income taxes and deferred tax assets

The bank's accounting policy for the recognition of income taxes and deferred tax assets is described in note 2. Tax laws are complex and can be subject to interpretation. Management applies its own judgment to the application and interpretation of tax laws, but the interpretation by the relevant tax authorities may differ. Tax liabilities are recognized based on best estimates of the probable outcome. If the final outcome is in favor of the decisions made by the relevant tax authorities, additional liabilities and expense in excess of the amounts recorded may result.

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. The most significant judgments relate to expected future profitability and to the applicability of tax planning strategies, including corporate reorganizations.

Defined benefit obligations

The bank's accounting policy for the recognition of defined benefit obligations is described in note 2. As part of employee compensation, the bank provides certain employees with pension and other post-retirement benefits under defined benefit plans which are closed to new entrants. In consultation with its actuaries, the bank makes certain assumptions in measuring its obligations under these defined benefit plans as presented in note 5.

The principal actuarial financial assumptions used in calculation of the bank's obligations under its defined plans are in respect of discount rate and rate of pay increase that form the basis for measuring future costs under the plans. The discount rates to be applied to its obligations are determined on the basis of the current and approximate average yield of high quality Canadian corporate bonds, with maturities consistent with those of the defined benefit obligations. Assumptions regarding future mortality are based on published mortality tables.

Changes in accounting policy during 2018

The bank 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 considered to be significant. IFRS 9 includes an accounting policy choice to remain with IAS 39 hedge accounting, which the bank 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, the bank has not restated comparatives. The impact of adoption on net assets as at 1 January 2018 is set out in note 33.

The bank has adopted the requirements of IFRS 15 'Revenue from contracts with customers' from 1 January 2018. In accordance with the IFRS 15 options, the bank has applied the standard retrospectively with the cumulative impact of adopting the standard recognized at the date of initial application as an adjustment to the opening balance of retained earnings. As the bank has determined that the adoption of IFRS 15 has no significant impact on the consolidated financial statements of the bank, no adjustment has been made to retained earnings.

In addition, the bank has adopted a number of interpretations and amendments to standards which have had an insignificant effect on the consolidated financial statements of the bank.

Future accounting developments

The International Accounting and Standards Board ('IASB') have issued standards on leases and insurance contracts in 2017 and previous years which are discussed below and which may represent significant changes to accounting requirements in the future.

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 recognize a right of use ('ROU') asset and a corresponding financial liability on the balance sheet. The asset will be amortized over the length of the lease, and the financial liability measured at amortized cost. Lessor accounting remains substantially the same as under IAS 17. At 1 January 2019, the bank will adopt the standard and use a modified retrospective approach where the cumulative effect of initially applying the standard is recognized as an adjustment to the opening balance of retained earnings and comparative balances are not restated. The implementation is expected to increase assets (ROU assets) by approximately $275m and increase financial liabilities by the same amount with no effect on net assets or retained earnings.

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 effective from 1 January 2021, although the IASB is considering delaying the mandatory implementation date by one year. The bank is considering the impact of IFRS 17 on the consolidated financial statements of the bank.

Off-balance sheet arrangements

As part of our banking operations, we enter into a number of off-balance sheet financial transactions that have a financial impact, but may not be recognized in our financial statements. These types of arrangements are contingent and may not necessarily, but in certain circumstances could, involve us incurring a liability in excess of amounts recorded in our consolidated balance sheet. These arrangements include guarantees and letters of credit.

Guarantees and letters of credit

We routinely issue financial and performance guarantees and documentary and commercial letters of credit on behalf of our customers to meet their banking needs. Guarantees are often provided on behalf of customers' contractual obligations, particularly providing credit facilities for customers' overseas trading transactions and in construction financings. Letters of credit are often used as part of the payment and documentation process in international trade arrangements.

Although guarantees and letters of credit are financial instruments, they are considered contingent obligations and the notional amounts are not included in our financial statements, as there are no actual advances of funds. Any payments actually made under these obligations are recorded as loans and advances to our customers. In accordance with accounting standards for financial instruments, we record the fair value of guarantees made on behalf of customers.

For credit risk management purposes, we consider guarantees and letters of credit to be part of our customers' credit facilities, which are subject to appropriate risk management procedures. Guarantees and letters of credit are considered to be part of our overall credit exposure, as set out in the analysis of our loan portfolio of the MD&A.

Further details on off-balance sheet arrangements can be found in note 28.

Financial instruments

Due to the nature of the bank's business, financial instruments compose a large proportion of our Balance Sheet, from which the bank can earn profits in trading, interest, and fee income. Financial instruments include, but are not limited to, cash, customer accounts, securities, loans, acceptances, hedging and trading derivatives, repurchase agreements, securitization liabilities and subordinated debt. We use financial instruments for both non-trading and trading activities. Non-trading activities include lending, investing, hedging and balance sheet management. Trading activities include the buying and selling of securities and dealing in derivatives and foreign exchange as part of facilitating client trades and providing liquidity and, to a lesser extent, market making activity.

Financial instruments are accounted for according to their classification and involves the use of judgment. A detailed description of the classification and measurements of financial instruments is included in note 2.

The use of financial instruments has the potential of exposing the bank to, or mitigating against, market, credit and/or liquidity risks. A detailed description of how the bank manages these risks can be found on page 26 of the MD&A.

Disclosure controls and procedures and internal control over financial reporting

Disclosure controls and procedures are designed to provide reasonable assurance that all relevant information required to be disclosed in reports filed or submitted under Canadian securities laws is recorded, processed, summarized and reported within the time periods specified under those laws. These include controls and procedures that are designed to ensure that information is accumulated and communicated to management, including the Chief Executive Officer ('CEO') and the Chief Financial Officer ('CFO'), to allow timely decisions regarding required disclosure.

Internal control over financial reporting is designed to provide reasonable assurance that the financial reporting is reliable and that consolidated financial statements are prepared in accordance with IFRS. Management is responsible for establishing and maintaining adequate internal control over financial reporting. These controls include those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the bank;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of the consolidated financial statements in accordance with IFRS and that receipts and expenditures of the bank are being made only in accordance with authorizations of management; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the bank's assets that could have a material effect on the consolidated financial statements.

Because of the inherent limitations, internal control over financial reporting may not prevent or detect misstatements on a timely basis. Furthermore, projections of any evaluation of the effectiveness of internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

During 2018, management has evaluated, with the participation of, or under the supervision of, the CEO and the CFO, the effectiveness of our disclosure controls and procedures and the design and effectiveness of the internal control over financial reporting as required by the Canadian securities regulatory authorities under National Instrument 52-109. The evaluation of internal control over financial reporting was performed using the framework and criteria established in the Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission in May 2013. Based on these evaluations, management has concluded that the design and operation of these disclosure controls and procedures and internal control over financial reporting were effective as at 31 December 2018.

Changes in internal control over financial reporting

There were no changes in our internal control over financial reporting during the year ended 31 December 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. On 1 January 2018, HSBC Bank Canada adopted IFRS 9. Relevant internal controls over financial reporting have been updated and modified as a result of the new accounting standard.

Related party transactions

We enter into transactions with other HSBC affiliates, as part of the normal course of business, such as banking and operational services. In particular, as a member of one of the world's largest financial services organizations, we share in the expertise and economies of scale provided by the HSBC Group. We provide and receive services or enter into transactions with a number of HSBC Group companies, including sharing in the cost of development for technology platforms used around the world and benefit from worldwide contracts for advertising, marketing research, training and other operational areas. These related party transactions are on terms similar to those offered to non-related parties and are subject to formal approval procedures that have been approved by the bank's Conduct Review Committee. Further details can be found in note 30.

All of our common shares are indirectly held by HSBC Holdings as a wholly-owned subsidiary.

Risk

(Disclosures marked as audited should be considered audited in the context of the financial statements taken as a whole.)

Risk management

This section describes the enterprise risk management framework, and the significant policies and practices employed by the bank in managing its material risks, both financial and non-financial.

Our risk management framework

We use an enterprise risk management framework across the organization and across all risk types. It is underpinned by our risk culture and is reinforced by the HSBC Values.

The framework fosters continuous monitoring of the risk environment, and promotes risk awareness, and 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 summarize key aspects of the framework, including governance and structure, our risk management tools and our risk culture, which together help align employee behavior with our risk appetite.

Key components of our risk management framework

HSBC Values and risk culture		
Risk governance	**Non-executive risk governance**	The Audit and Risk Committee of the Board approves the bank's risk appetite, plans and performance targets.
	Executive risk governance	Responsible for the enterprise-wide management of all risks, including key policies and frameworks for the management of risk.
Roles and responsibilities	**Three lines of defence model**	Our three lines of defence model defines roles and responsibilities for risk management. An independent Risk function helps ensure the necessary balance in risk/return decisions.
Processes and tools	**Risk appetite**	Processes to identify/assess, monitor, manage and report risks to ensure we remain within our risk appetite.
	Enterprise-wide risk management tools	
	Active risk management; identification/assessment, monitoring, management and reporting	
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.
	Systems and infrastructure	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 the bank's norms, attitudes and behaviours related to risk awareness, risk taking and risk management.

HSBC Bank Canada has long recognized 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. 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 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 whistleblowing platform, HSBC Confidential, allowing staff to report matters of concern confidentially.

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.

Risk Governance

The Board through its Audit and Risk Committee ('ARC') has ultimate responsibility for the effective management of risk and approves the bank's risk appetite.

Executive accountability for the ongoing monitoring, assessment and management of the risk environment and overseeing the development and implementation of the risk management framework resides with the Chief Risk Officer. He is supported by the Risk Management Meeting of the bank's senior executives ('RMM').

The management of financial crime risk resides with the Head of Financial Crime Risk. She is supported by the Financial Crime Risk Management Committee.

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 business and functional structures.

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 summarized in the following table.

Governance structure for the management of risk

Authority	Membership	Responsibilities include:
Risk Management Meeting	Chief Risk Officer Chief Executive Officer Chief Finance Officer Chief Operating Officer Head of Regulatory Compliance Head of Financial Crime Risk Head of Human Resources Head of Communications General Counsel Heads of the three lines of business	• Supporting the 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, analyzing possible risk impacts and taking appropriate action • Monitoring all categories of risk and determining appropriate mitigating action • Promoting a supportive culture in relation to risk management and conduct

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 summarized below:

- The first line of defence owns the risks and is responsible for identifying, recording, reporting and managing the risks, 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 risk management framework and control governance process.

Risk function

We have a Risk function, headed by the Chief Risk Officer, which is responsible for the bank's risk management framework. This responsibility includes establishing policy, monitoring risk profiles, and forward-looking risk identification and management. The Risk function is made up of sub-functions covering all risks to our operations and forms part of the second line of defence. It is independent from the businesses, to provide challenge, appropriate oversight and balance in risk/return decisions.

Enterprise-wide risk management tools

The bank uses a range of tools to identify, monitor and manage risk. The key enterprise-wide risk management tools are summarized below.

Risk appetite

The Risk Appetite Statement ('RAS') is a written articulation of the aggregate level and types of risk that the bank is willing to accept in order to achieve its business objectives. It provides a baseline for business decisions based on balancing risk and return, and making the best use of our capital. The RAS is interlinked with the bank's strategic and financial plans, as well as remuneration. The RAS consists of qualitative statements and quantitative metrics, covering financial and non-financial risks and is formally approved by the Audit and Risk Committee of the Board every six months on the recommendation of the Chief Risk Officer supported by the RMM. It is fundamental to the development of business line strategies, strategic and business planning and senior management balanced scorecards.

Performance against the RAS is reported to the RMM on a monthly basis so that any actual performance which 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.

Risk map

The risk map provides a point-in-time view of the bank's risk profile across the risk taxonomy. It assesses the potential for these risks to have a material impact on the bank'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.

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 the HSBC Group and global businesses, for any risks that may require escalation, updating our top and emerging risks as necessary.

We define a 'top risk' as a thematic issue that may form and crystallize in between six months and one year, and that has the potential to materially affect the bank'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 crystallize beyond a one-year time horizon. If it were to materialize, 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.

Stress testing

Our stress testing program is a key element in assessing the risk and capital management frameworks of the bank, consisting of internal as well as regulatory driven stress tests.

Our stress tests evaluate the impact of severe, yet plausible, scenarios and ensure that top and emerging risks are understood. These scenarios include, but are not limited to, adverse macroeconomic events, failures at country, sector and counterparty levels, geopolitical occurrences and a variety of projected major operational risk events.

Stress testing analysis helps management understand the nature and extent of vulnerabilities to which the bank is exposed. Using this information, management decides whether risks can or should be mitigated through management actions or, if they were to crystallize, should be absorbed through capital. This in turn informs decisions about preferred capital levels.

Our material banking risks

The material risk types associated with our banking 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 29)		
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 45)		
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; • monitored against the bank's liquidity and funding risk framework; and • managed on a stand-alone basis with no reliance on any HSBC Group entity (unless pre-committed) or central bank unless this represents routine established business-as-usual market practice.
Market risk (see page 47)		
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 operations are discussed on page 47.	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.
Operational risk (see page 49)		
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 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 49)		
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 judgment 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 50)		
Financial crime risk is the risk that we knowingly or unknowingly help parties to commit or to further potentially illegal activity through the bank.	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 judgment 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 50)		
Reputational risk is the risk of failure to meet stakeholder expectations as a result of any event, behaviour, action or inaction, either by the bank itself, our employees or those with whom we are associated, that might cause stakeholders to form a negative view of the bank in Canada and the Group.	Primary reputational risks arise directly from an action or inaction by the bank, 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; • 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		
Pension risk is the risk of increased costs to the bank 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 Canadian 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		
Sustainability risk is the risk that financial services provided to customers indirectly result in unacceptable impacts on people or the environment.	Sustainability risk arises from the provision of financial services to companies or projects which 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 monthly by the RMM; • 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.

Credit Risk

Credit risk is the risk of financial loss if a customer or counterparty fails to meet an obligation under contract. Credit risk arises principally from direct lending, trade finance and the leasing business, but also from other products such as guarantees and credit derivatives.

Credit risk management

There were no material changes to the policies and practices for the management of credit risk in 2018.

Adoption of IFRS 9 'Financial Instruments'

We 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 the bank's business model, or that of our global businesses.

We have established credit risk management processes in place and we actively assess the impact of economic developments 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, regulatory requirements, market practices and our market position.

As a result of IFRS 9 adoption, management has additional insight and measures not previously utilized 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. These were then enhanced or supplemented to address the IFRS 9 requirements, with the appropriate governance and independent review.

Implementation

A centralized impairment engine performs the expected credit loss ('ECL') calculation using data, which is subject to 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 centralized manner.

Governance

A series of management review forums has been established in order to review and approve the impairment results. The management review forums have representatives from Risk and Finance.

Credit risk sub-function

(Audited)

Credit risk is managed in accordance with the bank's credit policy, which is established in consultation with HSBC Group and key elements approved by the Audit and Risk Committee ('ARC'). Risk limits and credit authorities are delegated to senior credit management staff. Credit exposures in excess of certain levels or other specific risk attributes are referred for concurrence to HSBC Group to ensure they remain within HSBC Group's global risk limits.

The principal objectives of our credit risk management framework are:

- to maintain across the bank 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 minimize undue concentration of exposure in our portfolios across industries and 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 bank to support calculation of our minimum credit regulatory capital requirement.

The five credit quality classifications each encompasses 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 summarizes 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. Commencing 2018, retail lending credit quality is disclosed on an IFRS 9 basis, which is based on a 12-month point-in-time ('PIT') weighted probability of default ('PD').

Credit quality classification

	Debt securities and other bills	Wholesale lending		Retail lending	
	External credit rating	Internal credit rating	12-month Basel probability of default %	Internal credit rating	12-month Basel probability-weighted PD %
Quality classification					
Strong	**A– and above**	**CRR1 to CRR2**	**0.000-0.169**	**Band 1 and 2**	**0.000-0.500**
Good	**BBB+ to BBB-**	**CRR3**	**0.170-0.740**	**Band 3**	**0.501-1.500**
Satisfactory	**BB+ to B and unrated**	**CRR4 to CRR5**	**0.741-4.914**	**Band 4 and 5**	**1.501-20.000**
Sub-standard	**B- to C**	**CRR6 to CRR8**	**4.915-99.999**	**Band 6**	**20.001-99.999**
Impaired	**Default**	**CRR9 to CRR10**	**100.000**	**Band 7**	**100.000**

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 impaired.

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 derecognized renegotiated loans, see Note 2(i) 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 which 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 renegotiated loans remain in stage 3 until maturity or write-off.

Renegotiated loans and recognition of impairment allowances

(Audited)

For retail lending, renegotiated loans are separated from other parts of the loan portfolio for aggregated impairment assessment to 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 2(i) 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 2(i) on the Financial Statements.

Unsecured personal facilities, including credit cards, are generally written off when payments are 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. In exceptional circumstances, they may be extended further.

For secured facilities, write-off occurs 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.

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.

Credit risk profile

The Effects of reclassification upon adoption of IFRS 9 at 1 January 2018 is disclosed in note 33. 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 41 to 45 as they are not directly comparable.

Credit risk in 2018

Gross loans and advances to customers of $57.3bn have increased by $6.7bn from $50.6bn at 1 January 2018.

The change in expected credit losses during 2018 was a release of $27m.

Our maximum exposure to credit risk is presented on page 33 and credit quality of financial instruments on page 36. Our credit risk is mostly concentrated around on loans and advances, as a result our disclosures focus primarily on these exposures.

Summary of credit risk

The disclosure below 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 recognized is greater than the scope of IAS 39.

The following tables analyze loans by segments which represents the concentration of exposures in which how credit risks are managed.

The allowance for ECL at 31 December 2018 comprised of $232m in respect of assets held at amortized cost, $33m in respect of loan commitments and financial guarantees, and $1m 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)

	Footnotes	31 December 2018 Gross carrying/ nominal amount	31 December 2018 Allowance for ECL[1]
		$m	$m
Loans and advances to customers at amortized cost		57,321	(198)
– personal		28,364	(53)
– corporate and commercial		28,957	(145)
Loans and advances to banks at amortized cost		1,221	–
Other financial assets measured at amortized costs		12,266	(34)
– cash and balances at central banks		78	–
– items in the course of collection from other banks		8	–
– reverse repurchase agreements non - trading		5,860	–
– customers' liability under acceptances		3,937	(5)
– other assets, prepayments and accrued income	2	2,383	(29)
Total gross carrying amount on-balance sheet		70,808	(232)
Loans and other credit related commitments		43,378	(32)
– personal		7,186	(2)
– corporate and commercial		36,192	(30)
Financial guarantees	3	2,182	(1)
– personal		7	–
– corporate and commercial		2,175	(1)
Total nominal amount off-balance sheet	4	45,560	(33)

		Fair value	Memorandum allowance for ECL
		$m	$m
Debt instruments measured at fair value through other comprehensive income ('FVOCI')	5	24,033	(1)

1. *The total ECL is recognized 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 recognized as a provision.*
2. *Includes only those financial instruments which are subject to the impairment requirements of IFRS 9. 'Other assets' and 'Prepayments and accrued income' as presented within the consolidated balance sheet includes both financial and non-financial assets.*
3. *Excludes performance guarantee contracts.*
4. *Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.*
5. *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 recognized in 'Change in expected credit losses and other credit impairment charges' in the income statement.*

The following table provides an overview of the bank's credit risk by stage and segment, 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 recognized.

Stage 2: A significant increase in credit risk has been experienced since initial recognition on which a lifetime ECL is recognized.

Stage 3: Objective evidence of impairment, and are therefore considered to be in default or otherwise credit-impaired on which a lifetime ECL is recognized.

Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage

(Audited)

	Gross carrying/nominal amount[1]				Allowance for ECL				ECL coverage %			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	$m	$m	$m	$m	%	%	%	%
Loans and advances to customers at amortized cost	53,113	3,965	243	57,321	(36)	(75)	(87)	(198)	0.1	1.9	35.8	0.3
– personal	27,405	889	70	28,364	(13)	(24)	(16)	(53)	–	2.7	22.9	0.2
– corporate and commercial	25,708	3,076	173	28,957	(23)	(51)	(71)	(145)	0.1	1.7	41.0	0.5
Loans and advances to banks at amortized cost	1,221	–	–	1,221	–	–	–	–	–	–	–	–
Other financial assets measured at amortized cost	11,622	615	29	12,266	(2)	(3)	(29)	(34)	–	0.5	100.0	0.3
Loan and other credit-related commitments	40,443	2,874	61	43,378	(7)	(23)	(2)	(32)	–	0.8	3.3	0.1
– personal	6,978	197	11	7,186	(1)	(1)	–	(2)	–	0.5	–	–
– corporate and commercial	33,465	2,677	50	36,192	(6)	(22)	(2)	(30)	–	0.8	4.0	0.1
Financial guarantees[2]	2,093	87	2	2,182	–	(1)	–	(1)	–	1.1	–	–
– personal	6	1	–	7	–	–	–	–	–	–	–	–
– corporate and commercial	2,087	86	2	2,175	–	(1)	–	(1)	–	1.2	–	–
At 31 Dec 2018	**108,492**	**7,541**	**335**	**116,368**	**(45)**	**(102)**	**(118)**	**(265)**	**–**	**1.4**	**35.2**	**0.2**

1. *Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.*
2. *Excludes performance guarantee contracts.*

Credit exposure

Maximum exposure to credit risk

The following table provides information on balance sheet items, loan and other credit-related commitments and the associated offsetting arrangements.

Commentary on consolidated balance sheet movements in 2018 is provided on page 16.

'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 recognized on the balance sheet, the maximum exposure to credit risk equals their carrying amount; for financial guarantees and similar contracts 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 which 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 balance sheet and short positions in securities.

The collateral available to mitigate credit risk is disclosed in the collateral section on page 41.

Maximum exposure to credit risk

(Audited)

	31 Dec 2018		
	Maximum exposure	Offset	Net
	$m	$m	$m
Loans and advances to customers held at amortized cost	57,123	(735)	56,388
– personal	28,311	–	28,311
– corporate and commercial	28,812	(735)	28,077
Derivatives	4,469	(504)	3,965
Total on-balance sheet exposure to credit risk	61,592	(1,239)	60,353
Total off-balance sheet	48,959	–	48,959
– financial guarantees and similar contracts	5,581	–	5,581
– loan and other credit-related commitments	43,378	–	43,378
At 31 Dec 2018	110,551	(1,239)	109,312

Measurement uncertainty and sensitivity analysis of ECL estimates

The recognition and measurement of ECL is highly complex and involves the use of significant judgment and estimation, including in the formulation and incorporation of multiple forward looking economic conditions into the ECL estimates to meet the measurement objective of IFRS 9.

Methodology

The bank has adopted the use of 3 economic scenarios. These scenarios are representative of the bank's view of forecast economic conditions up to 31 December 2018, 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 on either side of the Central, referred to as an Upside and a Downside scenario respectively. Each outer scenario is consistent with a probability of 10% while the Central scenario is assigned the remaining 80%, according to the decision of the bank's senior management. Setting key scenario assumptions using the average of forecasts of external economists helps ensure that the IFRS 9 scenarios are unbiased and maximize the use of independent information.

For the Central scenario, the bank sets key assumptions such as GDP growth, inflation, unemployment and policy rates using either the average of external forecasts (commonly referred to as consensus forecasts) or market prices. An external vendor's global macro model, which is conditioned to follow the consensus forecasts, projects the other paths required as inputs to credit models. This vendor model is subject to the bank's risk governance framework with oversight by a specialist internal unit.

Upside and downside scenarios are designed to be cyclical in that GDP growth, inflation and unemployment usually revert back to the Central after the first three years. 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. Using externally available forecast distributions ensures independence in scenario construction. While key economic variables are set with reference to external distributional forecasts, we also align the overall narrative of the scenarios to macro-economic risks. We project additional variable paths using the external vendor's macro model.

The Central, Upside and Downside scenarios selected with reference to external forecast distributions using the above approach are termed the 'Consensus Economic Scenarios'.

We apply the following to generate the three economic scenarios:

- Economic Risk Assessment - we develop a shortlist of the downside and upside economic and political risks most relevant to the bank and the IFRS 9 measurement objective. These risks include local and global economic/political risks that together impact the economy.
- 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 Outer scenarios are benchmarked to the Central scenario and reflect the economic risk assessment. We assign each path probabilities to reflect the likelihood of occurrence of that scenario. Scenario probabilities reflect management judgment and are informed by data analysis of past recessions (transitions in and out of recession), the current economic outlook. The scenario probability represents a "best estimate" of the likelihood of occurrence of a scenario, given its key assumptions and scenario paths. Suitable narratives are developed for the Central scenario and the paths of the Outer scenarios.
- Variable Enrichment - We expand each scenario through enrichment of variables. This includes the production of a number of variables that are required by the businesses. The external vendor 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 judgment.

Description of consensus economic scenarios

The consensus Central scenario

GDP growth persists at a rate below 2% through the scenario. With the level of household debt elevated, households are likely to be unusually sensitive to the impact of higher interest rates, which will keep consumer spending in check.

The following table describes key macroeconomic variables assigned in the consensus Central scenario.

Central scenario (average 2019-2023)	
GDP growth rate (%)	1.8
Inflation (%)	2.0
Unemployment (%)	6.1
Short Term Interest rate (%)	2.5
10 year Treasury bond yields (%)	3.3
House price growth (%)	2.7
Equity price growth (%)	3.5

The consensus Upside scenario

Stronger global growth, particularly in the US, would likely encourage greater investment spending among firms. Higher oil prices would also contribute to a stronger pace of growth.

The following table describes key macroeconomic variables assigned in the consensus Upside scenario.

Upside scenario (average 2019-2023)	
GDP growth rate (%)	2.1
Inflation (%)	2.2
Unemployment (%)	5.9
Short Term Interest rate (%)	2.5
10 year Treasury bond yields (%)	3.3
House price growth (%)	3.9
Equity price growth (%)	9.2

The consensus Downside scenario

A global downturn and a renewed weakening of oil prices would likely prompt a rise in unemployment and a heightened sense of caution among households given elevated levels of debt. Deteriorating confidence would typically accompany a correction in house prices.

The following table describes key macroeconomic variables assigned in the consensus Downside scenario.

Downside scenario (average 2019-2023)	
GDP growth rate (%)	1.5
Inflation (%)	1.7
Unemployment (%)	6.5
Short Term Interest rate (%)	0.9
10 year Treasury bond yields (%)	1.4
House price growth (%)	0.3
Equity price growth (%)	0.3

How economic scenarios are reflected in the wholesale calculation of ECL

The bank has adopted 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 LGD calculations we consider the correlation of forward economic guidance to collateral values and realization rates. 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, the bank 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

The bank has adopted a globally consistent methodology for incorporating forecasts of future economic conditions into expected credit loss estimates. The impact of forward economic guidance ('FEG') on probability of default PD is modelled at a portfolio level. Historic relationships between observed default rates and macro-economic variables are integrated into IFRS 9 ECL estimates by leveraging economic response models. The impact of FEG on PD is modelled over a period equal to the remaining maturity of underlying asset(s). The impact on loss given default 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 ('HPI') and applying the corresponding LGD expectation.

Impact of multiple economic scenarios on ECL

The ECL recognized in the financial statements reflects the effect on expected credit losses of a range of possible outcomes, calculated on a probability-weighted basis, based on the economic scenarios described above, including management overlays where required. The probability-weighted amount is typically a higher number than would result from using only the Central (most likely) Economic Scenario. Expected losses typically have a non-linear relationship to the many factors which influence credit losses such that more favourable macro-economic factors do not reduce defaults as much as less favourable macroeconomic factors increase defaults.

Economic scenarios sensitivity analysis of ECL estimates

The ECL outcome is sensitive to judgment 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.

The economic scenarios are generated to capture the bank's view of a range of possible forecast economic conditions that is sufficient for the calculation of unbiased and probability-weighted 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 are a very wide range of possible combinations of inter-related economic factors that could influence actual credit loss outcomes, accordingly the range of estimates provided by attributing 100% weightings to scenarios are indicative of possible outcomes given the assumptions used. There is a particularly high degree of estimation uncertainty in numbers representing tail risk scenarios when assigned a 100% weighting and an indicative range is provided for 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 ECLs 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.

ECL under each scenario is linked to the gross carrying amounts as at 31 December 2018.

Wholesale analysis

The portfolios below were selected based on contribution to ECL and sensitivity to macro-economic factors.

IFRS 9 ECL sensitivity to future economic conditions[1]

ECL coverage of financial instruments subject to significant measurement uncertainty at 31 December 2018[2]	%
Reported ECL	0.17
Central scenario	0.17
Upside scenario	0.16
Downside scenario	0.19

1. *Excludes ECL and drawn amounts related to credit-impaired financial instruments.*
2. *Includes off-balance sheet financial instruments that are subject to significant measurement uncertainty.*

Retail analysis

Exposures modelled using small portfolio approach were excluded from the sensitivity analysis.

IFRS 9 ECL sensitivity to future economic conditions[1]

ECL coverage of financial instruments subject to significant measurement uncertainty at 31 December 2018[2]	%
Reported ECL	0.15
Central scenario	0.15
Upside scenario	0.14
Downside scenario	0.16

1. *ECL sensitivities exclude portfolios utilizing less complex modelling approaches.*
2. *ECL sensitivity includes only on-balance sheet financial instruments to which impairment requirements in IFRS 9 are applied.*

Reconciliation of allowances for loans and advances to banks and customers including loan commitments and financial guarantees

The following disclosure provides a reconciliation of the bank's 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 change in ECL due to these transfers.

Reconciliation of allowances for loans and advances to banks and customers including loan commitments and financial guarantees[1]

(Audited)

	Non-credit impaired		Credit-impaired	
	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m
At 1 Jan 2018	38	91	185	314
Transfers of financial instruments:	30	(16)	(14)	–
– transfers from stage 1 to stage 2	(6)	6	–	–
– transfers from stage 2 to stage 1	36	(36)	–	–
– transfers to stage 3	(2)	(6)	8	–
– transfers from stage 3	2	20	(22)	–
Net remeasurement of ECL arising from transfer of stage	(24)	16	–	(8)
New financial assets originated or purchased	11	–	–	11
Changes to risk parameters (model inputs)	(9)	9	14	14
Asset derecognized (including final repayments)	(3)	(5)	(11)	(19)
Assets written off	–	–	(85)	(85)
Foreign exchange	–	4	–	4
At 31 Dec 2018	43	99	89	231
ECL charge/(release) for the period	5	4	(11)	(2)
Recoveries	–	–	(10)	(10)
Others	–	–	(3)	(3)
Total ECL charge/(release) for the period	5	4	(24)	(15)

1. *Excludes performance guarantee contracts.*

	As at 31 Dec 2018	Year-ended 31 Dec 2018
	Allowance for ECL/Other credit loss provisions	ECL release
	$m	$m
As above	231	(15)
Other financial assets measured at amortized cost	34	(12)
Performance guarantee contracts	2	–
Debt instruments measured at FVOCI	1	–
Total allowance for ECL/Total income statement ECL release for the period	268	(27)

The contractual amount outstanding of financial assets written off during the period, that are still subject to enforcement activities amounted to approximately $85m.

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, as defined in earlier section, each encompasses 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. Under IAS 39 retail lending credit quality was disclosed based on expected-loss percentages. Under IFRS 9 retail lending credit quality is now disclosed based on a 12 month probability-weighted 'PD'. The credit quality classifications for wholesale lending are unchanged and are based on internal credit risk ratings.

The information on credit quality classifications is provided on page 30.

Distribution of financial instruments by credit quality and stage allocation

(Audited)

	Gross carrying/notional amount							
	Strong	Good	Satisfactory	Sub-standard	Credit-impaired	Total	Allowance for ECL	Net
	$m	$m	$m	$m	$m	$m	$m	$m
In-scope for IFRS 9								
Debt instruments at fair value through other comprehensive income[1]	24,145	—	—	—	—	24,145	(1)	24,144
– stage 1	24,145	—	—	—	—	24,145	(1)	24,144
– stage 2	—	—	—	—	—	—	—	—
– stage 3	—	—	—	—	—	—	—	—
Loans and advances to customers at amortized cost	25,936	18,238	11,558	1,346	243	57,321	(198)	57,123
– stage 1	25,839	18,000	9,089	185	—	53,113	(36)	53,077
– stage 2	97	238	2,469	1,161	—	3,965	(75)	3,890
– stage 3	—	—	—	—	243	243	(87)	156
Loans and advances to banks at amortized cost	1,221	—	—	—	—	1,221	—	1,221
– stage 1	1,221	—	—	—	—	1,221	—	1,221
– stage 2	—	—	—	—	—	—	—	—
– stage 3	—	—	—	—	—	—	—	—
Other financial assets at amortized cost	7,712	2,789	1,633	103	29	12,266	(34)	12,232
– stage 1	7,472	2,752	1,375	23	—	11,622	(2)	11,620
– stage 2	240	37	258	80	—	615	(3)	612
– stage 3	—	—	—	—	29	29	(29)	—
Out-of-scope for IFRS 9								
Trading assets	3,702	173	—	—	—	3,875	—	3,875
Other financial assets mandatorily measured at fair value through profit or loss	4	—	—	—	—	4	—	4
Derivatives	3,879	465	122	3	—	4,469	—	4,469
Total gross carrying amount on-balance sheet	66,599	21,665	13,313	1,452	272	103,301	(233)	103,068
Percentage of total credit quality	64.5%	21.0%	12.9%	1.4%	0.3%	100.0%		
Loan and other credit-related commitments	13,623	20,331	8,500	863	61	43,378	(32)	43,346
– stage 1	13,407	20,137	6,785	114	—	40,443	(7)	40,436
– stage 2	216	194	1,715	749	—	2,874	(23)	2,851
– stage 3	—	—	—	—	61	61	(2)	59
Financial guarantees[2]	1,183	707	245	45	2	2,182	(1)	2,181
– stage 1	1,183	707	203	—	—	2,093	—	2,093
– stage 2	—	—	42	45	—	87	(1)	86
– stage 3	—	—	—	—	2	2	—	2
Total nominal amount off-balance sheet	14,806	21,038	8,745	908	63	45,560	(33)	45,527
At 31 Dec 2018	81,405	42,703	22,058	2,360	335	148,861	(266)	148,595

1. *For the purposes of this disclosure gross carrying value is defined as the amortized 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.*
2. *Excludes performance guarantee contracts.*

Concentration of credit risk

Concentration of credit risk may arise when the ability of a number of borrowers or counterparties to meet their contractual obligations are similarly affected by external factors. Diversification of credit risk is a key concept by which we are guided. In assessing and monitoring for credit risk concentration, we aggregate exposures by industry and geographic area as presented in the following tables.

Large customer concentrations

We monitor and manage credit risk from large customer concentrations, which we define as borrowing groups where approved facilities exceed 10% of our regulatory capital base, or $642m at 31 December 2018 (2017: $663m). At 31 December 2018, the aggregate approved facilities from large customers was $30,046m (2017: $26,030m), an average of $1,073m (2017: $1,001m) per customer. The increase in total approved facilities from large customers is primarily comprised of increased facilities to Canadian provinces, existing corporate customers and to Canadian chartered banks.

Wholesale lending

This sections provides further detail on the industry driving the movement in wholesale loans and advances to customers. Additionally, it provides a reconciliation of the opening 1 January 2018 allowance for ECL to the 31 December 2018 balance.

Total wholesale lending for loans and advances to customers at amortized cost

	Footnotes	Gross carrying amount $m	Allowance for ECL $m
Corporate and commercial	1		
– agriculture, forestry and fishing		408	(1)
– mining and quarrying	2	1,839	(30)
– manufacture		4,620	(23)
– electricity, gas, steam and air-conditioning supply		562	(1)
– water supply, sewerage, waste management and remediation		101	–
– construction		858	(21)
– wholesale and retail trade, repair of motor vehicles and motorcycles		5,567	(35)
– transportation and storage		2,375	(11)
– accommodation and food		895	(1)
– publishing, audiovisual and broadcasting		783	(5)
– real estate		7,292	(7)
– professional, scientific and technical activities		1,060	(7)
– administrative and support services		595	(1)
– education		149	–
– health and care		190	(1)
– arts, entertainment and recreation		273	–
– other services		311	–
– government		30	–
– non-bank financial institutions		1,049	(1)
At 31 Dec 2018		**28,957**	**(145)**
By geography			
Canada		26,835	(131)
– British Columbia		8,635	(28)
– Ontario		8,970	(26)
– Alberta		4,725	(60)
– Quebec		3,245	(14)
– Saskatchewan and Manitoba		846	(2)
– Atlantic provinces		414	(1)
United States of America		1,191	(7)
Other		931	(7)
At 31 Dec 2018		**28,957**	**(145)**

1. *The corporate and commercial categories reported above are derived from Nomenclature des Activités Économiques dans la Communauté Européenne ('NACE') codes- a European industry standard classification system. These are not directly comparable to the industry sectors previously disclosed under IAS 39.*
2. *Mining and quarrying includes energy related exposures.*

Wholesale reconciliation of allowances for loans and advances to banks and customers including loan commitments and financial guarantees[1]

(Audited)

	Non-credit impaired		Credit-impaired	
	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m
At 1 Jan 2018	**29**	**69**	**165**	**263**
Transfers of financial instruments:	14	(1)	(13)	–
– transfers from stage 1 to stage 2	(4)	4	–	–
– transfers from stage 2 to stage 1	19	(19)	–	–
– transfers to stage 3	(1)	(2)	3	–
– transfers from stage 3	–	16	(16)	–
Net remeasurement of ECL arising from transfer of stage	(12)	9	–	(3)
New financial assets originated or purchased	9	–	–	9
Changes to risk parameters (model inputs)	(10)	(5)	1	(14)
Asset derecognized (including final repayments)	(1)	(2)	(11)	(14)
Assets written off	–	–	(69)	(69)
Foreign exchange	–	4	–	4
At 31 Dec 2018	**29**	**74**	**73**	**176**
ECL charge/(release) for the period	–	1	(23)	(22)
Recoveries	–	–	(1)	(1)
Others	–	–	(2)	(2)
Total ECL charge/(release) for the period	**–**	**1**	**(26)**	**(25)**

1. *Excludes performance guarantee contracts.*

The distribution of exposures by stage remained stable in the wholesale portfolio during 2018. The Wholesale allowance for ECL decreased by $87m, primarily due to a decrease of $92m in the non-performing portfolio. Contributing to the decrease were write-offs relating to specific customers, mainly in the manufacturing and professional, scientific and technical activities sectors. In addition, credit quality improvements across a number of sectors, most notably the energy services, manufacturing and real estate sectors, led to recoveries and transfers to the performing portfolio. These were partially offset by charges against specific clients in the construction and manufacturing industry.

The Wholesale change in expected credit losses for the year resulted in a release of $25m. This was primarily due to recoveries in the non-performing portfolio as a result of provision releases, primarily relating to a number of energy services and manufacturing companies transferring to the performing portfolio as a result of upgrades or final repayments.

Personal lending

This section provides further detail on the portfolios in the personal loans and advances to customers.
Additionally, it provides a reconciliation of the opening 1 January 2018 to 31 December 2018 closing allowance for ECL.

Total personal lending for loans and advances to customers at amortized cost

	Gross carrying amount	Allowance for ECL
	$m	$m
Residential mortgages	24,580	(17)
Home equity lines of credit	1,714	(4)
Personal unsecured revolving loan facilities	206	(11)
Other personal loan facilities	1,290	(5)
Other small to medium enterprises loan facilities	146	–
Run-off consumer loan portfolio	76	(8)
Retail card	352	(8)
At 31 Dec 2018	**28,364**	**(53)**
By geography		
Canada	27,411	(49)
– British Columbia	14,829	(24)
– Ontario	9,450	(14)
– Alberta	1,497	(5)
– Quebec	1,151	(4)
– Saskatchewan and Manitoba	281	(1)
– Atlantic provinces	200	(1)
– Territories	3	–
Other	953	(4)
At 31 Dec 2018	**28,364**	**(53)**

Retail reconciliation of allowances for loans and advances to banks and customers including loan commitments and financial guarantees[1]

(Audited)

	Non-credit impaired		Credit-impaired	
	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m
At 1 Jan 2018	**9**	**22**	**20**	**51**
Transfers of financial instruments:	**16**	**(15)**	**(1)**	**—**
– transfers from stage 1 to stage 2	**(2)**	**2**	**—**	**—**
– transfers from stage 2 to stage 1	**17**	**(17)**	**—**	**—**
– transfers to stage 3	**(1)**	**(4)**	**5**	**—**
– transfers from stage 3	**2**	**4**	**(6)**	**—**
Net remeasurement of ECL arising from transfer of stage	**(12)**	**7**	**—**	**(5)**
New financial assets originated or purchased	**2**	**—**	**—**	**2**
Changes to risk parameters (model inputs)	**1**	**14**	**13**	**28**
Asset derecognized (including final repayments)	**(2)**	**(3)**	**—**	**(5)**
Assets written off	**—**	**—**	**(16)**	**(16)**
At 31 Dec 2018	**14**	**25**	**16**	**55**
ECL charge for the period	**5**	**3**	**12**	**20**
Recoveries	**—**	**—**	**(9)**	**(9)**
Others	**—**	**—**	**(1)**	**(1)**
Total ECL charge for the period	**5**	**3**	**2**	**10**

1. *Excludes performance guarantee contracts.*

The distribution of exposures by stage remained stable in the retail portfolio during 2018. The total retail allowance for ECL increased by $4m in 2018. This was due to an increase in the allowance for ECL on the Mortgage and HELOC portfolios as a result of deterioration in regional housing prices in our key markets in the second half of 2018 which were partially offset by improving credit quality from line of credit.

The total retail loan impairment charges for the year resulted in a charge of $10m. This was driven by an increase in the allowance for ECL on the Mortgage and HELOC portfolios, primarily as a result of the impact of housing prices in our key markets.

Mortgages and home equity lines of credit

The bank's mortgage and home equity lines of credit portfolios are considered to be low-risk since the majority are secured by a first charge against the underlying real estate.

The following tables detail how the bank mitigates risk further by diversifying the geographical markets in which it operates as well as benefiting from borrower default insurance. In addition the bank maintains strong underwriting and portfolio monitoring standards to ensure the quality of its portfolio is maintained.

Insurance and geographic distribution[1]

	Year ended						
	Residential mortgages					HELOC[2]	
	Insured[3]		Uninsured[3]		Total	Uninsured	
	$m	%	$m	%	$m	$m	%
British Columbia	**948**	**7%**	**12,986**	**93%**	**13,934**	**853**	**100%**
Western Canada[4]	**347**	**25%**	**1,060**	**75%**	**1,407**	**603**	**100%**
Ontario	**925**	**11%**	**7,457**	**89%**	**8,382**	**91**	**100%**
Quebec and Atlantic provinces	**241**	**21%**	**934**	**79%**	**1,175**	**206**	**100%**
At 31 Dec 2018	**2,461**	**10%**	**22,437**	**90%**	**24,898**	**1,753**	**100%**

Insurance and geographic distribution[1]

	Year ended						
	Residential mortgages					HELOC[2]	
	Insured[3]		Uninsured[3]		Total	Uninsured	
	$m	%	$m	%	$m	$m	%
British Columbia	759	6%	12,850	94%	13,609	867	100%
Western Canada[4]	289	22%	1,040	78%	1,329	220	100%
Ontario	747	10%	6,573	90%	7,320	591	100%
Quebec and Atlantic provinces	207	18%	951	82%	1,158	94	100%
At 31 Dec 2017	2,002	9%	21,414	91%	23,416	1,772	100%

1. *Geographic location is determined by the address of the originating branch.*
2. *HELOC is an abbreviation for Home Equity Lines of Credit, which are lines of credit secured by equity in real estate.*
3. *Insured mortgages are protected from potential losses caused by borrower default through the purchase of insurance coverage, either from the Canadian Housing and Mortgage Corporation or other accredited private insurers.*
4. *Western Canada excludes British Columbia.*

Amortization period[1]

	Year ended				
	Residential mortgages				
	Less than 20 years	20-24 years	25-29 years	30-34 years	35 years and greater
At 31 Dec 2018	**19.996%**	**40.510%**	**39.469%**	**0.021%**	**0.004%**
At 31 Dec 2017	20.799%	33.033%	45.914%	0.248%	0.005%

1. *Amortization period is based on the remaining term of residential mortgages.*

Average loan-to-value ratios of new originations[1,2]

	Quarter ended	
	Uninsured % LTV[3]	
	Residential mortgages	HELOC
	%	%
British Columbia	**55%**	**50%**
Western Canada[4]	**67%**	**66%**
Ontario	**61%**	**55%**
Quebec and Atlantic provinces	**62%**	**59%**
Total Canada for the three months ended 31 Dec 2018	**59%**	**54%**
Total Canada for the three months ended 31 Dec 2017	**60%**	**55%**

1. *All new loans and home equity lines of credit were originated by the bank; there were no acquisitions during the period.*
2. *New originations exclude existing mortgage renewals.*
3. *Loan-to-value ratios are simple averages, based on property values at the date of mortgage origination.*
4. *Western Canada excludes British Columbia.*

Potential impact of an economic downturn on residential mortgage loans and home equity lines of credit

The bank performs stress testing on its Retail portfolio to assess the impact of increased levels of unemployment, rising interest rates, reduction in property values and changes in other relevant macro-economic variables. Potential increase in losses in the mortgage portfolio under downturn economic scenarios are considered manageable given the diversified composition of the portfolio, the low Loan-to-Value in the portfolio and risk mitigation strategies in place.

Loans past due but not impaired

Examples of exposures considered past due but not impaired include loans that have missed the most recent payment date but on which there is no evidence of impairment; loans fully secured by cash collateral; residential mortgages in arrears more than 90 days, but where the value of collateral is 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 is no concern over the creditworthiness of the counterparty.

Total days past due but not impaired loans and advances

(Audited)

	2018	2017
	$m	$m
Up to 29 days	**521**	1,577
30-59 days	**15**	125
60-89 days	**50**	63
At 31 Dec	**586**	1,765

Credit-impaired loans

(Audited)

The bank 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. The definitions of credit-impaired and default are aligned as far as possible so that stage 3 represents all loans which are considered defaulted or otherwise credit-impaired.

The following table provides an analysis of the gross carrying value of loans and advances to banks and customers that are determined to be impaired (stage 3 financial assets).

Credit-impaired loans and advances to banks and customers

(Audited)

	Footnotes	Gross carrying amount	Allowance for ECL
		$m	$m
Corporate and commercial	1	**173**	**(71)**
– mining and quarrying	2	**42**	**(13)**
– manufacture		**18**	**(10)**
– construction		**24**	**(17)**
– wholesale and retail trade, repair of motor vehicles and motorcycles		**16**	**(15)**
– transportation and storage		**7**	**(2)**
– publishing, audiovisual and broadcasting		**16**	**(4)**
– real estate		**7**	**(2)**
– professional, scientific and technical activities		**39**	**(7)**
– other services		**1**	**—**
– non-bank financial institutions		**3**	**(1)**
Households	3	**70**	**(16)**
Loans and advances to banks		**—**	**—**
At 31 Dec 2018		**243**	**(87)**

1. *The corporate and commercial categories reported above are derived from Nomenclature des Activités Économiques dans la Communauté Européenne ('NACE') codes- a European industry standard classification system. These are not directly comparable to the industry sectors previously disclosed under IAS 39.*
2. *Mining and quarrying includes energy related exposures.*
3. *Households includes the Retail portfolio.*

The wholesale impaired portfolio experienced allowance releases in the energy sector as the bank recovers from the oil crisis of 2015. As the result of ongoing recovery efforts, further releases were possible in construction and real estate while accounts from the recent economic downturn reaches conclusion and were written off.

Renegotiated loans

The carrying amount of renegotiated loans was $180m at 31 December 2018 (2017: $176m).

Collateral and other credit enhancements

Although collateral can be an important mitigant of credit risk, it is the bank's practice to lend on the basis of the customer's ability to meet their obligations out of cash flow resources rather than rely on the value of security offered. Depending on the customer's standing and the type of product, some facilities may be unsecured. However, for other lending a charge over collateral is obtained and considered in determining the credit decision and pricing. In the event of default, the bank may utilize the collateral as a source of repayment.

The principal collateral types are as follows:

- in the personal sector, mortgages over residential properties or charges over other personal assets being financed;
- in the commercial and industrial sector, charges over business assets such as land, buildings and equipment, inventory and receivables;
- in the commercial real estate sector, charges over the properties being financed; and
- in the financial sector, charges over financial instruments such as debt and equity securities in support of trading facilities.

Our credit risk management policies include appropriate guidelines on the acceptability of specific classes of collateral or credit risk mitigation. Valuation parameters are updated periodically depending on the nature of the collateral. Full covering corporate guarantees as well as bank and sovereign guarantees are recognized as credit mitigants for capital purposes.

The bank does not disclose the fair value of collateral held as security or other credit enhancements on loans past due but not impaired or credit-impaired loans, as it is not practical to do so.

Collateral held as security for financial assets other than loans is determined by the nature of the instrument. Government and other debt securities, including money market instruments, are generally unsecured, with the exception of asset-backed securities and similar instruments, which are secured by pools of financial assets.

The bank has policies in place to monitor the existence of undesirable concentration of the collateral supporting our credit exposures.

Collateral information for credit-impaired loans and advances to customers including loan commitments

(Audited)

	Gross carrying amount	Allowance for ECL	Net carrying amount	Collateral
	$m	$m	$m	$m
Stage 3				
Corporate and commercial	**223**	**(73)**	**150**	**177**
Personal - Residential mortgages	**52**	**(9)**	**43**	**153**

Derivative portfolio

The bank 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 credit equivalent amount of derivative exposure comprises the current replacement cost of positions plus an allowance for potential future fluctuation of derivative contracts. We enter into derivatives primarily to support our customers' requirements and to assist us in the management of assets and liabilities, particularly relating to interest and foreign exchange rate risks.

A more detailed analysis of our derivative portfolio is presented in Note 12.

Selected 2017 credit risk disclosures

The below disclosures were included in our *Annual Report and Accounts 2017* 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.

Maximum exposure to credit risk

(Audited)

	2017
	$m
On-balance sheet	
Balances at central bank	3
Items in the course of collection from other banks	25
Trading assets	5,373
– treasury and other eligible bills	835
– debt securities	4,290
– other	155
– customer trading assets	93
Derivatives	3,675
Reverse repurchase agreements – non-trading	6,153
Loans and advances held at amortized cost	51,558
– loans and advances to banks	1,221
– loans and advances to customers	50,337
Financial investments – available-for-sale	22,892
– treasury and other similar bills	290
– debt securities	22,594
– equity securities	29
– less: Securities not exposed to credit risk	(21)
Other assets	
– customers' liability under acceptances	4,801
– accrued income and other	1,060
Total on-balance sheet	95,540
Off-balance sheet	
Financial guarantees	5,582
Loan and other credit-related commitments	40,463
Total maximum exposure to credit risk	141,585

Credit risk portfolio by product type

	EAD at 31 December 2017					
	Drawn	Undrawn	Repurchase type transactions	Derivatives	Other off-balance sheet	Total
	$m	$m	$m	$m	$m	$m
Wholesale portfolio	53,241	12,963	194	2,509	4,005	72,912
– sovereign	20,108	576	38	129	32	20,883
– banks	4,336	29	121	1,539	1,024	7,049
– corporate	28,797	12,358	35	841	2,949	44,980
Retail portfolio	26,408	1,699	—	—	14	28,121
– residential mortgages	22,674	2	—	—	—	22,676
– home equity lines of credit	1,722	1,041	—	—	—	2,763
– personal unsecured revolving loan facilities	214	203	—	—	—	417
– other personal loan facilities	1,186	175	—	—	1	1,362
– other small to medium enterprises loan facilities	168	278	—	—	13	459
– run-off consumer loan portfolio	100	—	—	—	—	100
– retail card	344	—	—	—	—	344
Total	79,649	14,662	194	2,509	4,019	101,033

Wholesale loan portfolio by geographic area

(Audited)

	EAD
	2017
	$m
Sovereign	20,883
– Canada	17,017
– United States of America	1,259
– Other	2,607
Banks	7,049
– Canada	4,188
– United States of America	1,083
– Other	1,778
Corporate	44,980
– Canada	42,642
– British Columbia	12,682
– Ontario	12,119
– Alberta	8,702
– Quebec	6,361
– Saskatchewan and Manitoba	1,779
– Atlantic provinces	998
– Territories	1
– United States of America	1,584
– Other	754
Total wholesale loan portfolio exposure	72,912

Wholesale loan portfolio by industry sector

(Audited)

	EAD at 31 December 2017					
	Drawn	Undrawn	Repurchase type transactions	Derivatives	Other Off-balance sheet	Total
	$m	$m	$m	$m	$m	$m
Corporate	28,797	12,358	35	841	2,949	44,980
– real estate	8,123	1,862	—	46	467	10,498
– manufacturing	4,102	1,871	—	30	365	6,368
– energy	2,472	2,544	—	370	666	6,052
– wholesale trade	2,292	1,156	—	22	172	3,642
– services	2,027	560	—	26	176	2,789
– construction services	1,230	768	—	3	534	2,535
– transport and storage	1,760	532	—	33	128	2,453
– finance and insurance	1,066	887	35	213	87	2,288
– retail trade	1,160	424	—	76	69	1,729
– mining, logging and forestry	637	719	—	7	183	1,546
– business services	1,146	286	—	7	42	1,481
– automotive	969	320	—	3	40	1,332
– agriculture	702	309	—	4	13	1,028
– hotels and accommodation	690	52	—	1	6	749
– sole proprietors	421	68	—	—	1	490
– government services	—	—	—	—	—	—

Credit quality of wholesale portfolio

(Audited)

	EAD Drawn[1]	EAD Undrawn	EAD Total
	$m	$m	$m
Strong	29,961	3,066	33,027
Good	16,922	6,398	23,320
Satisfactory	11,279	2,862	14,141
Sub-standard	1,411	608	2,019
Impaired	376	29	405
At 31 Dec 2017	59,949	12,963	72,912

1. *The drawn balance includes drawn, repurchase type transactions, derivatives and off-balance sheet amounts.*

Credit quality of retail portfolio

(Audited)

	EAD Drawn[1]	EAD Undrawn	EAD Total
	$m	$m	$m
Strong	13,895	1	13,896
Good	10,157	1,308	11,465
Satisfactory	1,760	332	2,092
Sub-standard	528	58	586
Impaired	82	—	82
At 31 Dec 2017	26,422	1,699	28,121

1. *The drawn balance includes drawn, repurchase type transactions, derivatives and off-balance sheet amounts.*

Impaired financial assets

(Audited)

	EAD
	2017
	$m
Impaired wholesale portfolio	405
– manufacturing	95
– energy	87
– construction services	78
– real estate	52
– wholesale trade	31
– business services	22
– transport and storage	14
– services	6
– retail trade	6
– finance and insurance	6
– sole proprietors	3
– mining, logging and forestry	2
– agriculture	1
– automotive	1
– hotels and accommodation	1
Impaired retail portfolio	82
– residential mortgages	55
– other retail loans	27
Total impaired financial assets	487

Impairment allowances

(Audited)

	Footnote	2017 $m
Gross loans and advances to customers		
Individually assessed impaired loans and advances (A)	1	365
Collectively assessed loans and advances (B)		50,255
– impaired loans and advances	1	25
– non-impaired loans and advances		50,230
Total gross loans and advances to customers (C)		50,620
Less: impairment allowances (c)		283
– individually assessed (a)		149
– collectively assessed (b)		134
Net loans and advances to customers		50,337
Individually assessed impaired loans and advances coverage - (a) as a percentage of (A)		40.8%
Collectively assessed loans and advances coverage - (b) as a percentage of (B)		0.3%
Total loans and advances coverage - (c) as a percentage of (C)		0.6%

1. *Includes restructured loans with a higher credit quality than 'impaired' and for which there is insufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, or the absence of other indicators of impairment.*

Movement in impairment allowances and provision for credit losses

(Audited)

	Footnote	Customers individually assessed $m	Customers collectively assessed $m	Other credit risk provisions $m	Total $m
		2017			
At 1 Jan		252	187	89	528
Movement					
– loans and advances written off net of recoveries of previously written off amounts	1	(72)	(4)	—	(76)
– recovery to income		(14)	(49)	(45)	(108)
– interest recognized on impaired loans and advances		(18)	—	—	(18)
– other movements		1	—	(2)	(1)
At 31 Dec		149	134	42	325

1. *Recovered $15m of loans and advances written off in prior periods.*

Liquidity and funding risk

Liquidity and funding risk is the potential for loss if the bank is unable to generate sufficient cash or its equivalents to meet financial commitments in a timely manner at reasonable prices as they become due. Financial commitments include liabilities to depositors and suppliers, lending, investment and pledging commitments.

Liquidity and funding risk management

The objective of our liquidity and funding risk management framework is to ensure that all foreseeable funding commitments, including deposit withdrawals, can be met when due, and that access to the wholesale markets is coordinated and cost-effective. It is designed to allow us to withstand very severe liquidity stresses and be adaptable to changing business models, markets and regulations.

The ARC is responsible for defining the bank's liquidity risk tolerances within the HSBC Group's liquidity risk framework, which mandates that each site manages its liquidity and funding on a self-sustaining basis. The ARC also reviews and approves the bank's liquidity and funding policy and is responsible for its oversight.

The bank's Asset and Liability Committee ('ALCO') is responsible for the development of policies and practices to manage liquidity and funding risk. Its mandate terms of reference is established by HSBC Group policy, the ARC, and the bank's Executive Committee.

ALCO supports the Chief Financial Officer's executive accountability for the oversight of liquidity and funding risk management. ALCO is responsible for establishing liquidity risk parameters, and monitoring metrics against risk appetite, funding costs, and early warning indicators of a liquidity stress. ALCO is also responsible for ensuring the operational effectiveness of the bank's contingency funding plan.

The management of liquidity and funding is carried out by our Balance Sheet Management ('BSM') department in accordance with practices and limits approved by ALCO, the ARC and HSBC Group. Compliance with policies is monitored by ALCO.

The bank has an internal liquidity and funding risk management framework which aims to allow it to withstand very severe liquidity stresses. It is designed to be adaptable to changing business models, markets and regulations. We continue to monitor liquidity and funding risk within our stated risk tolerance and management framework.

Our liquidity and funding risk management framework is delivered using the following key aspects:

- liquidity to be managed on a stand-alone basis with no implicit reliance on HSBC Group or central banks;
- minimum liquidity coverage ratio ('LCR') requirement;
- minimum net stable funding ratio ('NSFR') requirement;
- depositor concentration limit;
- three-month and twelve-month cumulative rolling term contractual maturity limits covering deposits from banks, deposits from non-bank financial institutions and securities issued;
- annual internal liquidity adequacy assessment process;
- minimum LCR requirement by currency;
- management and monitoring of intra-day liquidity;
- liquidity funds transfer pricing; and
- forward-looking funding assessments.

The internal liquidity and funding risk management framework and the risk limits were approved by the ARC.

Our annual internal liquidity adequacy assessment process aims to:

- identify risks that are not reflected in the bank's internal liquidity and funding risk management framework, and, where required, to assess additional limits required locally; and
- validate the risk tolerance by demonstrating that reverse stress testing scenarios are acceptably remote and ensuring vulnerabilities have been assessed through the use of severe stress scenarios.

Management of liquidity and funding risk

In accordance with OSFI's Liquidity Adequacy Requirements guideline, which incorporates Basel liquidity standards, the bank is required to maintain a LCR above 100% as well as monitor the Net Cumulative Cash Flow. The LCR estimates the adequacy of liquidity over a 30 day stress period while the Net Cumulative Cash Flow calculates a horizon for net positive cash flows in order to capture the risk posed by funding mismatches between assets and liabilities. As at 31 December 2018, the bank was compliant with both requirements.

The bank's LCR is summarized in the following table. For the quarter ended 31 December 2018, the bank's average LCR of 132% is calculated as the ratio of the stock of High-Quality Liquid Assets ('HQLA') to the total net stressed cash outflows over the next 30 calendar days. Compared with the prior year, the average LCR decreased to 132% from 137% mainly due to average increased outflows from refinancing of debt securities in issue.

OSFI liquidity coverage ratio[1]

	Average for the three months ended[1]	
	31 Dec 2018	31 Dec 2017
Total HQLA[2] ($m)	**23,464**	23,594
Total net cash outflows[2] ($m)	**17,716**	17,185
Liquidity coverage ratio (%)	**132**	137

1. *The data in this table has been calculated using averages of the three month-end figures in the quarter. Consequently, the LCR is an average ratio for the three months of the quarter and might not equal the LCR ratios calculated dividing total weighted HQLA by total weighted net cash outflows.*
2. *These are weighted values and are calculated after the application of the weights prescribed under the OSFI LAR Guideline for HQLA and cash inflows and outflows.*

As a basis to determine the bank's stable funding requirement, the bank calculates NSFR according to Basel Committee on Banking Supervision publication number 295, pending its implementation. OSFI is targeting implementation of the NSFR for 1 January 2020 for domestic systemically important banks ('D-SIBs') only. OSFI will conduct further work to assess requirements for non D-SIBs, which includes the bank. In Europe, implementation of NSFR is expected in 2021. The NSFR requires institutions to maintain sufficient 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.

Liquid assets

Liquid assets are held and managed on a stand-alone operating entity basis. Most are held directly by the BSM department, primarily for the purpose of managing liquidity risk in line with the internal liquidity and funding risk management framework. Liquid assets also include any unencumbered liquid assets held outside BSM departments for any other purpose. To qualify as part of the liquid asset buffer, assets must have a deep and liquid repo market in the underlying security. The internal liquidity and funding risk management framework gives ultimate control of all unencumbered assets and sources of liquidity to BSM.

The table below shows the estimated liquidity value unweighted (before assumed haircuts) of assets categorized as liquid and used for the purpose of calculating the OSFI LCR metric. The level of liquid assets reported reflects the stock of unencumbered liquid assets at the reporting date, using the regulatory definition of liquid assets. The decrease in liquid assets was mainly due to the deployment of surplus liquidity to fund loan growth during the year.

Liquid assets[1]

	2018	2017
	$m	$m
Level 1	**18,362**	20,307
Level 2a	**4,009**	4,491
Level 2b	**61**	119
As at 31 Dec	**22,432**	24,917

1. *The liquid asset balances stated here are as at the above dates (spot rate) and are unweighted and therefore do not match the liquid asset balances stated in the LCR ratio calculations which are the average for the quarter and are weighted.*

Sources of funding

Current accounts and savings deposits, payable on demand or on short notice, form a significant part of our funding. We place considerable importance on maintaining the stability and growth of these deposits, which provide a diversified pool of funds.

We also access wholesale funding markets across diversified terms, funding types, and currencies, to ensure low exposure to a sudden contraction of wholesale funding capacity and to minimize structural liquidity gaps. As part of our wholesale funding arrangements we use a number of programs to raise funds so that undue reliance is not placed on any one source of funding. In 2018, the bank established a new Canadian registered covered bond program to supplement wholesale funding from unsecured wholesale debt programs and Canada Mortgage Bonds.

No reliance is placed on unsecured money market wholesale funding as a source of core funding. Only wholesale funding with a residual term to maturity of one year or greater is counted towards the core funding base. In addition, our stress testing assumptions require an equivalent amount of liquid assets to be held against wholesale funding maturing within the relevant stress testing horizon.

Contractual maturity of financial liabilities

The table below 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 table below 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.

In addition, loans and other credit-related commitments, financial guarantees and similar contracts are generally not recognized on our balance sheet. The undiscounted cash flows potentially payable under loan and other credit-related commitments, and financial guarantees and similar contracts are classified on the basis of the earliest date they can be called. Application of this policy was improved in 2018, and therefore comparative information has been represented.

Cash flows payable by the bank under financial liabilities by remaining contractual maturities

(Audited)

	Footnotes	On demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years
		$m	$m	$m	$m	$m
Deposits by banks		**1,148**	**—**	**—**	**—**	**—**
Customer accounts		**41,671**	**7,881**	**8,937**	**1,543**	**—**
Repurchase agreements - non-trading		**—**	**8,236**	**—**	**—**	**—**
Trading liabilities		**2,164**	**—**	**—**	**—**	**—**
Derivatives		**4,248**	**—**	**581**	**1,414**	**66**
Debt securities in issue		**—**	**579**	**2,483**	**11,400**	**325**
Subordinated liabilities[1]	1	**—**	**11**	**33**	**174**	**1,262**
Other financial liabilities		**449**	**4,545**	**376**	**1,349**	**—**
		49,680	**21,252**	**12,410**	**15,880**	**1,653**
Loan and other credit-related commitments		**43,377**	**—**	**—**	**—**	**—**
Financial guarantees		**2,182**	**—**	**—**	**—**	**—**
At 31 Dec 2018		**95,239**	**21,252**	**12,410**	**15,880**	**1,653**
Proportion of cash flows payable in period		**65%**	**15%**	**8%**	**11%**	**1%**
Deposits by banks		1,546	150	—	—	—
Customer accounts		42,941	5,243	7,587	1,428	—
Repurchase agreements - non-trading		—	4,617	—	—	—
Trading liabilities		3,701	—	—	—	—
Derivatives		3,343	—	672	1,804	8
Debt securities in issue		—	652	1,253	7,902	1,778
Subordinated liabilities	1	—	9	27	141	1,255
Other financial liabilities		869	5,274	423	1,584	—
		52,400	15,945	9,962	12,859	3,041
Loan and other credit-related commitments		40,464	—	—	—	—
Financial guarantees		2,094	—	—	—	—
At 31 Dec 2017	2, 3	94,958	15,945	9,962	12,859	3,041
Proportion of cash flows payable in period		70%	12%	7%	9%	2%

1. *Excludes interest payable exceeding 15 years.*
2. *Effective 1 January 2018 the bank adopted IFRS 9 on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39. Refer to the table "Reconciliation of consolidated balance sheet as at 31 December 2017 and 1 January 2018" in note 33 of the consolidated financial statements for further details of balance sheet presentation changes.*
3. *Certain prior period amounts have been restated to conform to the current period presentation.*

Encumbered assets

In the normal course of business, the bank will pledge or otherwise encumber assets. The pledging of assets will occur to meet the bank's payments and settlement system obligations, as security in a repurchase transaction, to support secured debt instruments or as margining requirements. Limits are in place to control such pledging.

The bank actively monitors its pledging positions. Encumbered assets are not counted towards the bank's liquid assets used for internal stress testing scenarios. We further estimate the impact of credit rating downgrade triggers, and exclude the estimated impact from liquid assets within the bank's liquidity stress testing scenarios.

Market Risk

Market risk is the risk that movements in market risk factors, including interest rates, foreign exchange rates, credit spreads, commodity prices and equity prices, which will adversely affect our income or the value of our assets and liabilities.

Market risk management

Market risk management is independent of the business and is responsible for establishing the policies, procedures and limits that align with the risk appetite of the bank. The objective of market risk management is to identify, measure and control market risk exposures in order to optimize return on risk and remain within the bank's risk appetite.

We separate exposures to market risk into trading and non-trading portfolios. Trading portfolios include those positions arising from market-making and other positions designated as held-for-trading.

Market risk is managed and controlled in accordance with policies and risk limits set out by the RMM and approved by the Board as well as centrally by HSBC Group Risk Management. We set risk limits for each of our trading operations dependent upon the size, financial and capital resources of the operations, market liquidity of the instruments traded, business plan, experience and track record of management and dealers, internal audit ratings, support function resources and support systems. Risk limits are reviewed and set by the RMM on an annual basis at a minimum.

We use a range of tools to monitor and limit market risk exposures. These include: present value of a basis point, Value at Risk ('VaR'), foreign exchange exposure limits, maximum loss limits, credit spread limits, and issuer limits.

Value at Risk

VaR is a technique that estimates the potential losses that could occur 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 and non-trading portfolios to have a complete picture of risk.

The VaR models used are predominantly based on historical simulation that incorporates the following features:

- potential market movements are calculated with reference to data from the past two years;
- historical market rates and prices are calculated with reference to foreign exchange rates, credit spreads, interest rates, equity prices and the associated volatilities;
- VaR is calculated to a 99% confidence level; and
- VaR is calculated for a one-day holding period.

These models derive plausible future scenarios from past series of recorded market rates and prices, taking account of inter-relationships between different markets and rates such as interest rates and foreign exchange rates. 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. Statistically, we would expect to see losses in excess of VaR only one percent of the time over a one-year period.

Although a valuable guide to risk, VaR should always be viewed in the context of its limitations: For example:

- the use of historical data as a proxy for estimating future events may not encompass all potential events, particularly extreme ones;
- the use of a one-day holding period assumes that all positions can be liquidated or hedged during that period, which may not fully reflect the market risk arising at times of severe illiquidity, when a one day holding period may be insufficient to liquidate or hedge all positions fully;
- the use of a 99% confidence level, by definition, does not take into account losses that might occur beyond this level of confidence; and
- VaR is calculated on the basis of exposures outstanding at the close of business and therefore does not necessarily reflect intra-day exposures.

VaR disclosed in the following tables and graph is the bank's total VaR for both trading and non-trading books and remained within the bank's limits.

Total VaR of $15.3m at the year-ended 31 December 2018 increased by $2.8m from the prior year, largely due to higher credit spread risk in non-trading books. Over the same period, the average VaR of $10.8m decreased by $19.3m, primarily due to improved granularity in the VaR calculation, adopted from December 2017, with regards to exposures to Canadian government agencies during the reporting period.

The average trading VaR of $1.7m increased by $0.2m due to higher interest rate risk from growth in trading activities.

Total VaR

	Year ended	
	31 Dec 2018	31 Dec 2017
	$m	$m
Year-end	**15.3**	12.5
Average	**10.8**	29.6
Minimum	**7.6**	12.5
Maximum	**16.8**	43.1

Non-trading VaR

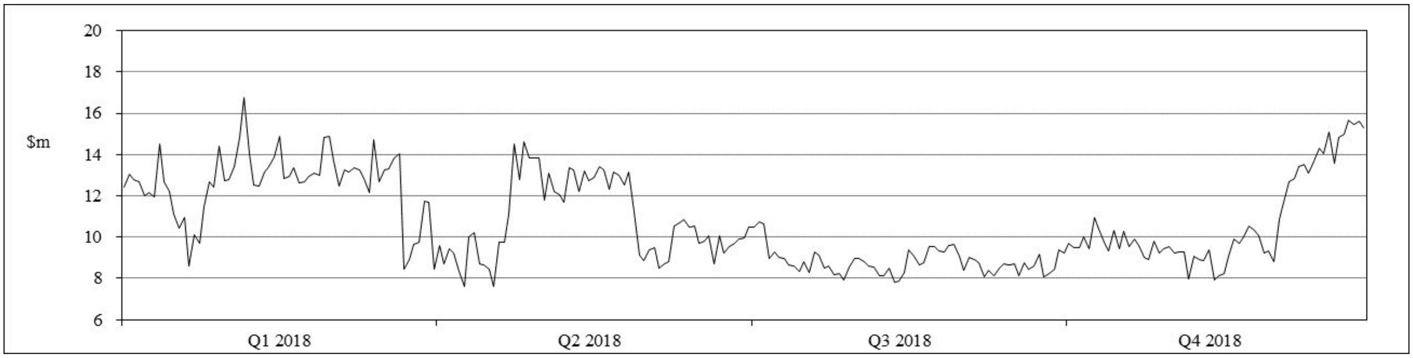
	Year ended	
	31 Dec 2018	31 Dec 2017
	$m	$m
Year-end	**14.5**	12.3
Average	**10.5**	29.8
Minimum	**6.7**	12.3
Maximum	**16.7**	41.5

Trading VaR (by risk type)[1]

	Footnotes	Foreign exchange and commodity	Interest rate	Equity	Credit spread	Portfolio diversification[2]	Total[4]
		$m	**$m**	**$m**	**$m**	**$m**	**$m**
January - December 2018							
At year-end		**—**	**1.4**	**—**	**0.6**	**(0.4)**	**1.6**
Average		**—**	**1.6**	**—**	**0.5**	**(0.4)**	**1.7**
Minimum	3	**—**	**1.0**	**—**	**0.3**		**1.0**
Maximum	3	**—**	**3.1**	**—**	**0.8**		**3.1**
January - December 2017							
At year-end		—	2.5	—	0.5	(0.4)	2.6
Average		—	1.4	—	0.5	(0.4)	1.5
Minimum	3	—	0.8	—	0.2		0.9
Maximum	3	0.1	2.9	—	1.7		3.0

1. *Trading portfolios comprise positions arising from the market-making of financial instruments and customer-driven derivatives positions.*
2. *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 combined total VaR and the sum of the VaRs by individual risk type. A negative number represents the benefit of portfolio diversification.*
3. *As the maximum and minimum occur on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures. Some small differences in figures presented are due to rounding.*
4. *The total VaR is non-additive across risk types due to diversification effects.*

Daily total VaR. 1 year history of daily figures



Structural interest rate risk

Interest rate risk is the risk of an adverse impact to earnings or capital due to changes in market interest rates. Structural interest rate risk is that which originates from the bank's non-trading assets and liabilities and shareholder's funds.

There are three main sub-categories of structural interest rate risk. Interest rate mismatch risk arises when there are differences in term to maturity or repricing of our assets and liabilities, both on- and off-balance sheet. Basis risk arises from the relative changes in interest rates for financial instruments that have similar tenors but are priced using different interest rate indices. Option risk arises from optionality embedded in products features which allow customers to alter cash flows, such as scheduled maturities or repricing dates.

The ARC is responsible for setting the structural interest rate risk policy and risk limits. ALCO supports the Chief Financial Officer's executive accountability for oversight.

We use a variety of cash and derivative instruments to manage our interest rate risk within prescribed limits. We use derivatives to modify the interest rate characteristics of related balance sheet instruments and to hedge anticipated exposures when market conditions are considered beneficial.

The risk is measured based on contractual re-pricing, as well as incorporating embedded optionality of early redemption, prepayment or re-pricing (such as redeemable deposit products, mortgages with prepayment options and fixed rate mortgage commitments). Non-maturity products are laddered out over an assumed maturity profile, based on historical behaviour.

We use two primary interest rate risk metrics to monitor and control the risk:

- Economic value of equity sensitivity - the change in the notional equity (or market) value of the non-trading portfolio under different interest rate scenarios, with the balance sheet valued on a run off basis.
- Earnings at risk sensitivity - the change in projected net interest income over the next 12 months across a range of interest rate scenarios based on a static balance sheet.

The following table shows structural interest rate sensitivities; earnings at risk is the impact over the next 12 months whereas economic value of equity is a balance sheet valuation on a run off basis. At December 2018, an immediate +100 basis points shock would have a negative impact to the bank's economic value of equity of $195 million, down from $296 million last year. An immediate -100 basis points shock at December 2018 would have a negative impact to earnings of $84 million, a decrease from $115 million last year. Relative to last year, the decreased earnings sensitivity is primarily due to the higher overall level of rates and the increased extent that certain customer deposits can reprice lower.

Sensitivity of structural interest rate risk in the non-trading portfolio

(Before-tax impact resulting from an immediate and sustained shift in interest rates):

	Year ended			
	31 Dec 2018		31 Dec 2017	
	Economic value of equity	**Earnings at risk**	Economic value of equity	Earnings at risk
	$m	**$m**	$m	$m
100 basis point increase	**(195)**	**105**	(296)	94
100 basis point decrease	**150**	**(84)**	252	(115)

Operational risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

Operational risk management

The objective or our operational risk management is to manage and control operational risk in a cost-effective manner with targeted levels of operational risk consistent with our appetite.

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 an end-to-end view of non-financial risks, enhancing focus on the risks that matter the most and the associated controls.

The ORMF defines minimum standards and processes, and the governance structure for the management of operational risk and internal controls. We have a dedicated Operational Risk sub-function within the Risk function that is responsible for establishing and maintaining the ORMF, and monitoring the level of operational losses and the internal control environment supported by their second line of defence functions.

Business managers 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 fulfill these responsibilities by defining a standard risk assessment methodology and providing a tool for the systematic reporting of operational loss data.

Regulatory Compliance risk management

Regulatory Compliance ('RC') provides independent, objective oversight and challenge and promotes a compliance-oriented culture, supporting the business in delivering fair outcomes for customers, maintaining the integrity of financial markets and achieving the bank's strategic objectives.

Regulatory Compliance matters are monitored at the Regulatory Compliance Steering Committee and escalated to the Chief Risk Officer via the RMM as required.

There were no material changes to the policies and practices for the management of RC risk in 2018 except that we implemented a number of initiatives to raise our standards in relation to the conduct of our business, including highlighting conduct requirements within the enterprise risk management framework that reflect the individual responsibility and accountability for the delivery of good conduct outcomes for customers and market integrity.

Financial Crime risk management

Financial Crime Risk brings together all areas of financial crime risk management and is dedicated to implementing the most effective global standards to combat financial crime. It enables us to build on our achievements in managing financial crime risk effectively across the bank and across all financial crime types including money laundering, fraud, sanctions evasion; as well as providing controls to support robust anti-bribery and corruption compliance. We continue to embed and update policies and procedures, introduce new technology solutions and support a bank wide culture focused on the effective management and mitigation of financial crime risk.

Security Risk

Security Risk includes: Physical Security Risk, Information Security Risk and Contingency Risk.

The Security Risk function is responsible for ensuring that effective protection measures are in place to mitigate risks to operations resulting from a variety of threats in the Physical Security, Business Continuity/Contingency and Information Security areas, and is available to support any part of the business.

Information Security Risk oversees and provides guidance to businesses and functions in regards to bank information assets to protect against the risk of loss, operational discontinuity, misuse, unauthorized disclosure, inaccessibility and damage. Information Security Risk covers all information processes, regardless of whether they involve people and technology or relationships with trading partners, customers and third parties. Information Security Risk addresses information protection, confidentiality, availability and integrity throughout the life cycle of information and its use within the bank. The security of our information and technology infrastructure is crucial for maintaining our banking applications and processes while protecting our customers and the HSBC brand.

The Contingency Risk function is responsible for ensuring that our businesses and functions have the resilience to maintain operational continuity in the face of major disruptive events. Within this wider risk, Contingency Risk oversees and provides guidance to businesses and functions to plan and consider strategies to minimize the adverse effects of major business disruption against a range of actual or emerging risks. The planning concentrates on the protection of customer services, our staff, reputation, revenue generations and the integrity of data and documents. Each business and function has its own recovery plan that determines how much time the business could sustain an outage before the level of losses becomes unacceptable, i.e. its criticality. These plans are reviewed and tested annually by each business and function.

Physical Security develops practical physical, electronic, and operational countermeasures to ensure that the people, property and assets managed by the bank are protected from crime, theft, attack and groups hostile to the bank. Physical Security is responsible for protecting our facilities and contents through robust policies, procedures and guidelines. Operating in coordination with key stakeholders, the team manages and implements a comprehensive physical security strategy ensuring consistent application of standardized practices across existing and planned facilities including the design, implementation and management of operational, technological and physical controls to mitigate physical security risk.

Fiduciary Risk

Fiduciary risk is the risk associated with failing to offer services honestly and properly to clients where we act in a fiduciary capacity. We define a fiduciary duty as any duty where we hold, manage, oversee or have responsibilities for assets of a third party that involves a legal and/or regulatory duty to act with the highest standard of care and with utmost good faith. A fiduciary must make decisions and act in the best interests of the third parties and must place the wants and needs of the client first, above the needs of the organization.

Fiduciary risk is managed within the designated businesses via a policy framework and monitoring of key indicators. The bank's principal fiduciary businesses are HSBC Global Asset Management (Canada) Limited and HSBC Private Wealth Services (Canada) Inc. which are exposed to fiduciary risks via investment management activities on behalf of clients.

Reputational risk

Reputational risk is the risk of failing to meet stakeholder expectations as a result of any event, behaviour, action or inactions either by the bank, our employees or those with whom we are associated. Stakeholders' expectations are constantly changing and thus reputational risk is dynamic. HSBC Bank Canada and the HSBC Group have an unwavering commitment to operating to the high standards in every jurisdiction. Any material lapse in standards of integrity, compliance, customer service or operating efficiency represents a potential reputational risk.

Reputational risk management

The banks requires each line of business to have a 'Reputational Risk and Client Selection' committee for the purpose of addressing reputational risk issues and escalating where appropriate.

Reputational risks are considered and assessed by the ARC and the RMM during the formulation of policy and the establishment of our standards. 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, customer impact, environmental impacts and employee relations.

Factors that may affect future results

The risk management section of the MD&A describes the most significant risks to which the bank is exposed and if not managed appropriately could have a material impact on our future financial results. This section outlines additional factors which may affect future financial results. Please be aware that the risks discussed below, many of which are out of our control, are not exhaustive and there may be other factors that could also affect our results.

General economic and market conditions

Factors such as the general health of capital and/or credit markets, including liquidity, level of activity, volatility and stability, could have a material impact on our business. As well, interest rates, foreign exchange rates, consumer saving and spending, housing prices, consumer borrowing and repayment, business investment, government spending and the rate of inflation affect the business and economic environment in which we operate.

In addition, the financial services industry is characterized by interrelations among financial services companies. As a result, defaults by other financial services companies could adversely affect our earnings. Given the interconnectedness of global financial markets and the importance of trade flows, changes in the global economic and political environment, such as the UK's exit from the EU, could affect the pace of economic growth in Canada.

Fiscal and monetary policies

Our earnings are affected by fiscal, monetary and economic policies that are adopted by Canadian regulatory authorities. Such policies can have the effect of increasing or reducing competition and uncertainty in the markets. Such policies may also adversely affect our customers and counterparties, causing a greater risk of default by these customers and counterparties. In addition, expectations in the bond and money markets about inflation and central bank monetary policy have an impact on the level of interest rates. Changes in market expectations and monetary policy are difficult to anticipate and predict. Fluctuations in interest rates that result from these changes can have an impact on our earnings. For example, despite recent rate increases we continue to operate within a low interest rate environment and this puts pressure on our results. Future changes to such policies will directly impact our earnings.

Changes in laws, regulations and approach to supervision

Regulators in Canada are very active on a number of fronts, including consumer protection, data protection and privacy, capital markets activities, anti-money laundering, and the oversight and strengthening of risk management. Regulations are in place to protect our customers and the public interest. Considerable changes have been made to laws and regulations that relate to the financial services industry, including changes related to capital and liquidity requirements. Changes in laws and regulations, including their interpretation and application, and changes in approaches to supervision could adversely affect our earnings.

Failure to comply with laws and regulations could result in sanctions, financial penalties and/or reputational damage that could adversely affect our strategic flexibility and earnings.

Level of competition and disruptive technology

The level of competition among financial services companies is high. Customer loyalty and retention can be influenced by a number of factors, including service levels, prices for products or services, our reputation and the actions of our competitors. Changes in these factors or any subsequent loss of market share could adversely affect our earnings. Furthermore, non-financial companies (such as financial technology ('fintech') companies) have increasingly been offering services traditionally provided by banks. While this presents a number of opportunities that we are actively engaging in, there is also a risk that it could disrupt financial institutions' traditional business model.

Changes to our credit rating

Credit ratings are important to our ability to raise both capital and funding to support our business operations. Maintaining strong credit ratings allows us to access the capital markets at competitive pricing. Should our credit ratings experience a material downgrade, our costs of funding would likely increase significantly and our access to funding and capital through capital markets could be reduced.

Operational and infrastructure risks

We are exposed to many operational risks including: the risk of fraud by employees or others, unauthorized transactions by employees, and operational or human error. We face the risk of loss due to cyber-attack and also face the risk that computer or telecommunications systems could fail, despite our efforts to maintain these systems in good working order. Some of our services or operations may face the risk of interruption or other security risks arising from the use of the internet in these services or operations, which may impact our customers and infrastructure. Given the high volume of transactions we process on a daily basis, certain errors may be repeated or compounded before they are discovered and rectified. Shortcomings or failures of our internal processes, employees or systems, or those provided by third parties, including any of our financial, accounting or other data processing systems, could lead to financial loss and damage to our reputation. In addition, despite the contingency plans we have in place, our ability to conduct business may be adversely affected by a disruption in the infrastructure that supports both our operations and the communities in which we do business, including but not limited to disruption caused by public health emergencies, environmental disasters or terrorist acts.

Other risks

Other factors that may impact our results include the physical risks associated with climate change, which is the risk to our customers associated with severe weather events; changes in accounting standards, including their effect on our accounting policies, estimates and judgments; changes in tax rates, tax law and policy, and its interpretation by taxing authorities and our ability to attract, develop and retain key personnel.

Capital

Our objective in the management of capital is to maintain appropriate levels of capital to support our business strategy and meet our regulatory requirements.

Capital management

(Audited)

The bank manages its capital in accordance with the principles contained within its capital management policy and its annual capital plan, which include the results of its internal capital adequacy assessment process ('ICAAP'). The bank determines an optimal amount and composition of regulatory and working capital required to support planned business growth, taking into consideration economic capital and the costs of capital, accepted market practices and the volatility of capital and business levels in its annual operating plan.

The bank maintains a capital position commensurate with its overall risk profile and control environment as determined by the ICAAP. The ICAAP supports capital management and ensures that the bank carries sufficient capital to meet regulatory requirements and internal targets to cover current and future risks; and, survive periods of severe economic downturn (stressed scenarios). The key elements of the bank's ICAAP include: a risk appetite framework; the identification and assessment of the risks the bank is exposed to; and, an assessment of capital adequacy against regulatory requirements as well as under stressed scenarios.

Management has established appropriate governance structures and internal controls to ensure the ICAAP remains effective in supporting the bank's capital management objectives.

The bank met its regulatory requirements throughout 2018.

Basel III capital and leverage rules

The bank assesses capital adequacy against standards established in guidelines issued by OSFI in accordance with the Basel III capital adequacy framework.

The Basel III capital adequacy framework significantly revised the definitions of regulatory capital and introduced the requirement that all regulatory capital must be able to absorb losses in a failed financial institution. Capital instruments issued prior to the adoption of the existing requirements in 2013 that do not meet these requirements are being phased out as regulatory capital over a ten year period from 2013 to 2022.

The framework emphasizes common equity as the predominant component of tier 1 capital by adding a minimum common equity tier 1 ('CET1') capital ratio. The Basel III rules also require institutions to hold capital buffers designed to avoid breaches of minimum regulatory requirements during periods of stress.

OSFI has established capital targets (including capital conservation buffer) that all institutions are expected to attain or exceed, as follows: CET1 capital ratio of 7.0%, tier 1 capital ratio of 8.5% and total capital ratio of 10.5%.

Regulatory capital ratios

Actual regulatory capital ratios and capital requirements

	Footnotes	Year ended 31 Dec 2018	31 Dec 2017
Actual regulatory capital ratios	1		
– common equity tier 1 capital ratio		**11.3%**	10.5%
– tier 1 capital ratio		**13.4%**	12.4%
– total capital ratio		**16.0%**	14.7%
– leverage ratio		**4.6%**	4.9%
Regulatory capital requirements	2		
– minimum common equity tier 1 capital ratio		**7.0%**	7.0%
– minimum tier 1 capital ratio		**8.5%**	8.5%
– minimum total capital ratio		**10.5%**	10.5%

1. *Presented under a Basel III basis with non-qualifying capital instruments phased out over 10 years starting 1 January 2013.*
2. *OSFI target capital ratios including mandated capital conservation buffer.*

Regulatory capital

Total regulatory capital and risk-weighted assets

	Footnotes	Year ended 31 Dec 2018	31 Dec 2017
		$m	$m
Gross common equity	1	**4,733**	4,860
Regulatory adjustments		**(202)**	(121)
Common equity tier 1 capital		**4,531**	4,739
Additional tier 1 eligible capital		**850**	850
Tier 1 capital		**5,381**	5,589
Tier 2 capital	2	**1,044**	1,042
Total capital		**6,425**	6,631
Risk-weighted assets ('RWA') used in the calculation	3, 4		
– common equity tier 1 capital RWA		**40,142**	45,035
– tier 1 capital RWA		**40,142**	45,035
– total capital RWA		**40,142**	45,035

1. *Includes common share capital, retained earnings and accumulated other comprehensive income.*
2. *Includes a capital instrument subject to phase out and allowances.*
3. *Each capital ratio has its own RWA measure due to the OSFI-prescribed scalar for inclusion of the Credit Valuation Adjustment ('CVA'). For fiscal 2018, the scalars for inclusion of CVA for Common equity tier 1, Tier 1, and Total capital RWA are 80%, 83%, and 86%. For fiscal 2017, the scalars were 72%, 77%, and 81%.*
4. *In January 2018, OSFI announced its decision to update the existing capital floor for institutions using advanced approaches for credit risk and operational risk. Effective from the second quarter of 2018, the capital floor was based on the Standardized approach under Basel II framework with the floor factor transitioned in over three quarters. The floor factor was set at 70% for the second quarter of 2018, increasing to 72.5% in the third quarter of 2018 and 75% in the fourth quarter of 2018.*

Outstanding shares and dividends

Outstanding shares and dividends declared and paid on our shares in each of the last three years were as follows:

		31 December 2018			31 December 2017			31 December 2016		
	Footnotes	**Dividend**	**Number of issued shares**	**Carrying value**	Dividend	Number of issued shares	Carrying value	Dividend	Number of issued shares	Carrying value
		$ per share	**'000's**	**$m**	$ per share	'000's	$m	$ per share	'000's	$m
Common shares	1	**1.62433**	**498,668**	**1,225**	0.47126	498,668	1,225	0.68382	498,668	1,225
Class 1 preferred shares	2									
– Series C	3	**—**	**—**	**—**	1.27500	—	—	1.27500	7,000	175
– Series D	3	**—**	**—**	**—**	1.25000	—	—	1.25000	7,000	175
– Series G		**1.00000**	**20,000**	**500**	1.00000	20,000	500	1.00000	20,000	500
– Series I	4	**1.23250**	**14,000**	**350**	—	14,000	350	—	—	—

1. *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.*
2. *Cash dividends on preferred shares are non-cumulative and are payable quarterly.*
3. *Preferred shares - Class 1, Series C and D were redeemed on 31 December 2017.*
4. *Preferred shares - Class 1, Series I were issued on 7 December 2017; no dividends were declared in 2017.*

Dividends declared in 2018

During the year, the bank declared and paid $810m in dividends, including a special dividend of $400m, on HSBC Bank Canada common shares, an increase of $575m compared with the prior year, and $37m in dividends on all series of HSBC Bank Canada Class 1 preferred shares.

In January 2018, OSFI announced its decision to update the existing capital floor for institutions using advanced approaches for credit risk and operational risk. Effective for the second quarter of 2018, the capital floor is based on the Standardized approach under Basel II framework with the floor factor transitioned in over three quarters. The result was an immediate reduction of RWA, which allowed HSBC Bank Canada to declare and pay a special dividend of $400m.

Dividends declared in 2019

On 15 February 2019, the bank declared regular quarterly dividends for the first quarter 2019 on all series of HSBC Bank Canada Class 1 preferred shares, to be paid in accordance with their terms in the usual manner on 31 March 2019 or the first business day thereafter to shareholder of record on 15 March 2019.

On 15 February 2019, the bank also declared a final dividend of $140m on HSBC Bank Canada common shares in respect of the financial year ending 31 December 2018, which will be paid on or before 30 March 2019 to the shareholder of record on 15 February 2019.

As the quarterly dividends on preferred shares for the first quarter 2019 and the final dividend on common shares for 2018 were declared after 31 December 2018, the amounts have not been included in the balance sheet of the bank as a liability.

Statement of Management's Responsibility for Financial Information

The presentation and preparation of the annual consolidated financial statements, Management's Discussion and Analysis ('MD&A') and all other information in the *Annual Report and Accounts 2018* is the responsibility of the management of HSBC Bank Canada ('the bank'). The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards. The consolidated financial statements and information in the MD&A include amounts based on informed judgments and estimates of the expected effects of current events and transactions with appropriate consideration to materiality.

In meeting its responsibility for the reliability of financial information, management relies on comprehensive internal accounting, operating and system controls. The bank's overall controls include: an organizational structure providing for effective segregation of responsibilities; delegation of authority and personal accountability; written communication of policies and procedures of corporate conduct throughout the bank; careful selection and training of personnel; regular updating and application of written accounting and administrative policies and procedures necessary to ensure adequate internal control over transactions, assets and records; and a continuing program of extensive internal audit covering all aspects of the bank's operations. These controls are designed to provide reasonable assurance that financial records are reliable for preparing the consolidated financial statements and maintaining accountability for assets that assets are safeguarded against unauthorized use or disposition and that the bank is in compliance with all regulatory requirements. Management has a process in place to evaluate internal control over financial reporting based on the criteria established in the Internal Control - Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission ('COSO').

At least once a year, the Office of the Superintendent of Financial Institutions Canada ('OSFI'), makes such examination and enquiry into the affairs of the bank as deemed necessary to ensure that the provisions of the Bank Act, having reference to the rights and interests of the depositors and the creditors of the bank, are being complied with and that the bank is in a sound financial condition.

The bank's Board of Directors oversees management's responsibilities for financial reporting through the Audit and Risk Committee, which is composed of Directors who are not officers or employees of the bank. The Audit and Risk Committee reviews the bank's interim and annual consolidated financial statements and MD&A. The committee approves the interim statements and recommends the Annual statements for approval by the Board of Directors. Other key responsibilities of the Audit and Risk Committee include monitoring the bank's system of internal control, monitoring its compliance with legal and regulatory requirements, considering the appointment of the Shareholder's auditors and reviewing the qualifications, independence and performance of Shareholder's auditors and internal auditors.

As at 31 December 2018, we, the bank's Chief Executive Officer and Chief Financial Officer, have certified the design and effectiveness of our internal control over financial reporting as defined by the Canadian Securities Administrators under National Instrument 52-109 (Certification of Disclosure in Issuer's Annual and Interim Filings).

The Shareholder's auditors, the bank's Chief Internal Auditor and OSFI have full and free access to the Board of Directors and its committees to discuss audit, financial reporting and related matters.

Sandra Stuart
President and Chief Executive Officer
HSBC Bank Canada

Gerhardt Samwell
Chief Financial Officer
HSBC Bank Canada

Vancouver, Canada

15 February 2019

Our opinion

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of HSBC Bank Canada and its subsidiaries (together, the Bank) as at December 31, 2018 and 2017, and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards (IFRS).

What we have audited

The Bank's consolidated financial statements comprise:

- the consolidated income statements for the years ended December 31, 2018 and 2017;
- the consolidated statements of comprehensive income for the years ended December 31, 2018 and 2017;
- the consolidated balance sheets as at December 31, 2018 and 2017;
- the consolidated statements of cash flows for the years ended December 31, 2018 and 2017;
- the consolidated statements of changes in equity for the years ended December 31, 2018 and 2017; and
- the notes to the consolidated financial statements, which include a summary of significant accounting policies.

Certain required disclosures have been presented elsewhere in Management's Discussion and Analysis, rather than in the notes to the consolidated financial statements. These disclosures are cross-referenced from the consolidated financial statements and are identified as audited.

Basis for opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Bank in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Canada. We have fulfilled our other ethical responsibilities in accordance with these requirements.

Other information

Management is responsible for the other information. The other information obtained prior to the date of this auditor's report comprises Management's Discussion and Analysis.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of management and those charged with governance for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Bank's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Bank or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Bank's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Bank's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Bank's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Bank to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Bank to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

PricewaterhouseCoopers LLP

Chartered Professional Accountants

Vancouver, Canada

February 15, 2019

Consolidated Financial Statements

Consolidated income statement

for the year ended 31 December

	Notes	2018[1] $m	2017 $m
Net interest income		**1,292**	1,177
– interest income		**2,421**	1,910
– interest expense		**(1,129)**	(733)
Net fee income	3	**673**	653
– fee income		**762**	729
– fee expense		**(89)**	(76)
Net income from financial instruments held for trading (2017: Net trading income)		**136**	125
Changes in fair value of long-term debt (2017: Net expense from financial instruments designated at fair value)		**—**	(4)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		**(2)**	n/a
Gains less losses from financial investments		**56**	31
Dividend income		**1**	—
Other operating income		**108**	88
Total operating income		**2,264**	2,070
Change in expected credit losses		**27**	n/a
Loan impairment recoveries and other credit risk provisions		**n/a**	108
Net operating income	4	**2,291**	2,178
Employee compensation and benefits	5, 6	**(696)**	(705)
General and administrative expenses		**(555)**	(537)
Depreciation of property, plant and equipment		**(32)**	(33)
Amortization and impairment of intangible assets		**(17)**	(14)
Total operating expenses		**(1,300)**	(1,289)
Operating profit		**991**	889
Share of profit in associates		**—**	6
Profit before income tax expense		**991**	895
Income tax expense	7	**(273)**	(227)
Profit for the year		**718**	668
Attributable to:			
– the common shareholder		**681**	630
– the preferred shareholder		**37**	38
Profit for the year		**718**	668
Average number of common shares outstanding (000's)		**498,668**	498,668
Basic and diluted earnings per common share ($)		**$ 1.36**	$ 1.26

1. *Effective 1 January 2018 the bank adopted IFRS 9 Financial instruments ('IFRS 9') on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39 Financial Instruments: Recognition and Measurement ('IAS 39').*

The accompanying notes and the audited 'Risk', 'Liquidity and Funding Risk Management' and 'Capital' sections within the Management's Discussion and Analysis form an integral part of these consolidated financial statements.

Consolidated statement of comprehensive income

for the year ended 31 December

	Notes	2018 $m	2017 $m
Profit for the year		**718**	668
Other comprehensive income			
Items that will be reclassified subsequently to profit or loss when specific conditions are met:			
Debt instruments at fair value through other comprehensive income		**(80)**	n/a
– fair value losses		**(53)**	n/a
– fair value gains transferred to the income statement on disposal		**(56)**	n/a
– income taxes		**29**	n/a
Available-for-sale investments		**n/a**	18
– fair value gains		**n/a**	55
– fair value gains reclassified to the income statement		**n/a**	(31)
– income taxes		**n/a**	(6)
Cash flow hedges		**31**	(106)
– fair value (losses)/gains		**(73)**	32
– fair value losses/(gains) reclassified to the income statement		**115**	(175)
– income taxes		**(11)**	37
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of defined benefit plans		**45**	(12)
– before income taxes	5	**62**	(19)
– income taxes	7	**(17)**	7
Changes in fair value of financial liabilities designated at fair value arising from changes in own credit risk		**—**	3
– before income taxes		**—**	3
– income taxes		**—**	—
Equity instruments designated at fair value through other comprehensive income		**(1)**	n/a
– fair value losses		**(1)**	n/a
– income taxes		**—**	n/a
Other comprehensive loss for the year, net of tax		**(5)**	(97)
Total comprehensive income for the year		**713**	571
Attributable to:			
– the common shareholder		**676**	533
– the preferred shareholder		**37**	38
Total comprehensive income for the year		**713**	571

The accompanying notes and the audited 'Risk', 'Liquidity and Funding Risk Management' and 'Capital' sections within the Management's Discussion and Analysis form an integral part of these consolidated financial statements.

Consolidated balance sheet

at 31 December

	Notes	2018[1] $m	2017 $m
Assets			
Cash and balances at central banks		**78**	411
Items in the course of collection from other banks		**8**	25
Trading assets	11	**3,875**	5,373
Other financial assets mandatorily measured at fair value through profit or loss		**4**	n/a
Derivatives	12	**4,469**	3,675
Loans and advances to banks		**1,221**	1,221
Loans and advances to customers		**57,123**	50,337
Reverse repurchase agreements – non-trading		**5,860**	6,153
Financial investments	13	**24,054**	22,913
Other assets	18	**2,200**	899
Prepayments and accrued income		**234**	213
Customers' liability under acceptances		**3,932**	4,801
Current tax assets		**51**	44
Property, plant and equipment	15	**101**	106
Goodwill and intangible assets	19	**121**	90
Deferred tax assets		**75**	118
Total assets		**103,406**	96,379
Liabilities and equity			
Liabilities			
Deposits by banks		**1,148**	1,696
Customer accounts		**59,812**	57,054
Repurchase agreements – non-trading		**8,224**	4,604
Items in the course of transmission to other banks		**252**	299
Trading liabilities	20	**2,164**	3,701
Derivatives	12	**4,565**	3,516
Debt securities in issue	21	**13,863**	10,820
Other liabilities	22	**1,891**	2,217
Acceptances		**3,937**	4,801
Accruals and deferred income		**574**	475
Retirement benefit liabilities	5	**270**	346
Subordinated liabilities	23	**1,039**	1,039
Provisions		**41**	61
Current tax liabilities		**43**	40
Total liabilities		**97,823**	90,669
Equity			
Common shares	26	**1,225**	1,225
Preferred shares	26	**850**	850
Other reserves		**(111)**	(61)
Retained earnings		**3,619**	3,696
Total shareholder's equity		**5,583**	5,710
Total liabilities and equity		**103,406**	96,379

1. *Effective 1 January 2018 the bank adopted IFRS 9 Financial instruments ('IFRS 9') on a retrospective basis without restatement of prior periods. Results from prior periods are reported in accordance with IAS 39 Financial Instruments: Recognition and Measurement ('IAS 39').*

The accompanying notes and the audited 'Risk', 'Liquidity and Funding Risk Management' and 'Capital' sections within the Management's Discussion and Analysis form an integral part of these consolidated financial statements.

Approved on behalf of the Board of Directors:

Samuel Minzberg
Chairman
HSBC Bank Canada

Sandra Stuart
President and Chief Executive Officer
HSBC Bank Canada

Consolidated statement of cash flows

for the year ended 31 December

	Note	2018 $m	2017 $m
Profit before tax		**991**	895
Adjustments for:			
– non-cash items included in profit before tax	27	**53**	(40)
Changes in operating assets and liabilities			
– change in operating assets	27	**(6,744)**	(3,982)
– change in operating liabilities	27	**7,919**	2,232
– tax paid		**(234)**	(159)
Net cash from operating activities		**1,985**	(1,054)
Purchase of financial investments		**(13,442)**	(7,685)
Proceeds from the sale and maturity of financial investments		**12,182**	10,028
Purchase of intangibles and property, plant and equipment		**(76)**	(65)
Proceeds from sale of property, plant and equipment		**1**	—
Net cash from investing activities		**(1,335)**	2,278
Redemption of subordinated liabilities		**—**	(1,400)
Issuance of subordinated liabilities		**—**	1,000
Redemption of loans payable		**—**	(671)
Redemption of preferred shares		**(350)**	—
Dividends paid to shareholder		**(847)**	(273)
Issuance of preferred shares		**—**	350
Net cash from financing activities		**(1,197)**	(994)
Net (decrease)/increase in cash and cash equivalents		**(547)**	230
Cash and cash equivalents at 1 Jan		**1,880**	1,650
Cash and cash equivalents at 31 Dec	27	**1,333**	1,880
Interest			
Interest paid		**(1,038)**	(743)
Interest received		**2,369**	1,887

The accompanying notes and the audited ‘Risk’, ‘Liquidity and Funding Risk Management’ and ‘Capital’ sections within the Management’s Discussion and Analysis form an integral part of these consolidated financial statements.

Consolidated statement of changes in equity

for the year ended 31 December

	Share capital[1]	Retained earnings	Other reserves: Available-for-sale fair value reserve	Other reserves: Financial assets at FVOCI reserve	Other reserves: Cash flow hedging reserve	Other reserves: Total other reserves	Total equity
	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018	**2,075**	**3,696**	**(12)**	**n/a**	**(49)**	**(61)**	**5,710**
Changes on initial application of IFRS 9	**—**	**11**	**12**	**(12)**	**—**	**—**	**11**
Restated balance at 1 Jan 2018 under IFRS 9	**2,075**	**3,707**	**—**	**(12)**	**(49)**	**(61)**	**5,721**
Profit for the year	**—**	**718**	**n/a**	**—**	**—**	**—**	**718**
Other comprehensive income/(loss), net of tax	**—**	**45**	**—**	**(81)**	**31**	**(50)**	**(5)**
– debt instruments at fair value through other comprehensive income	**—**	**—**	**n/a**	**(80)**	**—**	**(80)**	**(80)**
– equity instruments designated at fair value through other comprehensive income	**—**	**—**	**n/a**	**(1)**	**—**	**(1)**	**(1)**
– cash flow hedges	**—**	**—**	**n/a**	**—**	**31**	**31**	**31**
– remeasurement of defined benefit asset/liability	**—**	**45**	**n/a**	**—**	**—**	**—**	**45**
Total comprehensive income for the year	**—**	**763**	**—**	**(81)**	**31**	**(50)**	**713**
Dividends paid on common shares	**—**	**(810)**	**n/a**	**—**	**—**	**—**	**(810)**
Dividends paid on preferred shares	**—**	**(37)**	**n/a**	**—**	**—**	**—**	**(37)**
Shares issued under employee remuneration and share plan	**—**	**(4)**	**n/a**	**—**	**—**	**—**	**(4)**
At 31 Dec 2018	**2,075**	**3,619**	**n/a**	**(93)**	**(18)**	**(111)**	**5,583**

	Share capital[1]	Retained earnings	Other reserves: Available-for-sale fair value reserve	Other reserves: Cash flow hedging reserve	Other reserves: Total other reserves	Total equity
	$m	$m	$m	$m	$m	$m
At 1 Jan 2017	2,075	3,313	(30)	57	27	5,415
Profit for the year	—	668	—	—	—	668
Other comprehensive income/(loss), net of tax	—	(9)	18	(106)	(88)	(97)
– available-for-sale investments	—	—	18	—	18	18
– cash flow hedges	—	—	—	(106)	(106)	(106)
– remeasurement of defined benefit asset/liability	—	(12)	—	—	—	(12)
– changes in fair value of financial liabilities designated at fair value arising from changes in own credit risk	—	3	—	—	—	3
Total comprehensive income for the year	—	659	18	(106)	(88)	571
Dividends paid on common shares	—	(235)	—	—	—	(235)
Dividends paid on preferred shares	—	(38)	—	—	—	(38)
Issuance of preferred - *Class 1, Series I*	350	—	—	—	—	350
Redemption of preferred - *Class 1, Series C and D*	(350)	—	—	—	—	(350)
Shares issued under employee remuneration and share plan	—	(3)	—	—	—	(3)
At 31 Dec 2017	2,075	3,696	(12)	(49)	(61)	5,710

1. *Share capital is comprised of common shares $1,225m and preferred shares $850m.*

The accompanying notes and the audited 'Risk', 'Liquidity and Funding Risk Management' and 'Capital' sections within the Management's Discussion and Analysis form an integral part of these consolidated financial statements.

1 Basis of preparation

(a) Compliance with International Financial Reporting Standards

International Financial Reporting Standards ('IFRSs') comprise accounting standards as issued or adopted by the International Accounting Standards Board ('IASB') as well as interpretations issued or adopted by the IFRS Interpretations Committee.

HSBC Bank Canada and its subsidiary undertakings (together 'the bank', 'we', 'our', 'HSBC') is an indirectly wholly-owned subsidiary of HSBC Holdings plc ('the Parent', 'HSBC Holdings'). In these consolidated financial statements, HSBC Group means the Parent and its subsidiary companies.

The consolidated financial statements of the bank have been prepared in accordance with IFRSs and in consideration of the accounting guidelines as issued by the Office of the Superintendent of Financial Institutions Canada ('OSFI'), as required under Section 308(4) of the Bank Act. Section 308 (4) states that except as otherwise specified by OSFI, the financial statements shall be prepared in accordance with IFRS.

(b) Standards adopted during the year ended 31 December 2018

The bank 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 considered to be significant. IFRS 9 includes an accounting policy choice to remain with IAS 39 hedge accounting, which the bank 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, the bank has not restated comparatives. The impact of adoption on net assets at 1 January 2018 is set out in note 33.

The bank has adopted the requirements of IFRS 15 'Revenue from contracts with customers' from 1 January 2018. In accordance with the IFRS 15 options, the bank has applied the standard retrospectively with the cumulative impact of adopting the standard recognized at the date of initial application as an adjustment to the opening balance of retained earnings. As the bank has determined that the adoption of IFRS 15 has no significant impact on the consolidated financial statements of the bank, no adjustment has been made to retained earnings.

In addition, the bank has also adopted a number of interpretations and amendments to standards which have had an insignificant effect on the consolidated financial statements of the bank.

(c) Future accounting developments

Major new IFRSs

The IASB has published IFRS 16 'Leases' and IFRS 17 'Insurance Contracts'.

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 recognize a right of use ('ROU') asset and a corresponding financial liability on the balance sheet. The asset will be amortized over the length of the lease, and the financial liability measured at amortized cost. Lessor accounting remains substantially the same as under IAS 17. At 1 January 2019, the bank will adopt the standard and use a modified retrospective approach where the cumulative effect of initially applying the standard is recognized as an adjustment to the opening balance of retained earnings and comparative balances are not restated. The implementation is expected to increase assets (ROU assets) by approximately $275m 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 effective from 1 January 2021, although the IASB is considering delaying the mandatory implementation date by one year. The bank is considering the impact of IFRS 17 on the consolidated financial statements of the bank.

Minor amendments to IFRSs

The IASB has published a number of minor amendments to IFRSs which are effective from 1 January 2019. We expect they will have an insignificant effect, when adopted, on our consolidated financial statements.

(d) Foreign currencies

The bank's consolidated financial statements are presented in Canadian dollars which is also its functional currency. The abbreviation '$m' represents millions of dollars. All tabular amounts are in millions of dollars except where otherwise noted.

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 that 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 recognized.

(e) Presentation of information

Certain disclosures required by IFRSs are included in the accompanying Management's Discussion and Analysis from pages 26 to 52 as follows:

- Disclosures required under IFRS 7 'Financial Instruments: Disclosures' on the nature and extent of risks relating to financial instruments and reconciliation of allowance accounts for credit losses are included in the 'Risk' section;

- Disclosures required under IFRS 7 'Financial Instruments: Disclosures' on liquidity risk and a maturity analysis for financial liabilities are included in the 'Liquidity and Funding Risk Management' section; and
- Capital disclosures under IAS 1 'Presentation of financial statements' are included in the 'Capital' section.

(f) Changes to the presentation of the Consolidated Financial Statements and Notes on the Consolidated Financial Statements

As a result of the adoption of IFRS 9 certain items have been reclassified on the balance sheet. Additionally, while not necessarily required by the adoption of IFRS 9, the following voluntary changes in accounting policy and presentation have been made as a result of reviews carried out in conjunction with its adoption. The presentational changes effective 1 January 2018 is included in the reconciliation set out in Note 33 and comparatives have not been restated. Cash collateral has been reclassified from 'Loans and advances to banks' and 'Loans and advances to customers' to 'Other assets' and from 'Deposits by banks' and 'Customer accounts' to 'Other liabilities'. Settlement accounts have been reclassified from 'Trading assets' to 'Other assets' and from 'Trading liabilities' to 'Other liabilities'.

(g) Critical accounting estimates and assumptions

The preparation of financial information requires the use of estimates and judgments about future conditions. In view of the inherent uncertainties and the high level of subjectivity involved in the recognition or measurement of items listed 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 judgments from those reached by management for the purposes of these Financial Statements. Management's selection of the bank's accounting policies which contain critical estimates and judgments listed below and discussed in the 'Critical accounting estimates and judgments' section of Management's Discussion and Analysis. It reflects the materiality of the items to which the policies are applied and the high degree of judgment and estimation uncertainty involved.

- Expected credit loss;
- Hedge accounting;
- Valuation of financial instruments;
- Income taxes and deferred tax assets; and
- Defined benefit obligations.

(h) Segmental analysis

The bank's chief operating decision maker is the Chief Executive Officer, supported by the Executive Committee. Operating segments are reported in a manner consistent with the internal reporting provided to the Chief Executive Officer and the Executive Committee. The bank's operations are managed according to the following global businesses: Commercial Banking, Global Banking and Markets, Retail Banking and Wealth Management as well as Corporate Centre.

Measurement of segmental assets, liabilities, income and expenses is in accordance with the bank'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.

(i) Going concern

The financial statements are prepared on a going concern basis, as the Directors are satisfied that the bank has 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.

2 Summary of significant accounting policies

(a) Consolidation and related policies

Investments in subsidiaries

The bank controls and consequently 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. Control is initially assessed based on consideration of all facts and circumstances, including the purpose and design of the entity, the facts and circumstances relating to decision making rights and the rights to returns and/or the ability of the bank to vary the returns. Control is subsequently reassessed when there are significant changes to the initial setup, taking into account any changes in these facts and circumstances, significant changes in the rights to returns and/or the ability of the bank to vary the returns.

Where an entity is governed by voting rights, the bank would consolidate 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 judgment of other factors, including having exposure to variability of returns, power over the relevant activities or holding the power as agent or principal.

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured at the fair value of the consideration, including contingent consideration, given at the date of exchange. Acquisition-related costs are recognized as an expense in the income statement in the period in which they are incurred. The acquired identifiable assets, liabilities and contingent liabilities are generally measured at their fair values at the date of acquisition. 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.

All intra-bank transactions are eliminated on consolidation.

Goodwill

Goodwill is measured as the excess of the aggregate of the consideration transferred, the amount of non-controlling interest and the fair value of the bank's previously held equity interest, if any, over the net of the amounts of the identifiable assets acquired and the liabilities assumed.

Goodwill is allocated to cash-generating units ('CGU's) for the purpose of impairment testing, which is undertaken at the lowest level at which goodwill is monitored for internal management purposes. Impairment testing is performed at least annually, or whenever there is an indication of impairment, by comparing the recoverable amount of a CGU with its carrying amount.

Structured entities

The bank 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 the relevant counterparties so the transaction that is the purpose of the entity could occur. The bank is not considered to be a sponsor if the only involvement with the entity is to provide services at arm's length and it ceases to be a sponsor once it has no ongoing involvement with the structured entity.

A structured entity is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, for example when any voting rights relate to administrative tasks only, and key activities are directed by contractual arrangements. Structured entities often have restricted activities and a narrow and well defined objective.

Structured entities are assessed for consolidation in accordance with the accounting policy as set out above.

Interests in associates

The bank classifies investments in entities over which it has significant influence, and that are not subsidiaries (note 16), as associates.

Investments in associates are recognized using the equity method. Under this method, such investments are initially stated at cost, including attributable goodwill, and are adjusted thereafter for the post-acquisition change in the bank's share of net assets.

Profits on transactions between the bank and its associates are eliminated to the extent of the bank's interest in the respective associates. Losses are also eliminated to the extent of the bank's interest in the associates unless the transaction provides evidence of an impairment of the asset transferred.

(b) Operating income

Interest income and expense

Interest income and expense for all financial instruments, except for those classified as held for trading or designated at fair value are recognized 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 the bank that are designated under the fair value option and derivatives managed in conjunction with those debt securities are included in interest expense. The effective interest rate is the rate that exactly discounts estimated future cash receipts or payments through the expected life of the financial instrument or, where appropriate, a shorter period, to the net carrying amount of the financial asset or financial liability.

Interest on impaired financial assets is recognized using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss.

Fee Income and expense

The recognition of revenue can be either over time or at a point in time depending on when the performance obligation is satisfied. When control of a good or service is transferred over time, if the customer simultaneously receives and consumes the benefits provided by the bank's performance as we perform, the bank satisfies the performance obligation and recognizes revenue over time. Otherwise, revenue is recognized at the point in time at which we transfer control of the good or service to the customer. Variable fees are recognized when all uncertainties are resolved.

For all fee types, where there is a single performance obligation, the transaction price is allocated in its entirety to that performance obligation. Where there are multiple performance obligations, the transaction price is allocated to the performance obligation to which it relates based on stand-alone selling prices.

Income which forms an integral part of the effective interest rate of a financial instrument (for example, certain loan commitment fees) is recognized as an adjustment to the effective interest rate and recorded in 'Interest income'.

The main types of fee income arising from contracts with customers, including information about performance obligations, determining the timing and satisfaction of performance obligations and determining the transaction price and the amounts allocated to performance are as follows:

Credit facilities

Credit facility fees include fees generated from providing a credit facility that are not included within the Effective Interest Rate ('EIR'), such as annual facility fees (commitment fees), standby fees and other transaction based fees charged for late payments, return payments, over credit charges and foreign usage. Fees associated with loan commitments and standby letters of credit are billed upfront and recognized on a straight-line basis over the period the service is performed and the performance obligation is met (e.g. the commitment period). In the event a loan commitment or standby letter of credit is exercised, the remaining unamortized fee is recognized as an adjustment to yield over the loan term. The transaction price (excluding any interest element) usually includes an annual facility fee, which could be a fixed charge or a percentage of the approved credit limit, and other transaction-based charges, which could be either a fixed price or a percentage of the transaction value. Although fees charged can be variable (percentage of credit limit or transaction value), the uncertainty is resolved by the time the revenue is recognised as the credit limit or transaction value is known on the contract or transaction date. Therefore, there is no need to estimate the variable consideration or apply the constraint. On the basis that the services are provided evenly over the term of the agreement, the fee is recognized on a straight line basis over the commitment period.

Funds under management

Funds under management include management fees, administration fees and transaction based fees.

Management fees are generally percentage based and therefore represent variable consideration. This amount is subject to the variable consideration constraint and is only included in the transaction price to the extent that it is highly probable that a significant reversal of cumulative revenue will not occur when the uncertainty associated with the variable consideration is subsequently resolved. At the end of each payment period, or at each reporting date, the management fee is allocated to the distinct management services that have been provided during that period. Fee income from management fees is recognized evenly over time on a straight-line basis as the services are provided and the related performance obligations are satisfied evenly over time. The fee percentage and payment period are agreed with the customer upfront. Generally, payment periods are monthly or quarterly and coincide with our reporting periods, thereby resolving the uncertainty of the variable consideration by the reporting date. For payment periods that do not coincide with our reporting periods, judgment is required to estimate the fee and determine the amount to recognize as accrued income, accrued income is only recorded to the extent it is highly probably that a significant reversal of revenue will not occur. A significant reversal of accrued management fee revenue is not highly probable for most contracts.

Administration fees, where applicable, are agreed with the customer and based on the terms of each contract. These fees are either fixed upfront charges or percentage based fees calculated as a percentage of the average value of a customer's assets at the end of an agreed period. Percentage based administrative fees are included in the transaction price only to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved.

Other fees are transaction based and are recognized and billed at the point in time the transaction occurs and the performance obligation is met.

Cards

Credit card arrangements involve numerous contracts between various parties. The bank has determined that the more significant contracts within the scope of IFRS 15 are:

- the contract between the bank and the credit card holder ('Cardholder Agreement') under which we earn miscellaneous fees (e.g., late payment fees, over-limit fees, foreign exchange fees, etc.) and for some products annual fees; and
- an implied contract between the bank and merchants who accept our credit cards in connection with the purchase of their goods and/or services ('Merchant Agreement') under which we earn interchange fees.

The Cardholder Agreement obligates the bank, as the card issuer, to perform activities such as redeem loyalty points by providing goods, cash or services to the cardholder, provide ancillary services such as concierge services, travel insurance, airport lounge access and the like, process late payments, provide foreign exchange services, and others. The primary fees arising under cardholder agreements which are in scope of IFRS 15 include annual fees, transaction based fees, and penalty fees for late payments. The amount of each fee stated in the contract represents the transaction price for that performance obligation. Annual fees on credit cards are billed upfront and recognized on a straight-line basis. Other credit card fees, as noted above, are transaction based and are recognized and billed at the point in time the transaction occurs and the performance obligation is met.

Interchange fees

The implied contract between the bank and the merchant results in the bank receiving an interchange fee from the merchant. The interchange fee represents the transaction price associated with the implied contract between the bank and the merchant because it represents the amount of consideration to which the bank expects to be entitled in exchange for transferring the promised service (i.e., purchase approval and payment remittance) to the merchant. The performance obligation associated with the implied contract between the bank and the merchant is satisfied upon performance and simultaneous consumption by the customer of the underlying service (i.e. purchase approval and payment remittance). Therefore, the interchange fee is recognized as revenue each time the bank approves a purchase and remits payment to the merchant.

Account services

The bank provides services for current accounts that generate fees from various activities including: accounts statements, ATM transactions, cash withdrawals, wire transfers, utilization of cheques, debit cards and internet and phone banking. The fees for these services are established in the customer account agreement and are either billed individually at the time the service is performed and the performance obligation is met, or on a monthly basis for a package or bundle of services as the services are performed and the performance obligation is met. Customer account agreements typically include a package of services with multiple performance obligations or a bundle of services making up a single performance obligation. In the case of a package of services, the pattern of transfer to the customer is the same for all services (stand ready obligation) therefore, all the goods and services are treated as a single performance obligation. The transaction price is allocated in its entirety to the single performance obligation. The performance obligation associated with account services is satisfied as a stand ready obligation to provide services evenly over time, and therefore, the fee income from account services is recognized evenly over time.

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

- 'Net income from financial instruments held for trading'. This element is comprised of the net trading income, which includes all gains and losses from changes in the fair value of financial assets and liabilities held for trading, together with the related interest income, expense and dividends; and 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.
- 'Changes in fair value of long-term debt'. 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'.

Dividend income is recognized 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.

(c) Valuation of financial instruments

All financial instruments are initially recognized 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, sometimes the fair value will be based on other observable current market transactions in the same instrument, without modification or repackaging, or on a valuation technique whose variables include only data from observable markets, such as interest rate yield curves, option volatilities and currency rates. 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, the bank recognizes 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 recognized in the income statement over the life of the transaction either until the transaction matures or is closed out, the valuation inputs become observable or the bank enters into an offsetting transaction.

(d) Financial instruments measured at amortized cost

Financial assets that are held to collect the contractual cash flows and that contain contractual terms that give rise on the specified dates to cash flows that are solely payments of principal and interest, such as most loans and advances to banks and customers and some debt securities, are measured at amortized cost. In addition, most financial liabilities are measured at amortized cost. The bank accounts for regular way amortized 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 advance, such as in the case of some leveraged finance and syndicated lending activities, the difference is deferred and recognized over the life of the loan through the recognition of interest income.

The bank 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 the bank 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 recognized 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 amortized cost. The difference between the sale and repurchase price or between the purchase and resale price is treated as interest expense and interest income respectively, and recognized in net interest income over the life of the agreement.

(e) Financial assets measured at fair value through other comprehensive income ('FVOCI')

Financial assets held for a business model that is achieved by both collecting contractual cash flows and selling and that contain contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest are measured at FVOCI. These comprise primarily debt securities. They are recognized on trade date when the bank enters into contractual arrangements to purchase and are normally derecognized 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 which are recognized immediately in net income) are recognized in other comprehensive income until the assets are sold. Upon disposal, the cumulative gains or losses in other comprehensive income are recognized in the income statement as 'Gains less losses from financial investments'. Financial assets measured at FVOCI are included in the impairment calculations set out below and impairment is recognized in profit or loss.

(f) Equity securities measured at fair value with fair value movements presented in OCI

The equity securities for which fair value movements are shown in OCI are business facilitation and other similar investments where the bank 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 recognized in profit or loss).

(g) Financial instruments designated and otherwise mandatorily measured at fair value through profit or loss ('FVPL')

Equity securities for which the fair value movements are not shown in OCI are mandatorily classified in this category.

Additionally, 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 as irrevocably at inception:

- the use of the designation removes or significantly reduces an accounting mismatch;
- when 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
- where the financial liability contains one or more non-closely related embedded derivatives.

Designated financial assets are recognized when the bank enters into contracts with counterparties, which is generally on trade date, and are normally derecognized when the rights to the cash flows expire or are transferred. Designated financial liabilities are recognized when the bank enters into contracts with counterparties, which is generally on settlement date, and are normally derecognized when extinguished. Subsequent changes in fair values are recognized in the income statement in 'Changes in fair value of long-term debt'.

Under the above criterion, there are no such financial instruments designated at fair value by the bank at 31 December 2018.

(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 recognized initially, and are subsequently re-measured, at fair value through profit or loss. Fair values of derivatives are obtained either from quoted market prices or by using valuation techniques. Derivatives are only offset for accounting purposes if the offsetting criteria are met.

Embedded derivatives in financial liabilities are treated as separate derivatives ('bifurcated') when their economic characteristics and risks are not closely related to those of the host non-derivative contract, their contractual terms would otherwise meet the definition of a stand-alone derivative and the combined contract is not 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. Derivative assets and liabilities arising from different transactions are only offset if the transactions are with the same counterparty, a legal right of offset exists, and the parties intend to settle the cash flows on a net basis.

Gains and losses from changes in the fair value of derivatives, including the contractual interest, that do not qualify for hedge accounting are reported in 'Net income from financial instruments held for trading'. Where the derivatives are managed with debt securities issued by the bank that are designated at fair value, the contractual interest is shown in 'Interest expense' together with the interest payable of the issued debt.

When derivatives are designated as hedges, the bank classifies them as either: (i) hedges of the change in fair value of recognized assets or liabilities or firm commitments ('fair value hedges'); or (ii) hedges of the variability in highly probably future cash flows attributable to a recognized asset or liability, or a forecast transaction ('cash flow hedges').

Hedge accounting

At the inception of a hedging relationship, the bank documents the relationship between the hedging instruments and the hedged items, its risk management objective and its strategy for undertaking the hedge. The bank requires a documented assessment, both at hedge inception and on an ongoing basis, of whether or not the hedging instruments are highly effective in offsetting the changes attributable to the hedged risks in the fair values or cash flows of the hedged items.

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 recognizing changes in the fair value of the hedged assets or liabilities attributable to the hedged risk that would not otherwise be recognized in the income statement. If a hedging relationship no longer meets the criteria for hedge accounting, the hedge accounting is discontinued; the cumulative adjustment to the carrying amount of the hedged item is amortized to the income statement on a recalculated effective interest rate over the residual period to maturity, unless the hedged item has been derecognized, in which case it is recognized to the income statement immediately.

Cash flow hedge

The effective portion of gains and losses on hedging instruments is recognized 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 recognized immediately in the income statement within 'Net income from financial instruments held for trading'.

The accumulated gains and losses recognized in other comprehensive income are reclassified to the income statement in the periods in which the hedged item affects profit or loss. In hedges of forecast transactions that result in recognition of a non-financial asset or liability, previous gains and losses recognized in other comprehensive income are included in the initial measurement of the asset or liability.

When a hedge relationship is discontinued, any cumulative gain or loss recognized in other comprehensive income remains in equity until the forecast transaction is recognized in the income statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss previously recognized in other comprehensive income is immediately reclassified to the income statement.

Hedge effectiveness testing

To qualify for hedge accounting, the bank requires that, at the inception of the hedge and throughout its life, each hedge must be expected to be highly effective both prospectively and retrospectively, on an ongoing basis.

The documentation of each hedging relationship sets out how the effectiveness of the hedge is assessed and the method adopted by an entity to assess hedge effectiveness will depend on its risk management strategy. For prospective effectiveness, the hedging instrument must be expected to be highly effective in offsetting changes in fair value or cash flows attributable to the hedged risk during the period for which the hedge is designated, with the effectiveness range being defines at 0.8 to 1.25. Hedge ineffectiveness is recognized in the income statement in 'Net income from financial instruments held for trading'.

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.

(i) Impairment of amortized cost and FVOCI financial assets

Expected credit losses ('ECL') are recognized for loans and advances to banks and customers, non-trading reverse repurchase agreements, other financial assets held at amortized cost, debt instruments measured at fair value through other comprehensive income, and certain loan commitments and financial guarantee contracts. At the end of the first reporting period after initial recognition, an 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, an allowance (or provision) is required for ECL resulting from all possible default events over the expected life of the financial instruments ('lifetime ECL'). Financial assets where 12-month ECL is recognized are considered to be 'stage 1'; financial assets which are considered to have experienced a significant increase in credit risk are in 'stage 2'; 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'.

Credit-impaired (stage 3)

The bank determines that a financial instrument is credit-impaired and in stage 3 by considering relevant objective evidence, primarily whether:

- contractual payments or 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 a exposure is 90 days past due, even where regulatory rules permit default to be defined based on 180 days past due. Therefore the definition of credit-impaired and default are aligned as far as possible so that stage 3 represents all loans which are considered defaulted to otherwise credit-impaired.

Interest income is recognized by applying the effective interest rate to the amortized 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 realization of security. In circumstances where the net realizable 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 derecognized if the existing agreement is canceled 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 purchased or originated credit-impaired financial assets 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 legalized through an amendment to the existing terms or the issuance of a new loan contract) such that the bank's rights to the cash flows under the original contract have expired, the loan is derecognized and a new loan is recognized 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 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 multi-factor. 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 payments are 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 which encompasses a wide range of information including the obligor's customer risk rating, macroeconomic condition forecasts and credit transition probabilities. Significant increase in credit risk is measured by comparing the average PD for the remaining term estimated at origination with the equivalent estimation at reporting date. The significance of changes in PD was informed by expert credit risk judgment, 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, the origination PD is approximated assuming through-the-cycle ('TTC') PDs and TTC migration probabilities, consistent with the instrument's underlying modeling approach and the credit risk rating ('CRR') at origination.

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 fulfill their contractual cash flow obligations.

For retail portfolios, default risk is assessed using a reporting date 12-month PD derived from credit scores which incorporate 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 judgment 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 that which 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 recognized for financial instruments that remain in stage 1.

Movement between stages

Financial assets can be transferred between the different categories depending on their relative increase or decrease 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 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 which 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, the bank calculates ECL using three main components, a probability of default, a loss given default 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 realized and the time value of money.

The bank leverages the Basel II IRB framework where possible, with recalibration to meet the differing IFRS 9 requirements as follows:

Model	Regulatory capital	IFRS 9
PD	• Through the cycle (represents long-run average PD through a full economic cycle) • The definition of default includes a backstop of 90+ days past due	• 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
EAD	• Cannot be lower than current balance	• Amortization 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 the change 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 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 CRR bands over its life.

The ECL for wholesale stage 3 is determined on an individual basis using a discounted cash flows ('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 realization of collateral based on its estimated fair value of collateral at the time of expected realization, 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 bank and the judgment 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. The movements associated with these variables are referred to as 'Changes to risk parameters (model inputs)' in the 'Reconciliation of allowances for loans and advances to banks and customers including loan commitments and financial guarantees' section within Management's Discussion and Analysis.

Period over which ECL is measured

ECL is measured at each reporting date after 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 the bank 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 the bank'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 the bank 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 three 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 recognized 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 recognized as a provision.

Forward-looking economic inputs

The bank will in general apply three forward-looking global economic scenarios determined with reference to external forecast distributions, 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 on either side of the Central, referred to as an Upside and a Downside scenario respectively. The Central scenario is used by the annual operating planning process and, with regulatory modifications, will also be used in enterprise-wide stress tests. The Upside and Downside are constructed following a standards process supported by a scenario narrative reflecting the bank's current top and emerging risks. 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 forecast is five years, after which the forecasts will revert to a view based on average past experience. The economic factors include, but are not limited to, gross domestic product, unemployment, interest rates, inflation and commercial property prices.

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.

The bank recognizes that the Consensus Economic Scenario approach using three scenarios will be insufficient in certain economic environments. Additional analysis may be prepared at management's discretion, including the production of extra scenarios. If conditions warrant, this could result in a management overlay for economic uncertainty which is included in the ECL estimates.

(j) Employee compensation and benefits

Post-employment benefits

The bank operates a number of pension and other post-employment benefit plans. These plans include both defined benefit and defined contribution plans and various other post-employment benefits such as post-employment healthcare. The pension plans are funded by contributions from the bank and its employees, while the supplemental pension arrangements are not funded.

Payments to defined contribution plans are charged as an expense as the employees render service.

The defined benefit pension costs and the present value of defined benefit obligations are calculated at the reporting date by the schemes' actuaries 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 liability and is presented in operating expenses.

The past service cost which is charged immediately to the income statement, is the change in the present value of the defined benefit obligation for employee service in prior periods, resulting from a plan amendment (the introduction or withdrawal of, or changes to, a defined benefit plan) or curtailment (a significant reduction by the entity in the number of employees covered by a plan). A settlement is a transaction that eliminates all further legal and constructive obligations for part or all of the benefits provided under a defined benefit plan, other than a payment of benefits to, or on behalf of, employees that is set out in the terms of the plan and included in the actuarial assumptions.

Re-measurements of the net defined benefit 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 recognized immediately in other comprehensive income.

Actuarial gains and losses comprise experience adjustments (the effects of differences between the previous actuarial assumptions and what has actually occurred), as well as the effects of changes in actuarial assumptions.

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 defined benefit plans, such as defined benefit health-care plans, are accounted for on the same basis as defined benefit pension plans.

Share-based payments

The bank enters into both equity-settled and cash-settled share-based payment arrangements with its employees as compensation for services provided by employees.

The vesting period for these schemes may commence before the grant date if the employees have started to render services in respect of the award before the grant date. Expenses are recognized when the employee starts to render service to which the award relates.

HSBC Holdings is the grantor of its equity instruments awarded to employees of the bank. The bank is required to partially fund share-based payment arrangements awarded to its employees. The cost of share-based payment arrangements with employees is measured by reference to the fair value of equity instruments on the date they are granted, and recognized as an expense on a straight-line basis over the vesting period. As a result of the bank's share-based payment arrangements being accounted for as equity-settled, the difference between the share-based payment expense, and the fair value of the equity instruments issued to satisfy those arrangements, is recognized in 'Retained Earnings' over the vesting period.

Fair value is determined by using appropriate valuation models, taking into account the terms and conditions of the award. Vesting conditions include service conditions and performance conditions; any other features of the arrangement are non-vesting conditions. Market performance conditions and non-vesting conditions are taken into account when estimating the fair value of the award at the grant date. Vesting conditions, other than market performance conditions, are not taken into account in the initial estimate of the fair value at the grant date. They are taken into account by adjusting the number of equity instruments included in the measurement of the transaction.

A cancellation that occurs during the vesting period is treated as an acceleration of vesting, and recognized immediately for the amount that would otherwise have been recognized for services over the vesting period. Failure to meet a vesting condition by the employee is not treated as a cancellation and the amount of expense recognized for the award is adjusted to reflect the number of awards expected to vest.

(k) Tax

Income tax comprises current tax and deferred tax. Income tax is recognized in the income statement except to the extent that it relates to items recognized in other comprehensive income or directly in equity, in which case it is recognized in the same statement in which the related item appears.

Current tax is the tax expected to be payable on the taxable profit for the year, calculated using tax rates enacted or substantively enacted by the balance sheet date, and any adjustment to tax payable in respect of previous years. The bank provides for potential current tax liabilities that may arise on the basis of the amounts expected to be paid to the tax authorities. Current tax assets and liabilities are offset when the bank intends to settle on a net basis and the legal right to offset exists.

Tax laws are complex and can be subject to interpretation. Management applies its own judgment to the application and interpretation of tax laws, but the interpretation by the relevant tax authorities may differ. Tax liabilities are recognized based on best estimates of the probable outcome. If the final outcome is in favor of the decisions made by the relevant tax authorities, additional liabilities and expense in excess of the amounts recorded may result.

Deferred tax is recognized 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 liabilities are generally recognized for all taxable temporary differences and deferred tax assets are recognized to the extent that it is probable that future taxable profits will be available against which deductible temporary differences can be utilized.

Deferred tax is calculated using the tax rates expected to apply in the periods in which the assets will be realized or the liabilities settled, based on tax rates and laws enacted, or substantively enacted, by the balance sheet date. Deferred tax assets and liabilities are offset when the bank has a legal right to offset.

Deferred tax relating to actuarial gains and losses on post-employment benefits is recognized in other comprehensive income. Deferred tax relating to share-based payment transactions is recognized directly in equity to the extent that the amount of the estimated future tax deduction exceeds the amount of the related cumulative remuneration expense. Tax relating to fair value re-measurements of available-for-sale investments and cash flow hedging instruments which are charged or credited directly to other comprehensive income is recognized in the statement of comprehensive income and is subsequently recognized in the income statement when the deferred fair value gain or loss is recognized in the income statement.

(l) Provisions, contingent liabilities and guarantees

Provisions

Provisions represent liabilities of uncertain timing or amount and are recognized when the bank has a present legal or constructive obligation as a result of a past event which results in a probable outflow of resources to settle the obligation and when a reliable estimate can be made of the obligation are the reporting date. Provisions are measured based upon the best estimate of the amount that would be required to settle the provision at the reporting date. The bank makes provisions for undrawn commitments and guarantees to reflect the best estimate of losses incurred by the bank at the reporting date. In other instances the bank may periodically make provisions for other matters such as litigation in instances where the recognition criteria described above is met.

Contingent liabilities

Contingent liabilities are possible obligations that arise from past events whose existence will be confirmed by uncertain future events not wholly within the control of the bank; or are present obligations that have arisen from past events where it is not probable that settlement will require the outflow of economic benefits or because the amount of settlement cannot be reliably measured. 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 recognized in the financial statements but are disclosed unless the probability of settlement is remote.

Financial guarantee contracts

Financial guarantee contacts are contracts that require the bank to make specified payments to reimburse the holder for a loss incurred because a specified debtor fails to make payment when due. Liabilities under financial guarantee contracts are recorded initially at their fair value, which is generally the fee received or receivable. Subsequently, financial guarantee liabilities are measured at the higher of the initial fair value, less cumulative amortization, and the expected credit loss.

(m) Lease commitments

Agreements which transfer substantially all the risks and rewards incidental to the ownership of assets, are classified as finance leases. As a lessor under finance leases, the bank presents the amounts due under the leases, after deduction of unearned charges, in 'Loans and advances to banks' or 'Loans and advances to customers'.

All other leases are classified as operating leases. As lessor, the bank presents assets subject to operating leases in 'Property, plant and equipment'. Impairment losses are recognized to the extent that carrying values are not fully recoverable. As lessee, leased assets are not recognized on the balance sheet.

Finance income or charges on the finance lease are recognized in 'Net interest income' over the lease periods so as to give a constant rate of return. Rentals payable and receivable under operating leases are spread on a straight-line basis over the lease periods and are recognized in 'General and administrative expenses' or in 'Other operating income'.

(n) Offsetting of financial assets and financial liabilities

Financial assets and financial liabilities are offset and the net amount is reported in the balance sheet when there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis, or realize the asset and settle the liability simultaneously.

(o) Property, plant and equipment

Land and buildings are stated at historical cost, or fair value at the Parent's date of transition to IFRSs ('deemed cost'), less impairment losses and depreciation over their estimated useful lives, as follows:

- freehold land is not depreciated;
- freehold buildings are depreciated over their estimated useful lives, which are generally between 20 and 40 years; and
- leasehold improvements are depreciated over the shorter of their unexpired lease terms of the leases or their remaining useful lives.

Equipment, fixtures and fittings (including equipment on operating leases where the bank is the lessor) are stated at cost less impairment losses and depreciation over their useful lives, which are generally between 3 and 5 years.

Property, plant and equipment is subject to an impairment review if their carrying amount may not be recoverable.

(p) Intangible assets

The bank's intangible assets include both purchased and internally generated computer software. The cost of internally generated software comprises all directly attributable costs necessary to create, produce and prepare the software to be capable of operating in the manner intended by management. Costs incurred in the ongoing maintenance of software are expensed immediately as incurred.

Intangible assets are subject to impairment review if there are events or changes in circumstances that indicate that the carrying amount may not be recoverable. Computer software is stated at cost less amortization and accumulated impairment losses and is amortized over the estimated useful life of between 3 and 5 years.

(q) Share capital

Financial instruments issued are generally classified as equity when there is no contractual obligation to transfer cash or other financial assets. Incremental costs directly attributable to the issue of equity instruments are shown in equity as a deduction from the proceeds, net of tax.

(r) Cash and cash equivalents

Cash and cash equivalents include highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in value. Such investments are normally those with less than three months' maturity from the date of acquisition, and include cash and balances at the central bank, debt securities, loans and advances to banks, items in the course of collection from or in transmission to other banks and certificates of deposit.

(s) IAS 39 and IAS 18 accounting policies applicable prior to 1 January 2018

Financial instruments measured at amortized cost

Loans and advances to banks and customers, held-to-maturity investments and most financial liabilities are measured at amortized 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 for some leveraged finance and syndicated lending activities, the difference is deferred and recognized over the life of the loan through the recognition of interest income, unless the loan becomes impaired.

Loans and advances to banks and customers include those originated by the bank, not classified as held for trading or designated at fair value. They are recognized when cash is advanced to a borrower and are derecognized when either the borrower repays its obligations, or the loans are sold or written off, or substantially all the risks and rewards of ownership are transferred. They are initially recorded at fair value plus any directly attributable transaction costs and are subsequently measured at amortized cost using the effective interest method, less impairment allowance.

On inception of the loan, the loan to be held is recorded at its fair value and subsequently measured at amortized cost. For certain transactions, such as leveraged finance and syndicated lending activities, the cash advanced may not be the best evidence of the fair value of the loan. For these loans, where the initial fair value is lower than the cash amount advanced, the difference is charged to the income statement in other operating income. The write-down will be recovered over the life of the loan, through the recognition of interest income, unless the loan becomes impaired. Loans and advances are reclassified to 'Assets held for sale' when they meet the criteria; however, their measurement continues to be in accordance with this policy.

The bank may commit to underwrite loans on fixed contractual terms for specified periods of time. Where the loan arising from the lending commitment is expected to be held for trading, the commitment to lend is recorded as a derivative. On drawdown, the loan is classified as held for trading. Where the bank intends to hold the loan, a provision on the loan commitment is only recorded where it is probable that the bank will incur a loss.

Impairment of loans and advances

Losses for impaired loans are recognized when there is objective evidence that impairment of a loan or portfolio of loans has occurred. Impairment allowances that are calculated on individual loans or on groups of loans assessed collectively, are recorded as charges to the income statement and are recorded against the carrying amount of impaired loans on the balance sheet. Losses which may arise from future events are not recognized.

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, and the importance of the individual loan relationship, and how this is managed.

Loans that meet the above criteria will be individually assessed for impairment, except when volumes of defaults and losses are sufficient to justify collective assessment.

Loans considered as individually significant are typically to corporate and commercial customers, are for larger amounts and are managed on an individual basis. These loans are assessed individually at each balance sheet date whether objective evidence of impairment exists based on the following criteria:

- known cash flow difficulties experienced by the borrower;
- contractual payments of either principal or interest being past due;
- the probability that the borrower will enter bankruptcy or other financial realization;
- a concession granted to the borrower for economic or legal reasons relating to the borrower's financial difficulty that results in forgiveness or postponement of principal, interest or fees, where the concession is not insignificant; and
- there has been deterioration in the financial condition or outlook of the borrower such that its ability to repay is considered doubtful.

For those loans where objective evidence of impairment exists, impairment losses are determined considering the following factors:

- the bank's aggregate exposure to the customer;
- the viability of the customer's business model and their capacity to trade successfully out of financial difficulties and generate sufficient cash flow to service debt obligations;
- the amount and timing of expected receipts and recoveries;
- the likely dividend available on liquidation or bankruptcy;
- the extent of other creditors' commitments ranking ahead of, or equally with, the bank, and the likelihood of other creditors continuing to support the company;
- the complexity of determining the aggregate amount and ranking of all creditor claims and the extent to which legal and insurance uncertainties are evident;
- the realizable value of security (or other credit mitigants) and likelihood of successful repossession;
- the likely deduction of any costs involved in recovery of amounts outstanding;
- the ability of the borrower to obtain, and make payments in, the currency of the loan if not denominated in local currency; and
- when available, the secondary market price of the debt.

The realizable value of security is determined based on the current market value when the impairment assessment is performed. The value is not adjusted for expected future changes in market prices; however, 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 includes 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. The impairment allowances on individually significant accounts are reviewed at least quarterly and more regularly when circumstances require. Individually assessed impairment allowances are only released when there is reasonable and objective evidence of a reduction in the established loss estimate.

Collectively assessed loans and advances

Impairment is assessed collectively to cover losses which 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. Retail lending portfolios are generally assessed for impairment collectively as the portfolios generally are large homogeneous loans pools.

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. These credit risk characteristics may include type of business involved, type of products offered, security obtained or other relevant factors. This assessment captures impairment losses that the bank has incurred as a result of events occurring before the balance sheet date, which the bank is not able to identify on an individual loan basis, and that can be reliably estimated. When information becomes available which identifies losses on individual loans within the group, those loans are removed from the group and assessed individually.

The collective impairment allowance is determined after taking into account:

- historical loss experience in portfolios of similar credit risk characteristics (for example, by industry sector, loan grade or product);
- the estimated period between impairment occurring and the loss being identified and evidenced by the establishment of an appropriate allowance against the individual loan; and
- management's experienced judgment as to whether current economic and credit conditions are such that the actual level of inherent losses at the balance sheet date is likely to be greater or less than that suggested by historical experience.

The period between a loss occurring and its identification is estimated by management for each identified portfolio based on economic and market conditions, customer behaviour, portfolio management information, credit management techniques and collection and recovery experiences in the market. The estimated period may vary over time as these factors change.

Homogeneous groups of loans and advances

Statistical methods are used to determine collective impairment losses for homogeneous groups of loans not considered individually significant. Losses in these groups of loans are recorded individually when individual loans are removed from the group and written off. The methods that are used to calculate collective allowances are:

- When appropriate empirical information is available, the bank utilizes roll-rate methodology, which employs statistical analysis of historical data and experience of delinquency and default to reliably estimate the amount of loans that will eventually be written off as a result of the events occurring before the balance sheet date and which the bank is not able to identify individually. Individual loans are grouped using ranges of past due days; statistical analysis is then used to estimate 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 and its discovery, for example, through 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. The estimated loss is the difference between the present value of expected future cash flows, discounted at the original effective interest rate of the portfolio, and the carrying amount of the portfolio.
- When the portfolio size is small or when information is insufficient or not reliable enough to adopt a roll-rate methodology, the bank adopts a basic formulaic approach based on historical loss rate experience, or a discounted cash flow model. Where a basic formulaic approach is undertaken, management estimates the period between a loss event occurring and its identification typically takes between six and twelve months.

The inherent loss within each portfolio is assessed on the basis of statistical models using historical data observations, which are updated periodically to reflect recent portfolio and economic trends. When the most recent trends arising from changes in economic, regulatory or behavioural conditions are not fully reflected in the statistical models, they are taken into account by adjusting the impairment allowances derived from the statistical models to reflect these changes as at the balance sheet date. Roll rates, loss rates and the expected timing of future recoveries are regularly benchmarked against actual outcomes to ensure they remain appropriate.

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 realization of security. In circumstances where the net realizable 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 recognized, the excess is written back by reducing the loan impairment allowance account accordingly. The write-back is recognized in the income statement.

Assets acquired in exchange for loans

Non-financial assets acquired in exchange for loans as part of an orderly realization are recorded as assets held for sale and reported in 'Other assets' if those assets are classified held for sale. The asset acquired is recorded at the lower of its fair value less costs to sell and the carrying amount of the loan (net of impairment allowance) at the date of exchange. No depreciation is charged in respect of assets held for sale. Impairment and reversals of previous impairments are recognized in the income statement in 'Other operating income' together with any realized gains or losses on disposal.

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 payments required have been received. They 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, including write-off.

A loan that is renegotiated is derecognized if the existing agreement is canceled 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 agreements arising due to a derecognition event will continue to be disclosed as renegotiated loans and are assessed for impairment as above.

Non-trading reverse repurchase and repurchase agreements

When 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 recognized 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 amortized cost. The difference between the sale and repurchase price or between the purchase and resale price is treated as interest and recognized in net interest income over the life of the agreement and are assessed for impairment as above.

Financial instruments measured at fair value

Available-for-sale financial assets

Available-for-sale financial assets are recognized on the trade date when the bank enters into contractual arrangements to purchase those instruments, and are normally derecognized when either the securities are sold or redeemed. They are subsequently remeasured at fair value, and changes therein are recognized 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 recognized 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. If such evidence exists as a result of one or more events that occurred after the initial recognition of the financial asset (a 'loss event') and that loss event has an impact, which can be reliably measured, on the estimated future cash flows of the financial asset an impairment loss is recognized.

If the available-for-sale financial asset is impaired, the difference between its acquisition cost (net of any principal repayments and amortization) and its current fair value, less any previous impairment loss recognized in the income statement, is recognized in the income statement.

Impairment losses are recognized 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 available-for-sale equities. The impairment methodologies for available-for-sale financial assets are set out in more detail below.

Available-for-sale debt securities

In assessing objective evidence of impairment at the reporting date, the bank considers all available evidence, including observable data or information about events specifically relating to the securities which may result in a shortfall in recovery of future cash flows. Financial difficulties of the issuer, as well as other factors such as information about the issuers' liquidity, business and financial risk exposures, levels of and trends in default for similar financial assets, national and local economic trends and conditions, and the fair value of collateral and guarantees may be considered individually, or in combination, to determine if there is objective evidence of impairment.

In addition, the performance of underlying collateral and the extent and depth of market price declines is relevant when assessing objective evidence of impairment of available-for-sale asset-backed securities ('ABS's). The primary indicators of potential impairment are considered to be adverse fair value movements and the disappearance of an active market for a security, while changes in credit ratings are of secondary importance.

Available-for-sale equity securities

Objective evidence of impairment may include specific information about the issuer as detailed above, but may also include information about significant changes in technology, markets, economics or the law that provides evidence that the cost of the equity securities may not be recovered.

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.

Once an impairment loss has been recognized, the subsequent accounting treatment for changes in the fair value of that asset differs depending on the type of asset:

- for an available-for-sale debt security, a subsequent decline in the fair value of the instrument is recognized in the income statement when there is further objective evidence of impairment as a result of further decreases in the estimated future cash flows of the financial asset. Where there is no further objective evidence of impairment, the decline in the fair value of the financial asset is recognized 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 recognized in the income statement, or the instrument is no longer impaired, the impairment loss is reversed through the income statement and;
- for an available-for-sale equity security, all subsequent increases in the fair value of the instrument are treated as a revaluation and are recognized in other comprehensive income. Impairment losses recognized on the equity security are not reversed through the income statement. Subsequent decreases in the fair value of the available-for-sale equity security are recognized in the income statement, to the extent that further cumulative impairment losses have been incurred.

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:

- eliminates or significantly reduces measurement or recognition inconsistencies that would otherwise arise from measuring financial instruments, or recognizing gains and losses on different bases from related positions. Under this criterion, the main classes of financial liabilities designated by the bank are issued subordinated debt. The interest payable on certain fixed rate long-term debt instruments issued has been matched with certain interest rate swaps as part of a documented interest rate risk management strategy. An accounting mismatch would arise if the debt instruments issued were accounted for at amortized cost, and this mismatch is eliminated through the fair value designation;

- applies to groups of financial instruments that are managed, and their performance evaluated, on a fair value basis in accordance with a documented risk management or investment strategy, and where information about the groups of financial instruments is reported to management on that basis; or
- relates to financial instruments containing one or more non-closely related embedded derivatives.

The fair value designation, once made, is irrevocable. Designated financial assets are recognized when the bank enters into contracts with counterparties, which is generally on trade date, and are normally derecognized when sold. Designated financial liabilities are recognized when the bank enters into the contracts with counterparties, which is generally on settlement date, and are normally derecognized when extinguished. Subsequent changes in fair values are recognized in the income statement in 'Net income from financial instruments designated at fair value'.

Operating income

Fee income

Fee income is earned from a diverse range of services provided by the bank to its customers. Fee income is accounted for as follows:

- income earned on the execution of a significant act is recognized as revenue when the act is completed (for example, fees arising from negotiation, or participating in the negotiation of, a transaction for a third party, such as an arrangement for the acquisition of shares or other securities);
- income earned from the provision of services is recognized as revenue as the services are provided (for example, asset management, portfolio and other management advisory and service fees); and
- income which forms an integral part of the effective interest rate of a financial instrument is recognized as an adjustment to the effective interest rate (for example, certain loan commitment fees) and recorded in 'Interest income'.

3 Net fee income

Net fee income by global business

	2018				2017
	Commercial Banking	Global Banking and Markets	Retail Banking and Wealth Management	Total	Total
	$m	$m	$m	$m	$m
Account services	42	7	15	64	63
Broking income	–	–	10	10	9
Cards	18	–	43	61	55
Credit facilities	218	76	–	294	269
Funds under management	–	–	190	190	191
Imports/exports	11	1	–	12	11
Insurance agency commission	–	–	6	6	6
Other	19	20	5	44	46
Remittances	22	8	4	34	30
Underwriting	1	46	–	47	49
Fee income	331	158	273	762	729
Less: fee expense	(15)	(6)	(68)	(89)	(76)
Net fee income	316	152	205	673	653

4 Operating profit

Operating profit is stated after the following items

	Footnote	2018 $m	2017 $m
Income			
Interest recognized on credit impaired financial assets		**10**	18
Interest recognized on financial assets measured at amortized cost	1	**1,979**	n/a
Interest recognized on financial assets measured at FVOCI	1	**442**	n/a
Fees earned on financial assets that are not at fair value through profit and loss (other than amounts included in determining the effective interest rate)		**398**	357
Fees earned on trust and other fiduciary activities		**195**	196
Expense			
Interest on financial instruments, excluding interest on financial liabilities held for trading or designated or otherwise mandatorily measured at fair value		**(1,066)**	(688)
Fees payable on financial liabilities that are not at fair value through profit and loss (other than amounts included in determining the effective interest rate)		**(56)**	(42)
Fees payable relating to trust and other fiduciary activities		**(3)**	(5)
Minimum lease payments under lease and sub lease agreements		**(52)**	(55)
Change in expected credit losses		**27**	n/a
– loans and advances to banks and customers including loan commitments and financial guarantees		**15**	n/a
– other financial assets measured at amortized cost		**12**	n/a
– debt instruments measured at fair value though other comprehensive income		**—**	n/a
Loan impairment charge and other credit risk provisions		**n/a**	108
– net impairment charge/(recovery) on loans and advances		**n/a**	63
– other credit risk provisions		**n/a**	45

1. *Interest revenue calculated using the effective interest method comprises interest recognized on financial assets measured at either amortized cost or fair value through other comprehensive income.*

5 Employee compensation and benefits

Total employee compensation

	2018 $m	2017 $m
Wages and salaries	**571**	550
Post-employment benefits	**60**	56
Other	**65**	99
Year ended 31 Dec	**696**	705

Post-employment benefits

We sponsor a number of defined benefit and defined contribution plans providing pension, other retirement and post-employment benefits to eligible employees. Non-pension plans are comprised of healthcare and other post-employment benefits and are not funded.

Income statement charge

	2018 $m	2017 $m
Defined benefit plans	**19**	19
– pension plans	**19**	18
– non-pension plans	**—**	1
Defined contribution pension plans	**41**	37
Year ended 31 Dec	**60**	56

Post-employment defined benefit plans

Principal actuarial assumptions

The principal actuarial financial assumptions used to calculate the bank's obligations under its defined benefit plans are presented in the table below. The 2018 and 2017 assumptions will also form and have formed the basis for measuring periodic costs under the plans in 2019 and 2018 respectively.

		Pension plans		Non-pension plans	
		2018	2017	**2018**	2017
	Footnote	**%**	%	**%**	%
Discount rate		**3.65**	3.40	**3.65**	3.40
Rate of pay increase		**2.75**	2.75	**2.75**	2.75
Healthcare cost trend rates – Initial rate		**n/a**	n/a	**7.00**	7.00
Healthcare cost trend rates – Ultimate rate	*1*	**n/a**	n/a	**5.00**	5.00

1. The non-pension 'Healthcare cost trend rates – Ultimate rate' is applied from 2024.

The bank determines the discount rates to be applied to its obligations in consultation with the plans' actuaries, on the basis of the current average yield of high quality Canadian corporate bonds, with maturities consistent with those of the defined benefit obligations. At 31 December 2018, the weighted average duration of the defined benefit obligation was 15.3 years (2017: 16.6 years).

Mortality assumption

Assumptions regarding future mortality have been based on published mortality tables. The life expectancies underlying the defined benefit obligation at the reporting dates are as follows:

	Average years from age 65	
	2018	2017
For a male currently aged 65	**22**	22
For a male currently aged 45	**23**	23
For a female currently aged 65	**24**	24
For a female currently aged 45	**25**	25

Actuarial assumption sensitivities

The following table shows the effect of a ¼ percentage point change ('25bps') in key assumptions on the present value of defined benefit obligation as at 31 December:

Pension plans

	2018	2017
	$m	$m
Discount rate		
Change in defined benefit obligation at year end from a 25 bps increase	**(26)**	(29)
Change in defined benefit obligation at year end from a 25 bps decrease	**28**	30
Rate of pay increase		
Change in defined benefit obligation at year end from a 25 bps increase	**4**	5
Change in defined benefit obligation at year end from a 25 bps decrease	**(4)**	(5)

Non-pension plans

	2018	2017
	$m	$m
Change in defined benefit obligation at year end from a 25 bps increase in the discount rate	**(5)**	(9)
Change in defined benefit obligation at year end from a 25 bps decrease in the discount rate	**5**	10

Pension plan assets

	2018	2017
	$m	$m
Fair value of plan assets	**614**	620
– equities	**53**	56
– bonds	**557**	558
– other – principally bank balances and short term investments	**4**	6

Fair value of plan assets and present value of defined benefit obligations

	Pension plans		Non-pension plans	
	2018	2017	**2018**	2017
	$m	$m	**$m**	$m
Fair value of plan assets				
At 1 Jan	**620**	578	**–**	–
Interest on plan assets	**21**	22	**–**	–
Contributions by the bank	**26**	29	**4**	4
Contributions by employees	**1**	1	**–**	–
Actuarial gains/(losses)	**(21)**	22	**–**	–
Benefits paid	**(32)**	(31)	**(4)**	(4)
Non-investment expenses	**(1)**	(1)	**–**	–
At 31 Dec	**614**	620	**–**	–
Present value of defined benefit obligations				
At 1 Jan	**(732)**	(692)	**(188)**	(195)
Current service cost	**(12)**	(11)	**(5)**	(7)
Interest cost	**(24)**	(25)	**(6)**	(7)
Contributions by employees	**(1)**	(1)	**–**	–
Actuarial gains/(losses) arising from changes in:	**27**	(34)	**56**	4
– demographic assumptions	**–**	–	**7**	–
– financial assumptions	**28**	(38)	**23**	4
– experience adjustments	**(1)**	4	**26**	–
Benefits paid	**32**	31	**4**	4
Past service cost	**–**	–	**11**	13
At 31 Dec	**(710)**	(732)	**(128)**	(188)
– funded	**(638)**	(665)	**–**	–
– unfunded	**(72)**	(67)	**(128)**	(188)
Other – effect of limit on plan surpluses	**(47)**	(46)	**–**	–
Net liability	**(143)**	(158)	**(128)**	(188)

The actual return on plan assets for the year ended 31 December 2018 was $1m (2017: $44m).

Actuarial valuations for the majority of the bank's pension plans are prepared annually and for non-pension arrangements triennially. The most recent actuarial valuations of the defined benefit pension plans for funding purposes were conducted as at 31 December 2017 and the most recent actuarial valuation of the non-pension arrangements was as at 31 December 2017. Based on the most recent valuations of the plans, the bank expects to make $22.6m of contributions to defined benefit pension plans during 2019.

The defined benefit pension plans expose the bank to risks, including: interest rate risk to the extent that the assets are not invested in bonds that match the plans' obligations, general market risk in respect of its equity investments, and longevity risk in respect of pensioners and beneficiaries living longer than assumed. These risks would be realized through higher pension costs and a higher defined benefit liability.

The bank takes steps to manage these risks through an asset liability management program, which includes reducing interest rate and market risk over time by increasing its asset allocation to bonds that more closely match the plan's obligations.

Summary of remeasurement, net on defined benefit obligations

	Pension plans		Non-pension plans	
	2018	2017	**2018**	2017
	$m	$m	**$m**	$m
Actuarial gains/(losses) on assets	**(21)**	22	**–**	–
Actuarial gains/(losses) on liabilities	**27**	(34)	**56**	4
Actuarial losses on maximum balance sheet item	**–**	(11)	**–**	–
Net charge to the consolidated statement of comprehensive income	**6**	(23)	**56**	4

6 Share-based payments

Share-based payments income statement charge

	2018	2017
	$m	$m
Restricted share awards	**12**	10
Cash settled restricted shares and other shares	**1**	1
Year ended 31 Dec	**13**	11

During 2018, $13m was charged to the income statement in respect of share-based payment transactions (2017: $11m) mostly relating to restricted share awards. These awards are generally granted to employees early in the year following the year to which the award relates. The charge for these awards is recognized from the start of the period to which the service relates to the end of the vesting period. The vesting period is the period over which the employee satisfies certain service conditions in order to become entitled to the award. Due to the staggered vesting profile of certain deferred share awards, the employee becomes entitled to a portion of the award at the end of each year during the vesting period. The income statement charge reflects this vesting profile.

The purpose of restricted share awards is to support retention of key employees, and to reward employee performance and potential. Vesting of restricted share awards is generally subject to continued employment with a vesting period and may be subject to performance conditions.

The weighted average fair value of shares awarded by the HSBC Group for restricted share awards in 2018 was $11.91 per share (2017: $11.26 per share). Fair value is measured at the prevailing market price at the date of the share award.

The bank carries a liability in respect of restricted share awards of $17m as at 31 December 2018 (2017: $13m) to its parent, HSBC Holdings, for the funding of awards that will vest in the future.

7 Tax expense

Analysis of tax expense

	2018	2017
	$m	$m
Current taxation	251	219
– federal	141	125
– provincial	110	94
Deferred taxation	22	8
– origination and reversal of temporary differences	22	8
Year ended 31 Dec	**273**	227

The provision for income taxes shown in the consolidated income statement is at a rate that is different than the combined federal and provincial statutory income tax rate for the following reasons:

	2018	2017
	%	%
Combined federal and provincial income tax rate	26.8	26.5
Adjustments resulting from:		
– adjustments related to prior years	–	(1.3)
– other, net	0.8	0.2
Effective tax rate	**27.6**	25.4

In addition to the amount charged to the income statement, the aggregate amount of current and deferred taxation relating to items that are taken directly to equity was a $1m increase in equity (2017: $38m increase in equity).

Deferred Taxation

Movement in deferred taxation during the year

	2018	2017
	$m	$m
At 1 Jan	118	119
Income statement charge	(22)	(8)
Other movements	(4)	–
Other comprehensive income:		
– actuarial gains and losses	(17)	7
At 31 Dec	**75**	118

Deferred taxation accounted for in the balance sheet

	2018	2017
	$m	$m
Net deferred tax assets	75	118
– retirement benefits	72	93
– loan impairment allowances	43	55
– property, plant and equipment	(7)	1
– assets leased to customers	(79)	(78)
– share-based payments	5	5
– relief for tax losses carried forward	1	2
– other temporary differences	40	40

The amount of temporary differences for which no deferred tax asset is recognized in the balance sheet is $4.2m (2017: $4.2m). This amount is in respect of capital losses where the recoverability of potential benefits is not considered likely. The entire amount has no expiry date.

Deferred tax is not recognized in respect of the bank's investments in subsidiaries where remittance of retained earning is not contemplated, and for those associates where it has been determined that no additional tax will arise. The aggregate amount of temporary differences associated with investments where no deferred tax liability is recognized is $229m (2017: $438m).

On the evidence available, including management's updated analysis and projection of income, there will be sufficient taxable income generated by the bank to support the recognition of its net deferred tax asset.

8 Dividends

Dividends declared on our shares

		2018		2017	
	Footnotes	**$per share**	**$m**	$per share	$m
Common shares	1		**810**		235
Class 1 preferred shares					
– Series C	2	**—**	**—**	1.275	9
– Series D	2	**—**	**—**	1.250	9
– Series G		**1.0000**	**20**	1.000	20
– Series I	3	**1.2325**	**17**	—	—

1. *In 2018, the bank declared and paid $810m in dividends on common shares, including a special dividend of $400m.*
2. *Preferred shares - Class 1, Series C and D were redeemed on 31 December 2017.*
3. *Preferred shares - Class 1, Series I were issued on 7 December 2017; no dividends were declared in 2017.*

9 Segment analysis

We manage and report our operations according to four operating segments: three global businesses and a corporate centre. The three global businesses are Commercial Banking, Global Banking and Markets, Retail Banking and Wealth Management. Various estimate and allocation methodologies are used in the preparation of the segment financial information. We allocate expenses directly related to earning revenue, to the segment that earned the related revenue. Expenses not directly related to earning revenue, such as overhead expenses, are allocated using appropriate formulas. Segments' net interest income reflects internal funding charges and credits on the global businesses' assets, liabilities and capital, at market rates, taking into account relevant terms. The offset of the net impact of these charges and credits is reflected in Corporate Centre.

A description of each operating segment is as follows:

Commercial Banking

Commercial Banking serves customers ranging from small enterprises focused primarily on domestic markets through to corporates operating globally. It supports customers with tailored financial products and services to allow them to operate efficiently and to grow. Services provided include working capital, term loans, payment services and international trade facilitation, among other services, as well as expertise in mergers and acquisitions, and access to financial markets.

Global Banking and Markets

Global Banking and Markets provides tailored financial solutions to major government, corporate and institutional clients worldwide. Managed as a global business, Global Banking and Markets operates a long-term relationship management approach to build a full understanding of clients' financial requirements. Sector-focused client service teams comprising of relationship managers and product specialists develop financial solutions to meet individual client needs. Global Banking and Markets is managed as three principal business lines: Markets, Capital Financing and Banking.

Retail Banking and Wealth Management

Retail Banking and Wealth Management provides banking and wealth management services for our personal customers to help them to manage their finances and protect and build their financial future. Customer offerings include: liability-driven services (deposits and account services), asset-driven services (credit and lending), and fee-driven and other services (financial advisory and asset management).

Corporate Centre

Corporate Centre contains balance sheet management, interests in associates and joint ventures, the results of movements in fair value of own debt, expense related to information technology services provided to HSBC Group companies on an arm's length basis with associated recoveries and other transactions which do not directly relate to our global businesses.

Profit for the year

	Commercial Banking	Global Banking and Markets	Retail Banking and Wealth Management	Corporate Centre	Total
	2018				
	$m	**$m**	**$m**	**$m**	**$m**
Net interest income	**586**	**107**	**489**	**110**	**1,292**
Net fee income	**316**	**152**	**205**	**–**	**673**
Net income from financial instruments held for trading	**34**	**71**	**30**	**1**	**136**
Other income	**18**	**1**	**13**	**131**	**163**
Total operating income	**954**	**331**	**737**	**242**	**2,264**
Change in expected credit losses	**38**	**(1)**	**(10)**	**–**	**27**
Net operating income	**992**	**330**	**727**	**242**	**2,291**
– external	**1,024**	**313**	**704**	**250**	**2,291**
– inter-segment	**(32)**	**17**	**23**	**(8)**	**–**
Total operating expenses	**(403)**	**(150)**	**(656)**	**(91)**	**(1,300)**
Operating profit	**589**	**180**	**71**	**151**	**991**
Share of profit in associates	**–**	**–**	**–**	**–**	**–**
Profit before income tax expense	**589**	**180**	**71**	**151**	**991**
	2017				
Net interest income	545	98	425	109	1,177
Net fee income	286	152	215	–	653
Net trading income	32	52	24	17	125
Other income	22	–	11	82	115
Total operating income	885	302	675	208	2,070
Loan impairment recoveries and other credit risk provisions	93	6	9	–	108
Net operating income	978	308	684	208	2,178
– external	978	334	709	157	2,178
– inter-segment	–	(26)	(25)	51	–
Total operating expenses	(388)	(138)	(604)	(159)	(1,289)
Operating profit	590	170	80	49	889
Share of profit in associates	–	–	–	6	6
Profit before income tax expense	590	170	80	55	895

Balance sheet information

	Commercial Banking	Global Banking and Markets	Retail Banking and Wealth Management	Corporate Centre	Inter-segment	Total
	$m	**$m**	**$m**	**$m**	**$m**	**$m**
At 31 Dec 2018						
Loans and advances to customers	**24,768**	**4,232**	**28,123**	**–**	**–**	**57,123**
Customers' liability under acceptances	**2,418**	**1,500**	**14**	**–**	**–**	**3,932**
Total assets	**26,910**	**19,524**	**33,672**	**28,111**	**(4,811)**	**103,406**
Customer accounts	**20,614**	**6,156**	**30,411**	**2,631**	**–**	**59,812**
Acceptances	**2,394**	**1,543**	**–**	**–**	**–**	**3,937**
Total liabilities	**23,831**	**18,158**	**32,593**	**28,052**	**(4,811)**	**97,823**
At 31 Dec 2017						
Loans and advances to customers	19,856	3,537	26,944	–	–	50,337
Customers' liability under acceptances	3,431	1,370	–	–	–	4,801
Total assets	28,900	19,796	31,768	27,430	(11,515)	96,379
Customer accounts[1]	21,128	6,449	27,887	1,590	–	57,054
Acceptances	3,431	1,370	–	–	–	4,801
Total liabilities	25,761	18,467	30,893	27,063	(11,515)	90,669

1. *Effective 1 January 2018, $696m of Customer accounts from Commercial Banking were reclassified to Retail Banking and Wealth Management and $557m from Global Banking and Markets were reclassified to Corporate Centre to conform with changes in management reporting.*

10 Analysis of financial assets and liabilities by measurement basis

Financial assets and financial liabilities are measured on an ongoing basis at either fair value or amortized cost. The following tables analyze the carrying amount of financial assets and liabilities by category and by balance sheet heading:

	2018				
	Financial instruments measured at FVPL	**Debt instruments measured at FVOCI**	**Equity instruments measured at FVOCI**	**Financial instruments measured at amortized cost**	**Total**
	$m	**$m**	**$m**	**$m**	**$m**
Financial assets					
Cash and balances at central bank	**–**	**–**	**–**	**78**	**78**
Items in the course of collection from other banks	**–**	**–**	**–**	**8**	**8**
Trading assets	**3,875**	**–**	**–**	**–**	**3,875**
Other financial assets mandatorily measured at fair value through profit or loss	**4**	**–**	**–**	**–**	**4**
Derivatives	**4,469**	**–**	**–**	**–**	**4,469**
Loans and advances to banks	**–**	**–**	**–**	**1,221**	**1,221**
Loans and advances to customers	**–**	**–**	**–**	**57,123**	**57,123**
Reverse repurchase agreements – non-trading	**–**	**–**	**–**	**5,860**	**5,860**
Financial investments	**–**	**24,033**	**21**	**–**	**24,054**
Customers' liability under acceptances	**–**	**–**	**–**	**3,932**	**3,932**
Total	**8,348**	**24,033**	**21**	**68,222**	**100,624**
Financial liabilities					
Deposits by banks	**–**	**–**	**–**	**1,148**	**1,148**
Customer accounts	**–**	**–**	**–**	**59,812**	**59,812**
Repurchase agreements – non-trading	**–**	**–**	**–**	**8,224**	**8,224**
Items in the course of transmission to other banks	**–**	**–**	**–**	**252**	**252**
Trading liabilities	**2,164**	**–**	**–**	**–**	**2,164**
Derivatives	**4,565**	**–**	**–**	**–**	**4,565**
Debt securities in issue	**–**	**–**	**–**	**13,863**	**13,863**
Acceptances	**–**	**–**	**–**	**3,937**	**3,937**
Subordinated liabilities	**–**	**–**	**–**	**1,039**	**1,039**
Total	**6,729**	**–**	**–**	**88,275**	**95,004**

	2017					
	Held for trading	Available-for-sale securities	Financial assets and liabilities at amortized cost	Derivatives designated as fair value hedging instruments	Derivatives designated as cash flow hedging instruments	Total
	$m	$m	$m	$m	$m	$m
Financial assets						
Cash and balances at central bank	–	–	411	–	–	411
Items in the course of collection from other banks	–	–	25	–	–	25
Trading assets	5,373	–	–	–	–	5,373
Derivatives	3,450	–	–	147	78	3,675
Loans and advances to banks	–	–	1,221	–	–	1,221
Loans and advances to customers	–	–	50,337	–	–	50,337
Reverse repurchase agreements – non-trading	–	–	6,153	–	–	6,153
Financial investments	–	22,913	–	–	–	22,913
Customers' liability under acceptances	–	–	4,801	–	–	4,801
Total	8,823	22,913	62,948	147	78	94,909
Financial liabilities						
Deposits by banks	–	–	1,696	–	–	1,696
Customer accounts	–	–	57,054	–	–	57,054
Repurchase agreements – non-trading	–	–	4,604	–	–	4,604
Items in the course of transmission to other banks	–	–	299	–	–	299
Trading liabilities	3,701	–	–	–	–	3,701
Derivatives	3,343	–	–	31	142	3,516
Debt securities in issue	–	–	10,820	–	–	10,820
Acceptances	–	–	4,801	–	–	4,801
Subordinated liabilities	–	–	1,039	–	–	1,039
Total	7,044	–	80,313	31	142	87,530

11 Trading assets

	2018 $m	2017 $m
Trading assets		
– not subject to repledge or resale by counterparties	**1,764**	3,424
– which may be repledged or resold by counterparties	**2,111**	1,949
At 31 Dec	**3,875**	5,373

	Footnotes	2018 $m	2017 $m
Debt securities		**3,485**	4,290
– Canadian and Provincial Government bonds	1	**3,034**	3,249
– other debt securities		**451**	1,041
Treasury and other eligible bills		**390**	835
Customer trading assets	2	**—**	93
Trading assets from other banks	2	**—**	155
At 31 Dec		**3,875**	5,373

1. *Including government guaranteed bonds.*
2. *Settlement accounts of $248m at 31 December 2017 have been reclassified from 'Trading assets' to 'Other assets'. See notes 18 and 33 for more information. 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.*

Term to maturity of debt securities

	2018 $m	2017 $m
Less than 1 year	**652**	690
1-5 years	**1,042**	763
5-10 years	**1,277**	1,753
Over 10 years	**514**	1,084
At 31 Dec	**3,485**	4,290

12 Derivatives

Fair values of derivatives by product contract type held

	Assets			Liabilities		
	Held for trading $m	Hedge accounting $m	Total $m	Held for trading $m	Hedge accounting $m	Total $m
Foreign exchange	**2,566**	**12**	**2,578**	**2,535**	**144**	**2,679**
Interest rate	**1,758**	**125**	**1,883**	**1,704**	**174**	**1,878**
Commodity	**8**	**—**	**8**	**8**	**—**	**8**
Equity	**—**	**—**	**—**	**—**	**—**	**—**
At 31 Dec 2018	**4,332**	**137**	**4,469**	**4,247**	**318**	**4,565**
Foreign exchange	1,445	76	1,521	1,390	70	1,460
Interest rate	1,987	148	2,135	1,936	103	2,039
Commodity	17	—	17	17	—	17
Equity	2	—	2	—	—	—
At 31 Dec 2017	3,451	224	3,675	3,343	173	3,516

Notional amounts by remaining term to maturity of the derivative portfolio

	Held for trading				Hedge accounting				Total
	Less than 1 year	1 - 5 years	Over 5 years	Total	Less than 1 year	1 - 5 years	Over 5 years	Total	
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Interest rate contracts	**104,617**	**160,851**	**51,524**	**316,992**	**2,394**	**12,878**	**5,933**	**21,205**	**338,197**
– exchange traded futures	**13,205**	**18,251**	**180**	**31,636**	**—**	**—**	**—**	**—**	**31,636**
– swaps	**88,133**	**142,389**	**48,075**	**278,597**	**2,394**	**12,878**	**5,933**	**21,205**	**299,802**
– caps	**1,700**	**211**	**3,269**	**5,180**	**—**	**—**	**—**	**—**	**5,180**
– other interest rate	**1,579**	**—**	**—**	**1,579**	**—**	**—**	**—**	**—**	**1,579**
Foreign exchange contracts	**119,564**	**15,785**	**1,172**	**136,521**	**566**	**1,191**	**—**	**1,757**	**138,278**
– spot	**1,796**	**—**	**—**	**1,796**	**—**	**—**	**—**	**—**	**1,796**
– forward	**103,841**	**4,502**	**30**	**108,373**	**—**	**—**	**—**	**—**	**108,373**
– currency swaps and options	**13,927**	**11,283**	**1,142**	**26,352**	**566**	**1,191**	**—**	**1,757**	**28,109**
Other derivative contracts	**20**	**35**	**—**	**55**	**—**	**—**	**—**	**—**	**55**
– commodity	**20**	**35**	**—**	**55**	**—**	**—**	**—**	**—**	**55**
– equity	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
At 31 Dec 2018	**224,201**	**176,671**	**52,696**	**453,568**	**2,960**	**14,069**	**5,933**	**22,962**	**476,530**
Interest rate contracts	90,368	145,002	46,828	282,198	1,221	12,898	2,634	16,753	298,951
– exchange traded futures	4,990	17,550	113	22,653	—	—	—	—	22,653
– swaps	83,515	124,178	46,251	253,944	1,221	12,898	2,634	16,753	270,697
– caps	—	3,274	464	3,738	—	—	—	—	3,738
– other interest rate	1,863	—	—	1,863	—	—	—	—	1,863
Foreign exchange contracts	94,167	12,149	2,627	108,943	641	1,757	—	2,398	111,341
– spot	1,642	—	—	1,642	—	—	—	—	1,642
– forward	73,091	2,503	—	75,594	—	—	—	—	75,594
– currency swaps and options	19,434	9,646	2,627	31,707	641	1,757	—	2,398	34,105
Other derivative contracts	191	42	—	233	—	—	—	—	233
– commodity	184	42	—	226	—	—	—	—	226
– equity	7	—	—	7	—	—	—	—	7
At 31 Dec 2017	184,726	157,193	49,455	391,374	1,862	14,655	2,634	19,151	410,525

The following tables summarize the fair values of the bank's derivative portfolio at 31 December segregated between derivatives that are in a favourable or receivable position and those in an unfavourable or payable position. Fair values of derivative instruments are determined using observable inputs (note 24).

	Held for trading			Hedge accounting			
	Favourable position	Unfavourable position	Net position	Favourable position	Unfavourable position	Net position	Total net position
	$m	$m	$m	$m	$m	$m	$m
Interest rate contracts	**1,758**	**(1,703)**	**55**	**125**	**(174)**	**(49)**	**6**
– swaps	**1,753**	**(1,685)**	**68**	**125**	**(174)**	**(49)**	**19**
– caps	**4**	**(4)**	**—**	**—**	**—**	**—**	**—**
– other interest rate	**1**	**(14)**	**(13)**	**—**	**—**	**—**	**(13)**
Foreign exchange contracts	**2,566**	**(2,536)**	**30**	**12**	**(144)**	**(132)**	**(102)**
– spot	**4**	**(4)**	**—**	**—**	**—**	**—**	**—**
– forward	**1,811**	**(1,788)**	**23**	**—**	**—**	**—**	**23**
– currency swaps and options	**751**	**(744)**	**7**	**12**	**(144)**	**(132)**	**(125)**
Other derivative contracts	**8**	**(8)**	**—**	**—**	**—**	**—**	**—**
– commodity	**8**	**(8)**	**—**	**—**	**—**	**—**	**—**
– equities	**—**	**—**	**—**	**—**	**—**	**—**	**—**
At 31 Dec 2018	**4,332**	**(4,247)**	**85**	**137**	**(318)**	**(181)**	**(96)**
Interest rate contracts	1,987	(1,936)	51	148	(103)	45	96
– swaps	1,980	(1,927)	53	148	(103)	45	98
– caps	1	(2)	(1)	—	—	—	(1)
– other interest rate	6	(7)	(1)	—	—	—	(1)
Foreign exchange contracts	1,445	(1,390)	55	76	(70)	6	61
– spot	2	(1)	1	—	—	—	1
– forward	903	(857)	46	—	—	—	46
– currency swaps and options	540	(532)	8	76	(70)	6	14
Other derivative contracts	19	(17)	2	—	—	—	2
– commodity	17	(17)	—	—	—	—	—
– equities	2	—	2	—	—	—	2
At 31 Dec 2017	3,451	(3,343)	108	224	(173)	51	159

Use of derivatives

The bank undertakes derivative activities 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 the bank's derivative exposures arise from sales and trading activities and are treated as traded risk for market risk management purposes.

The bank's derivative activities give rise to open positions in portfolios of derivatives. These positions are managed constantly to ensure that they remain within acceptable risk levels in accordance with the bank's approved risk management policies, with offsetting deals being used to achieve this where necessary. When entering into derivative transactions, the bank employs the same credit risk management procedures that are used for traditional lending to assess and approve potential credit exposures.

Analysis of the derivative portfolio and related credit exposure

	2018				2017			
	Notional amount[1]	Positive replacement cost[2]	Credit equivalent amount[3]	Risk-weighted balance[4]	Notional amount[1]	Positive replacement cost[2]	Credit equivalent amount[3]	Risk-weighted balance[4]
	$m	$m	$m	$m	$m	$m	$m	$m
Interest rate contracts	**338,197**	**495**	**917**	**203**	298,951	536	918	156
– future	**31,636**	**–**	**–**	**–**	22,653	–	–	–
– swaps	**299,802**	**491**	**883**	**165**	270,697	534	905	148
– caps	**5,180**	**3**	**33**	**38**	3,738	–	11	8
– other interest rate contracts	**1,579**	**1**	**1**	**–**	1,863	2	2	–
Foreign exchange contracts	**138,278**	**1,437**	**2,363**	**820**	111,341	785	1,575	550
– spot	**1,796**	**–**	**1**	**1**	1,642	–	1	–
– forward	**108,373**	**993**	**1,548**	**433**	75,594	370	695	182
– currency swaps and options	**28,109**	**444**	**814**	**386**	34,105	415	879	368
Other derivative contracts	**55**	**2**	**5**	**4**	233	7	16	12
– commodity	**55**	**2**	**5**	**4**	226	7	16	12
– equities	**–**	**–**	**–**	**–**	7	–	–	–
At 31 Dec	**476,530**	**1,934**	**3,285**	**1,027**	410,525	1,328	2,509	718

1. *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.*
2. *Positive replacement cost represents the total fair value of all outstanding contracts in a gain position after factoring in the master netting agreements.*
3. *Credit equivalent amount is the current replacement cost plus an amount for future credit exposure associated with the potential for future changes in currency and interest rates. The future credit exposure is calculated using a formula prescribed by OSFI in its capital adequacy guidelines.*
4. *Risk-weighted balance represents a measure of the amount of regulatory capital required to support the derivative activities. It is estimated by risk weighting the credit equivalent amounts according to the credit worthiness of the counterparties using factors prescribed by OSFI in its capital adequacy guidelines.*

Interest rate futures are exchange-traded. All other contracts are over-the-counter.

Derivatives held for trading

Most of the bank'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 in derivatives are entered into principally for the purpose of generating profits from short-term fluctuations in price or margin. Positions may be traded actively or be held over a period of time to benefit from expected changes in currency rates, interest rates, equity prices or other market parameters. Trading includes market-making, positioning and arbitrage activities. Market-making entails quoting bid and offer prices to other market participants for the purpose of generating revenues based on spread and volume; positioning means managing market risk positions in the expectation of benefiting from favourable movements in prices, rates or indices; arbitrage involves identifying and profiting from price differentials between markets and products.

Other derivatives classified as held for trading include non-qualifying hedging derivatives, ineffective hedging derivatives and the components of hedging derivatives that are excluded from assessing hedge effectiveness. Non-qualifying hedging derivatives are entered into for risk management purposes as described in the following section but do not meet the criteria for hedge accounting.

Derivatives in hedge accounting relationships

The bank uses derivatives (principally interest rate swaps) for hedging purposes in the management of its own asset and liability portfolios and structural positions. This enables the bank to optimize the overall cost to the bank of accessing debt capital markets, and to mitigate the market risk which would otherwise arise from structural imbalances in the maturity and other profiles of its assets and liabilities.

Fair value hedges

The bank's fair value hedges principally consist of interest rate swaps that are used to protect against changes in the fair value of fixed-rate financial instruments due to movements in market interest rates. For qualifying fair value hedges, all changes in the fair value of the derivative and in the fair value of the item in relation to the risk being hedged are recognized in the income statement. If the hedge relationship is terminated, the fair value adjustment to the hedged item continues to be reported as part of the basis of the item and is amortized to the income statement as a yield adjustment over the remainder of the hedging period.

Hedging instrument by hedged risk

	Hedging Instrument				
		Carrying amount			
	Notional amount[1]	Assets	Liabilities	Balance sheet presentation	Change in fair value[2]
Hedged Risk	$m	$m	$m		$m
Interest rate	14,241	90	112	Derivatives	(36)
At 31 Dec 2018	**14,241**	**90**	**112**		**(36)**

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.*

Hedged item by hedged risk

	Hedged Item						Ineffectiveness	
	Carrying amount		Accumulated fair value hedge adjustments included in carrying amount			Change in fair value[1]	Recognized in profit and loss	
	Assets	Liabilities	Assets	Liabilities	Balance sheet presentation			Profit and loss presentation
Hedged Risk	$m	$m	$m	$m		$m	$m	
Interest rate	12,930	–	4	–	Financial investments	36	–	Net income from financial instruments held for trading
	–	1,438	–	(4)	Debt securities in issue	–		
At 31 Dec 2018	**12,930**	**1,438**	**4**	**(4)**		**36**	**–**	

1. *Used in effectiveness assessment; comprising amount attributable to the designated hedged risk that can be a risk component.*

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 is nil.

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, the bank 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 fixed rate debt securities issued by the bank is managed in a non-dynamic risk management strategy.

Forecast hedging instrument (excluding dynamic hedges)

	Notional amount 3 months or less	Rate (average)	Notional amount More than 3 months but less than 1 year	Rate (average)	Notional amount More than 1 year but less than 5 years	Rate (average)	Notional amount More than 5 years	Rate (average)
Hedged risk	$m	$	$m	$	$m	$	$m	$
Interest rate								
– swaps	–	–	425	1.87%	927	1.86%	90	2.88%
At 31 Dec 2018	**–**		**425**		**927**		**90**	

Cash flow hedges

The bank'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.

The bank applies macro cash flow hedging strategies 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.

The bank 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; these are considered non-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	Change in fair value	Recognized in profit and loss	Profit and loss presentation
Hedged Risk	$m	$m	$m		$m	$m	$m	$m
Foreign currency	1,757	12	144	Derivatives	(115)	115	–	Net income from financial instruments held for trading
Interest rate	6,964	35	62	Derivatives	41	(41)	–	
At 31 Dec 2018	**8,721**	**47**	**206**		**(74)**	**74**	**–**	

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.*

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	(39)	(10)
Fair value gains/(losses)	42	(115)
Fair value (gains)/losses reclassified from the cash flow hedge reserve to the income statement	(9)	124
Income taxes	(9)	(2)
Cash flow hedging reserve at 31 Dec 2018	**(15)**	**(3)**

13 Financial investments

Carrying amount of financial investments

	Footnotes	2018	2017
		$m	$m
Financial investments		24,054	22,913
– not subject to repledge or resale by counterparties		20,409	20,724
– which may be repledged or resold by counterparties		3,645	2,189
Financial investments measured at fair value through other comprehensive income		24,054	n/a
– Canadian and Provincial Government bonds	1	17,545	n/a
– international Government bonds	1	2,800	n/a
– other debt securities issued by banks and other financial institutions		3,399	n/a
– treasury and other eligible bills		289	n/a
– equity securities		21	n/a
Available-for-sale		n/a	22,913
– Canadian and Provincial Government bonds	1	n/a	15,782
– international Government bonds	1	n/a	3,486
– other debt securities issued by banks and other financial institutions		n/a	3,326
– treasury and other eligible bills		n/a	290
– equity securities		n/a	29
At 31 Dec	2	**24,054**	22,913

1. *Includes government guaranteed bonds.*
2. *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 categorized in accordance with IAS 39.*

Term to maturity of financial investments

	2018	2017
	$m	$m
Less than 1 year	2,197	2,187
1-5 years	15,514	17,479
5-10 years	6,322	3,218
No specific maturity	21	29
At 31 Dec	**24,054**	22,913

14 Interest rate sensitivity

Analysis of the interest rate sensitivity position based on contractual repricing dates of assets and liabilities

	2018									
	Floating rate	Within 3 months	3 - 12 months	Average interest rate	1 - 5 years	Average interest rate	Greater than 5 years	Average interest rate	Non-interest sensitive	Total
	$m	$m	$m	%	$m	%	$m	%	$m	$m
Cash and balances at central bank	–	–	–	–%	–	–%	–	–%	78	78
Items in the course of collection from other banks	–	–	–	–%	–	–%	–	–%	8	8
Trading assets	3,875	–	–	1.8%	–	–%	–	–%	–	3,875
Other financial assets mandatorily measured at fair value through profit or loss	–	–	–	–%	–	–%	–	–%	4	4
Derivatives	–	–	–	–%	–	–%	–	–%	4,469	4,469
Loans and advances to banks	–	134	–	1.8%	–	–%	–	–%	1,087	1,221
Loans and advances to customers	26,467	14,410	3,261	3.6%	12,675	2.9%	310	3.6%	–	57,123
Reverse repurchase agreements – non-trading	–	5,860	–	1.8%	–	–%	–	–%	–	5,860
Financial investments	–	1,725	1,922	1.8%	14,351	1.9%	6,035	2.6%	21	24,054
Acceptances	–	–	–	–%	–	–%	–	–%	3,932	3,932
Other assets	–	–	–	–%	–	–%	–	–%	2,656	2,656
Current tax assets	–	–	–	–%	–	–%	–	–%	51	51
Deferred tax assets	–	–	–	–%	–	–%	–	–%	75	75
Total assets	**30,342**	**22,129**	**5,183**		**27,026**		**6,345**		**12,381**	**103,406**
Deposits by banks	–	–	–	–%	–	–%	–	–%	1,148	1,148
Customer accounts	27,074	7,980	8,637	1.6%	1,523	2.4%	–	2.3%	14,598	59,812
Repurchase agreements – non-trading	–	8,224	–	1.9%	–	–%	–	–%	–	8,224
Items in the course of transmission to other banks	–	–	–	–%	–	–%	–	–%	252	252
Trading liabilities	2,164	–	–	1.8%	–	–%	–	–%	–	2,164
Derivatives	–	–	–	–%	–	–%	–	–%	4,565	4,565
Debt securities in issue	–	2,330	1,159	2.6%	10,237	2.7%	137	3.6%	–	13,863
Other liabilities	–	–	–	–%	–	–%	–	–%	2,776	2,776
Acceptances	–	–	–	–%	–	–%	–	–%	3,937	3,937
Subordinated liabilities	–	1,039	–	4.1%	–	–%	–	–%	–	1,039
Current tax liabilities	–	–	–	–%	–	–%	–	–%	43	43
Shareholder's equity	–	–	–	–%	850	4.2%	–	–%	4,733	5,583
Total liabilities and shareholder's equity	**29,238**	**19,573**	**9,796**		**12,610**		**137**		**32,052**	**103,406**
On-balance sheet gap	1,104	2,556	(4,613)		14,416		6,208		(19,671)	–
Off-balance sheet positions	–	4,050	1,179		586		(5,815)		–	–
Total interest rate gap	**1,104**	**6,606**	**(3,434)**		**15,002**		**393**		**(19,671)**	**–**

	2017									
	Floating rate	Within 3 months	3 - 12 months	Average interest rate	1 - 5 years	Average interest rate	Greater than 5 years	Average interest rate	Non-interest sensitive	Total
	$m	$m	$m	%	$m	%	$m	%	$m	$m
Cash and balances at central bank	—	—	—	—%	—	—%	—	—%	411	411
Items in the course of collection from other banks	—	—	—	—%	—	—%	—	—%	25	25
Trading assets	5,373	—	—	1.0%	—	—%	—	—%	—	5,373
Derivatives	—	—	—	—%	—	—%	—	—%	3,675	3,675
Loans and advances to banks	—	59	—	1.5%	—	—%	—	—%	1,162	1,221
Loans and advances to customers	25,867	8,913	4,468	2.8%	10,996	2.7%	73	3.7%	20	50,337
Reverse repurchase agreements – non-trading	—	6,031	122	1.0%	—	—%	—	—%	—	6,153
Financial investments	—	3,217	1,643	1.3%	15,139	2.0%	2,886	2.4%	28	22,913
Acceptances	—	—	—	—%	—	—%	—	—%	4,801	4,801
Other assets	—	—	—	—%	—	—%	—	—%	1,308	1,308
Current tax assets	—	—	—	—%	—	—%	—	—%	44	44
Deferred tax assets	—	—	—	—%	—	—%	—	—%	118	118
Total assets	31,240	18,220	6,233		26,135		2,959	—%	11,592	96,379
Deposits by banks	—	377	—	1.0%	—	—%	—	—%	1,319	1,696
Customer accounts	30,773	5,208	7,522	1.0%	1,383	2.0%	—	—%	12,168	57,054
Repurchase agreements – non-trading	—	4,604	—	1.1%	—	—%	—	—%	—	4,604
Items in the course of transmission to other banks	—	—	—	—%	—	—%	—	—%	299	299
Trading liabilities	3,701	—	—	1.0%	—	—%	—	—%	—	3,701
Derivatives	—	—	—	—%	—	—%	—	—%	3,516	3,516
Debt securities in issue	—	1,157	1,088	1.7%	6,938	2.4%	1,637	2.6%	—	10,820
Other liabilities	—	—	—	—%	—	—%	—	—%	3,099	3,099
Acceptances	—	—	—	—%	—	—%	—	—%	4,801	4,801
Subordinated liabilities	—	1,039	—	3.3%	—	—%	—	—%	—	1,039
Current tax liabilities	—	—	—	—%	—	—%	—	—%	40	40
Shareholder's equity	—	—	—	—%	850	4.2%	—	—%	4,860	5,710
Total liabilities and shareholder's equity	34,474	12,385	8,610		9,171		1,637		30,102	96,379
On-balance sheet gap	(3,234)	5,957	(2,499)		16,964		1,322		(18,510)	—
Off-balance sheet positions	—	3,277	(22)		(801)		(2,454)		—	—
Total interest rate gap	(3,234)	9,234	(2,521)		16,163		(1,132)		(18,510)	—

15 Property, plant and equipment

	Freehold land and buildings	Leasehold improvements	Equipment, fixtures and fittings	Total
	$m	$m	$m	$m
Cost				
At 1 Jan 2018	**2**	**151**	**62**	**215**
Additions at cost	**—**	**16**	**11**	**27**
Disposals and write-offs	**(1)**	**(8)**	**(14)**	**(23)**
At 31 Dec 2018	**1**	**159**	**59**	**219**
Accumulated depreciation and impairment				
At 1 Jan 2018	**(1)**	**(79)**	**(29)**	**(109)**
Depreciation charge for the year	**—**	**(21)**	**(11)**	**(32)**
Disposals and write-offs	**1**	**8**	**14**	**23**
At 31 Dec 2018	**—**	**(92)**	**(26)**	**(118)**
Net carrying amount at 31 December 2018	**1**	**67**	**33**	**101**

	Freehold land and buildings	Leasehold improvements	Equipment, fixtures and fittings	Total
	$m	$m	$m	$m
Cost				
At 1 Jan 2017	3	174	77	254
Additions at cost	—	17	18	35
Disposals and write-offs	(1)	(40)	(33)	(74)
At 31 Dec 2017	2	151	62	215
Accumulated depreciation and impairment				
At 1 Jan 2017	(2)	(98)	(50)	(150)
Depreciation charge for the year	—	(21)	(12)	(33)
Disposals and write-offs	1	40	33	74
At 31 Dec 2017	(1)	(79)	(29)	(109)
Net carrying amount at 31 December 2017	1	72	33	106

16 Investments in subsidiaries

At 31 December 2018, HSBC Bank Canada wholly-owned the following principal subsidiaries:

Subsidiary	**Place of incorporation**	**Issued equity capital**
		$m
HSBC Finance Mortgages Inc.	Toronto, Ontario, Canada	410
HSBC Trust Company (Canada)	Vancouver, British Columbia, Canada	201
HSBC Securities (Canada) Inc.	Toronto, Ontario, Canada	187
HSBC Mortgage Corporation (Canada)	Vancouver, British Columbia, Canada	25
HSBC Global Asset Management (Canada) Limited	Vancouver, British Columbia, Canada	19
HSBC Private Wealth Services (Canada) Inc.	Toronto, Ontario, Canada	14

HSBC Capital (Canada) Inc. was dissolved during the year and the bank assumed all assets and liabilities. This had no impact on the normal course of business activities.

17 Structured entities

The bank is mainly involved with structured entities through the securitization of financial assets, covered bond program and investment funds established either by the bank or a third party.

Mortgage Backed Securities

The bank periodically creates National Housing Act Mortgage Backed Securities with certain of the bank's mortgages identified as collateral for such securities and issues these legally created securities to Canada Housing Trust, a structured entity sponsored by Canada Mortgage and Housing Corporation, which issues Canada Mortgage Bonds. The bank does not have any decision-making power over Canada Housing Trust. The bank's only exposure to the Trust is derived from the contractual arrangements arising from the legal transfer of the mortgage backed securities and related collateral. Additional information can be found on note 25 in respect to assets securitized.

HSBC Investment funds

The bank establishes and manages investment funds such as mutual funds and pooled funds, acts as an investment manager and earns market-based management fees. The bank does not consolidate those mutual and pooled funds in which our interests indicated that we are exercising our decision making power as an agent of the other unit holder. Seed capital is provided from time to time to HSBC managed investment funds for initial launch. The bank consolidates those investment funds in which it has power to direct the relevant activities of the funds and in which the seed capital, or the units held by the bank, are significant relative to the total variability of returns of the funds such that the bank is deemed to be a principal rather than an agent.

HSBC Mortgage Fund

The bank periodically transfers mortgages to the HSBC Mortgage Fund (the 'fund') in accordance with the investment parameters of the fund and recognizes a liability for mortgages sold with recourse for the initial proceeds received. The bank provides an undertaking to repurchase mortgages which are in arrears for a period that is greater than 90 days and repurchases mortgages in certain circumstances when an individual mortgage is prepaid in full. In addition to these obligations the bank provides a liquidity arrangement to the HSBC Mortgage Fund whereby if the level of redemption requests by unitholders cannot be met by the fund the bank will either repurchase such funds as are deemed necessary by the HSBC Mortgage Fund to satisfy the liquidity requirements arising from unitholder requests or facilitate the purchase of such mortgages by a third party at the bank's discretion. The bank has not received any such liquidity requests from the fund in respect of unitholder redemptions. The fund is not consolidated as the bank does not have control over the fund as it has insufficient absolute returns or variability of returns to consolidate the fund. Information on mortgages sold with recourse can be found in note 25.

HSBC Canadian Covered Bond (Legislative) Guarantor Limited Partnership

HSBC Canadian Covered Bond (Legislative) Guarantor Limited Partnership ('the Guarantor LP') was established by the bank to support our covered bond program by providing a direct, unconditional and irrevocable guarantee for the payment of interest and principal due under the covered bond program. The Guarantor LP holds residential mortgages acquired from the bank for the purpose of meeting its obligations under the covered bond guarantee. The entity is consolidated as the bank has the decision-making power over its activities and remains exposed to the performance of the underlying mortgages.

See note 21 for further details on the covered bond program.

HSBC Canadian Covered Bond (Legislative) GP Inc.

The HSBC Canadian Covered Bond (Legislative) GP Inc. ('the Managing General Partner') is wholly-owned by the bank that is responsible for the day-to-day operations of the Guarantor LP. The directors and officers of the Managing General Partner are the bank's employees.

18 Other assets

	Footnotes	**2018**	2017
		$m	$m
Accounts receivable and other		**434**	774
Investments in associates		**2**	40
Due from clients, dealers and clearing corporations		**98**	73
Settlement accounts	1	**464**	—
Cash collateral	2	**1,195**	—
Other non-financial assets		**7**	12
At 31 Dec		**2,200**	899

1. *Settlement accounts of $248m at 31 December 2017 were reclassified from 'Trading assets' to 'Other assets' as of 1 January 2018.*
2. *Cash collateral accounts at 31 December 2017 of $59m and $28m, respectively, were reclassified from 'Loans and advances to banks' and 'Loans and advances to customers' to 'Other assets' as of 1 January 2018.*

19 Goodwill and intangible assets

	2018	2017
	$m	$m
Goodwill	**23**	23
Computer software	**98**	67
At 31 Dec	**121**	90

No goodwill impairment was recognized in 2018 or 2017.

20 Trading liabilities

	2018	2017
	$m	$m
Net short positions in securities	**2,164**	3,533
Customer trading liabilities	**—**	168
At 31 Dec	**2,164**	3,701

1. *Settlement accounts of $160m at 31 December 2017 have been reclassified from 'Trading liabilities' to 'Other liabilities'. See notes 22 and 33 for more information. 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.*

21 Debt securities in issue

	2018	2017
	$m	$m
Bonds and medium term notes	**12,196**	10,141
Covered bonds	**1,018**	—
Money market instruments	**649**	679
At 31 Dec	**13,863**	10,820

Term to maturity

	Footnote	**2018**	2017
		$m	$m
Less than 1 year		**2,749**	1,631
1-5 years	1	**10,795**	7,428
5-10 years		**319**	1,761
At 31 Dec		**13,863**	10,820

1. *Includes covered bonds.*

The Canadian registered covered bonds which are debt securities in issue and are secured by a segregated pool of uninsured residential mortgages on properties in Canada that is held by a separate guarantor entity i.e. HSBC Canadian Covered Bond (Legislative) Guarantor Limited Partnership, established by the bank exclusively for the Covered Bond Program (the 'Program'). Under the terms of the Program, the bank issued Covered Bonds that are direct, unsecured and unconditional obligations of the bank. The covered bonds are treated equivalent to deposits that are ranked *pari passu* with all customer accounts of the bank without any preference among themselves and at least *pari passu* with all other unsubordinated and unsecured obligations of the bank, present and future.

The legal title on the residential mortgages that is secured by a segregated pool is held by the Guarantor LP.

At 31 December 2018, the total amount of the mortgages transferred and outstanding was $2,646m (2017: nil) and $1,018m of covered bonds were recorded as debt securities in issue on our consolidated balance sheet (2017: nil).

22 Other liabilities

	Footnotes	2018 $m	2017 $m
Mortgages sold with recourse		**1,572**	1,676
Accounts payable		**60**	479
Settlement accounts	1	**33**	—
Cash collateral	2	**159**	—
Other non-financial liabilities		**50**	49
Share based payment related liability		**17**	13
At 31 Dec		**1,891**	2,217

1. *Settlement accounts of $160m at 31 December 2017 were reclassified from 'Trading liabilities' to 'Other liabilities' as of 1 January 2018.*
2. *Cash collateral accounts at 31 December 2017 of $227m and $8m, respectively, were reclassified from 'Deposits by banks' and 'Customer accounts' to 'Other liabilities' as of 1 January 2018.*

23 Subordinated liabilities

Subordinated debt and debentures, which are unsecured and subordinated in right of payment to the claims of depositors and certain other creditors, comprise:

	Footnote	Year of Maturity	Carrying amount	
			2018 $m	**2017 $m**
Interest rate (%)				
Issued to Group				
– 3 month Canadian Dollar Offered Rate plus 1.92%	1	2028	**1,000**	1,000
Issued to third parties				
– 30 day bankers' acceptance rate plus 0.50%		2083	**39**	39
Debt and debentures at amortized cost			**1,039**	1,039

1. *The interest is payable at an annual rate equal to the 3 month Canadian Dollar Offered Rate plus 1.92%. The subordinated debt was issued on 5 June 2017 and includes non-viability contingency capital ('NVCC') provisions, necessary for the instrument to qualify as Tier 2 regulatory capital under Basel III. In the event that OSFI determines that a regulatory defined non-viability trigger event has occurred, NVCC provisions require the full and permanent write off of the subordinated debt.*

24 Fair values of financial instruments

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. To this end, ultimate responsibility for the determination of fair values lies with the bank's finance department ('Finance'). Finance establishes the accounting policies and procedures governing valuation, and is responsible for ensuring that they comply with all relevant accounting standards.

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, the bank 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.

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 the bank 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.

The best evidence of fair value is a quoted price in an actively traded market. In the event that the market for a financial instrument is not active, a valuation technique is used. The judgment as to whether a market is active may include, but is not restricted to, the consideration of factors such as the magnitude and frequency of trading activity, the availability of prices and the size of bid/offer spreads. In inactive markets, obtaining assurance that the transaction price provides evidence of fair value or determining the adjustments to transaction prices that are necessary to measure the fair value of the instrument requires additional work during the valuation process.

Valuation techniques incorporate assumptions about factors that other market participants would use in their valuations. A range of valuation techniques is employed, dependent upon the instrument type and available market data. Most valuation techniques are based upon discounted cash flow analysis, in which expected future cash flows are calculated and discounted to present value using a discounting curve. Prior to consideration of credit risk, the expected future cash flows may be known, as would be the case for the fixed leg of an interest rate swap, or may be uncertain and require projection, as would be the case for the floating leg of an interest rate swap. The valuation techniques the bank applies utilize market forward curves, if available. In option models, the probability of different potential future outcomes must be considered. In addition, the value of some products are dependent upon more than one market factor, and in these cases it will typically be necessary to consider how movements in one market factor may impact the other market factors. The model inputs necessary to perform such calculations include interest rate yield curves, exchange rates, volatilities, correlations, prepayment and default rates.

The majority of valuation techniques employ only observable market data and so the reliability of the fair value measurement is high. However, certain financial instruments are valued on the basis of valuation techniques that feature one or more significant market inputs that are unobservable, and for them, the derivation of fair value is more judgmental. An instrument in its entirety is classified as valued using significant unobservable inputs if, in the opinion of management, a significant proportion of the instrument's carrying amount and/or inception profit ('day 1 gain and loss') 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 level at which an arm's length transaction would be likely to occur. It generally does not mean that there is no market data available at all upon which to base a determination of fair value (consensus pricing data may, for example, be used). Furthermore, in some cases the majority of the fair value derived from a valuation technique with significant unobservable inputs may be attributable to the observable inputs. Consequently, the effect of uncertainty in the determining unobservable inputs will generally be restricted to uncertainty about the overall fair value of the financial instrument being measured.

In certain circumstances, primarily where debt is hedged with interest rate derivatives or structured notes issued, the bank uses fair value to measure the carrying value of its own debt in issue. The bank records its own debt in issue at fair value, based on quoted prices in an active market for the specific instrument concerned, if available. When quoted market prices are unavailable, the own debt in issue is valued using valuation techniques, the inputs for which are either based upon 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 which is appropriate to the bank's liabilities. For all issued debt securities, discounted cash flow modeling is used to separate the change in fair value that may be attributed to the bank's credit spread movements from movements in other market factors such as benchmark interest rates or foreign exchange rates. Specifically, the change in fair value of issued debt securities attributable to the bank'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 risk-free discount curve. The difference in the valuations is attributable to the bank's own credit spread. This methodology is applied consistently across all securities.

Structured notes issued and certain other hybrid instrument liabilities 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 the bank would issue structured notes.

Gains and losses arising from changes in the credit spread of liabilities issued by the bank reverse over the contractual life of the debt, provided that the debt is not repaid early. All positions in non-derivative financial instruments, and all derivative portfolios, are valued at bid or offer prices as appropriate. Long positions are marked at bid prices; short positions are marked at offer prices.

The fair value of a portfolio of financial instruments quoted in an active market is calculated as the product of the number of units and its quoted price and no block discounts are made.

Transaction costs are not included in the fair value calculation, nor are the future costs of administering the over the counter derivative portfolio. These, along with trade origination costs such as brokerage fees and post-trade costs, are included either in 'Fee expense' or in 'Total operating expenses'.

A detailed description of the valuation techniques applied to instruments of particular interest follows:

Private equity

The bank's private equity portfolios are classified as investments in associates held at fair value and are not traded in active markets. In the absence of an active market, an investment's fair value is estimated on the basis of an analysis of the investee's financial position and results, risk profile, prospects and other factors, as well as by reference to market valuations for similar entities quoted in an active market, or the price at which similar companies have changed ownership. The exercise of judgment is required because of uncertainties inherent in estimating fair value for private equity investments.

Debt securities, treasury and other eligible bills, and equities

The fair value of these instruments is based on quoted market prices from an exchange, dealer, broker, industry group or pricing service, when available. When unavailable, the fair value is determined by reference to quoted market prices for similar instruments, adjusted as appropriate for the specific circumstances of the instruments.

In the absence of quoted market prices, fair value is determined using valuation techniques based on the calculation of the present value of expected future cash flows of the assets. The inputs to these valuation techniques are derived from observable market data and, where relevant, assumptions in respect of unobservable inputs.

Derivatives

Over-the-counter (i.e. non-exchange traded) derivatives are valued using valuation models. Valuation models calculate the present value of expected future cash flows, based upon 'no-arbitrage' principles. For many vanilla derivative products, such as interest rate swaps and European options, the modeling 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. Finally, some inputs are not observable, but can generally be estimated from historical data or other sources. Examples of inputs that are generally observable include foreign exchange spot and forward rates, benchmark interest rate curves and volatility surfaces for commonly traded option products. Examples of inputs that may be unobservable include volatility spreads, in whole or in part, for less commonly traded option products, and correlations between market factors such as foreign exchange rates, interest rates and equity prices.

HSBC views the Overnight Indexed Swap ('OIS') curve as the base discounting curve for all derivatives, both collateralized and uncollateralized, and utilizes a 'funding fair value adjustment' to reflect the funding of uncollateralized derivative exposure at rates other than OIS.

Derivative products valued using valuation techniques with significant unobservable inputs comprise certain long-dated foreign exchange options.

Structured notes

The fair value of structured notes is derived from the fair value of the underlying debt security as described above, and the fair value of the embedded derivative is determined as described in the paragraph above on derivatives.

Trading liabilities valued using a valuation technique with significant unobservable inputs comprised equity-linked structured notes, which are issued by HSBC and provide the counterparty with a return that is linked to the performance of certain equity securities. The notes are classified as Level 3 due to the unobservability of parameters such as long-dated equity volatilities, correlations between equity prices and interest rates and between interest rates and foreign exchange rates.

Bases of valuing financial assets and liabilities measured at fair value

The table below provides an analysis of the various bases described above which have been deployed for valuing financial assets and financial liabilities measured at fair value in the consolidated financial statements.

	Valuation techniques			
	Level 1 quoted market price	Level 2 using observable inputs	Level 3 with significant unobservable inputs	Total
	$m	$m	$m	$m
At 31 Dec 2018				
Assets				
Trading assets	**3,719**	**156**	**—**	**3,875**
Other financial assets mandatorily measured at fair value through profit or loss	**—**	**4**	**—**	**4**
Derivatives	**—**	**4,464**	**5**	**4,469**
Financial investments	**23,726**	**328**	**—**	**24,054**
Liabilities				
Trading liabilities	**2,152**	**12**	**—**	**2,164**
Derivatives	**—**	**4,560**	**5**	**4,565**
At 31 Dec 2017				
Assets				
Trading assets	4,695	678	—	5,373
Derivatives	—	3,674	1	3,675
Financial investments: available-for-sale	21,849	1,064	—	22,913
Liabilities				
Trading liabilities	3,503	197	1	3,701
Derivatives	—	3,515	1	3,516

Transfers between Level 1 and Level 2 fair values

	Assets		Liabilities
	Trading assets	Financial investments	Trading liabilities
	$m	$m	$m
At 31 Dec 2018			
Transfer from Level 1 to Level 2	**1**	**14**	**1**
Transfer from Level 2 to Level 1	**1**	**155**	**—**

	Assets		Liabilities
	Trading assets	Financial investments: available-for-sale	Trading liabilities
	$m	$m	$m
At 31 Dec 2017			
Transfer from Level 1 to Level 2	327	47	—
Transfer from Level 2 to Level 1	618	2,947	237

During the fourth quarter of 2017, the bank further refined the valuation input that define an active market and transferred trading assets, financial investments and trading liabilities accordingly.

Transfers between levels of the fair value hierarchy are deemed to occur at the end of each reporting period. Transfers into and out of levels of the fair value hierarchy are primarily attributable to observability of valuation inputs and price transparency.

Reconciliation of fair value measurements in Level 3 of the fair value hierarchy

	Assets	Liabilities	
	Derivatives	Trading liabilities	Derivatives
	$m	$m	$m
At 1 Jan 2018	**1**	**1**	**1**
Total gains recognized in profit or loss	**1**	**—**	**1**
Purchases	**5**	**—**	**5**
Settlements	**(1)**	**(1)**	**(1)**
Transfer out	**(1)**	**—**	**(1)**
At 31 Dec 2018	**5**	**—**	**5**
Unrealized gains/(losses) recognized in profit or loss relating to those assets and liabilities held at the end of the reporting period	**—**	**—**	**—**
At 1 Jan 2017	1	3	1
Total gains recognized in profit or loss	—	—	—
Settlements	(1)	(2)	(1)
Transfer in	1	—	1
At 31 Dec 2017	1	1	1
Unrealized gains/(losses) recognized in profit or loss relating to those assets and liabilities held at the end of the reporting period	—	—	—

Fair values of financial instruments not carried at fair value

Fair values at the balance sheet date of the assets and liabilities set out below are estimated for the purpose of disclosure as follows:

(a) Loans and advances to banks and customers

The fair value of loans and advances is based on observable market transactions, where available. In the absence of observable market transactions, fair value is estimated using discounted cash flow models. Performing loans are grouped, as far as possible, into homogeneous pools segregated by maturity and coupon rates. In general, contractual cash flows are discounted using the bank's estimate of the discount rate that a market participant would use in valuing instruments with similar maturity, repricing and credit risk characteristics.

The fair value of a loan portfolio reflects both loan impairments at the reporting date and estimates of market participants' expectations of credit losses over the life of the loans. For impaired loans, fair value is estimated by discounting the future cash flows over the time period in which they are expected to be recovered.

(b) Deposits by banks and customer accounts

For the purposes of estimating fair value, deposits by banks and customer accounts are grouped by residual maturity. Fair values are estimated using discounted cash flows, applying current rates offered for deposits of similar remaining maturities. The fair value of a deposit repayable on demand approximates its book value.

(c) Debt securities in issue and subordinated liabilities

Fair values are determined using quoted market prices at the reporting date where available, or by reference to quoted market prices for similar instruments.

The fair values in this note are stated at a specific date and may be significantly different from the amounts which will actually be paid on the maturity or settlement dates of the instruments. In many cases, it would not be possible to realize immediately the estimated fair values given the size of the portfolios measured. Accordingly, these fair values do not represent the value of these financial instruments to the bank as a going concern.

For all classes of financial instruments, fair value represents the product of the value of a single instrument, multiplied by the number of instruments held.

The following table lists financial instruments whose carrying amount is a reasonable approximation of fair value because, for example, they are short-term in nature or reprice to current market rates frequently:

Assets	Liabilities
Cash and balances at central bank	Items in the course of transmission to other banks
Items in the course of collection from other banks	Deposits by banks
Loans and advances to banks	Acceptances
Customers' liability under acceptances	Short-term payables within 'Other liabilities'
Short-term receivables within 'Other assets'	Accruals
Reverse repurchase agreements – non-trading	Repurchase agreements – non-trading
Accrued income	

Fair values of financial instruments not carried at fair value

		2018					2017	
		Carrying amount	**Fair value**	**Level 1 quoted market price**	**Level 2 using observable inputs**	**Level 3 with significant unobservable inputs**	Carrying amount	Fair value
	Footnote	**$m**	**$m**	**$m**	**$m**	**$m**	$m	$m
At 31 Dec								
Assets								
Loans and advances to customers	1	**57,123**	**56,891**	**–**	**134**	**56,757**	50,337	50,227
Liabilities								
Customer accounts		**59,812**	**60,119**	**–**	**60,119**	**–**	57,054	57,071
Debt securities in issue		**13,863**	**13,829**	**–**	**13,829**	**–**	10,820	10,836
Subordinated liabilities		**1,039**	**1,016**	**–**	**1,016**	**–**	1,039	1,035

1. *Loans and advances to customers specifically relating to Canada: carrying amount $53,148m and fair value $52,927m.*

25 Assets pledged, collateral received and assets transferred

Assets charged as security for liabilities and contingent obligations

In the ordinary course of business, we pledge assets recorded on our consolidated balance sheet in relation to securitization activity, covered bonds, mortgages sold with recourse, securities lending and securities sold under repurchase agreements. These transactions are conducted under terms that are usual and customary to standard securitization, covered bonds, mortgages sold with recourse, securities lending and repurchase agreements. In addition, we also pledge assets to secure our obligations within payment and depository clearing systems.

		2018	2017
	Footnote	**$m**	$m
Cash		**1,255**	217
Residential mortgages	1	**4,320**	2,937
Debt securities		**8,924**	4,965
At 31 Dec		**14,499**	8,119

1. *Includes the mortgages secured under the covered bond program.*

The bank is required to pledge assets to secure its obligations in the Large Value Transfer System ('LVTS'), which processes electronically in real-time large value and time-critical payments in Canada. In the normal course of business, pledged assets are released upon settlement of the bank's obligations at the end of each business day. Only in very rare circumstances we are required to borrow from the Bank of Canada to cover any settlement obligations. Under those circumstances, the pledged assets would be used to secure the borrowing. No amounts were outstanding under this arrangement at 31 December 2018 or 2017. Consequently, the assets pledged with respect to the bank's LVTS obligations have not been included in the table above.

Collateral accepted as security for assets

The fair value of financial assets accepted as collateral that the bank is permitted to sell or repledge in the absence of default is $7,369m (2017: $8,001m). The fair value of financial assets accepted as collateral that have been sold or repledged is $5,633m (2017: $5,606m). The bank is obliged to return equivalent assets.

These transactions are conducted under terms that are usual and customary to standard securities borrowing and reverse repurchase agreements.

Assets transferred

The following table analyzes the carrying amount of financial assets as at 31 December that did not qualify for derecognition during the year as the bank did not transfer substantially all of the variability of the risks and rewards of ownership and their associated financial liabilities recognized for the proceeds received.

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
	Footnote	$m	$m	$m	$m	$m
At 31 Dec 2018						
– assets securitized		**2,032**	**2,009**	**2,018**	**2,025**	**(7)**
– mortgages sold with recourse		**1,572**	**1,572**	**1,556**	**1,556**	**–**
– repurchase agreements	1	**5,574**	**5,574**	**5,574**	**5,574**	**–**
At 31 Dec 2017						
– assets securitized		1,317	1,304	1,309	1,310	(1)
– mortgages sold with recourse		1,676	1,676	1,670	1,670	–
– repurchase agreements	1	3,947	3,947	3,947	3,947	–

1. *Transfers of financial assets subject to repurchase agreements are presented prior to any offsetting adjustments.*

In addition to assets securitized as noted above which did not result in derecognition of the transferred financial instruments, the bank has also created $102m (2017: $32m) of securitized assets which are collateralized by certain bank's mortgage receivables which remain on the bank's balance sheet. A liability has not been recognized as the securitized assets have not been transferred to third parties. The retained mortgage-backed securities are available as collateral for secured funding liabilities.

26 Share capital

Authorized

Preferred – Unlimited number of Class 1 preferred shares in one or more series and unlimited number of Class 2 preferred shares in one or more series. We may, from time to time, divide any unissued Class 1 preferred shares into separate series and fix the number of shares in each series along with the associated rights, privileges, restrictions and conditions.

Common – Unlimited number of common shares.

Issued and fully paid

		2018		2017	
	Footnotes	Number of shares	Share capital $m	Number of shares	Share capital $m
Preferred shares Class 1		**34,000,000**	**850**	34,000,000	850
– Series G	1	**20,000,000**	**500**	20,000,000	500
– Series I	2	**14,000,000**	**350**	14,000,000	350
Common shares		**498,668,000**	**1,225**	498,668,000	1,225

1. *The shares are non-voting, non-cumulative and redeemable. Each share yields 4%, payable quarterly, as and when declared. Subject to regulatory approval, the bank may on 30 June 2020 and every 5 years thereafter, redeem a portion or all of the Series G shares at a cash redemption price of $25 per share. The shares include non-viability contingency capital ('NVCC') provisions, necessary for the shares to qualify as Tier 1 regulatory capital under Basel III. In the event that OSFI determines that a regulatory defined non-viability trigger event has occurred, NVCC provisions require the write off and cancellation of the Series G shares against equity.*
2. *The shares are non-voting, non-cumulative and redeemable. The initial dividend was fixed at $0.37 per share and was paid on 31 March 2018. Thereafter, each share yields 4.6%, payable quarterly, as and when declared. Subject to regulatory approval, the bank may on 31 December 2022 and every 5 years thereafter, redeem a portion or all of the Series I shares at a cash redemption price of $25 per share. The shares include non-viability contingency capital ('NVCC') provisions, necessary for the shares to qualify as Tier 1 regulatory capital under Basel III. In the event that OSFI determines that a regulatory defined non-viability trigger event has occurred, NVCC provisions require the write off and cancellation of the Series I shares against equity.*

27 Notes on the statement of cash flows

Non-cash items included in profit before tax

	2018	2017
	$m	$m
Depreciation and amortization	**49**	47
Share-based payment expense	**12**	7
Change in expected credit losses	**(27)**	n/a
Loan impairment recoveries and other credit risk provisions	**n/a**	(108)
Charge for defined benefit pension plans	**19**	14
Year ended 31 Dec	**53**	(40)

Change in operating assets

	2018 $m	2017 $m
Change in prepayment and accrued income	(9)	(27)
Change in net trading securities and net derivatives	113	599
Change in loans and advances to customers	(6,791)	(3,322)
Change in reverse repurchase agreements – non-trading	106	(244)
Change in other assets	(163)	(988)
Year ended 31 Dec	**(6,744)**	(3,982)

Change in operating liabilities

	2018 $m	2017 $m
Change in accruals and deferred income	99	–
Change in deposits by banks	(321)	750
Change in customer accounts	2,766	380
Change in repurchase agreements – non-trading	3,620	259
Change in debt securities in issue	3,043	567
Change in financial liabilities designated at fair value	–	(3)
Change in other liabilities	(1,288)	279
Year ended 31 Dec	**7,919**	2,232

Cash and cash equivalents

	2018 $m	2017 $m
Cash and balances at central bank	78	411
Items in the course of collection from other banks, net	(244)	(274)
Loans and advances to banks of one month or less	1,221	1,221
Reverse repurchase agreements with banks of one month or less	227	414
T-Bills and certificates of deposits – three months or less	51	108
At 31 Dec	**1,333**	1,880

28 Contingent liabilities, contractual commitments and guarantees

	Footnote	2018 $m	2017 $m
Guarantees and other contingent liabilities:			
– guarantees and irrevocable letters of credit pledged as collateral security		5,581	5,582
At 31 Dec		**5,581**	5,582
Commitments:			
– undrawn formal standby facilities, credit lines and other commitments to lend	1	42,892	40,063
– documentary credits and short-term trade-related transactions		486	400
At 31 Dec		**43,378**	40,463

1. *Based on original contractual maturity.*

The table above discloses the nominal principal amounts of commitments, guarantees and other contingent liabilities. They are mainly credit-related instruments which include both financial and non-financial guarantees and commitments to extend credit. Nominal principal amounts represent the amounts at risk should contracts be fully drawn upon and clients default. As a significant portion of guarantees and commitments is expected to expire without being drawn upon, the total of these nominal principal amounts is not representative of future liquidity requirements.

Guarantees

The bank provides guarantees and similar undertakings on behalf of both third party customers and other entities within the bank. These guarantees are generally provided in the normal course of the bank's banking business. The principal types of guarantees provided, and the maximum potential amount of future payments which the bank could be required to make at 31 December, were as follows:

	Footnote	2018 $m	2017 $m
Guarantees in favour of third parties			
Guarantee type		**5,581**	5,582
– financial guarantee contracts	1	**2,182**	2,094
– performance bonds	2	**3,399**	3,488

1. *Financial guarantees contracts require the issuer to make specified payments to reimburse the holder for a loss incurred because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument. The amounts in the above table are nominal principal amounts.*
2. *Performance bonds, bid bonds, standby letters of credit and other transaction-related guarantees are undertakings by which the obligation on the bank and/or the bank to make payment depends on the outcome of a future event.*

The amounts disclosed in the above table reflect the bank's maximum exposure under a large number of individual guarantee undertakings. The risks and exposures arising from guarantees are captured and managed in accordance with the bank's overall credit risk management policies and procedures. Guarantees with terms of more than one year are subject to the bank's annual credit review process.

29 Lease commitments

Operating lease commitments

At 31 December 2018, the bank was obligated under a number of non-cancellable operating leases for land and buildings for which the future minimum lease payments extend over a number of years, with an option to renew after that period. Base rents are increased as according to the terms stated in the lease.

	Land and buildings	
	2018	2017
	$m	$m
Future minimum lease payments under non-cancellable operating leases expiring:		
– no later than one year	**45**	47
– later than one year and no later than five years	**123**	115
– later than five years	**104**	27
At 31 Dec	**272**	189

In 2018, $49m (2017: $55m) was charged to 'General and administrative expenses' in respect of lease and sublease agreements, all of which related to minimum lease payments.

Finance lease receivables

The bank leases a variety of assets to third parties under finance leases, including transport assets, property and general plant and machinery. At the end of the lease terms, assets may be sold to third parties or leased for further terms. Lessees may participate in any sales proceeds achieved. Lease rentals arising during the lease terms will either be fixed in quantum or be varied to reflect changes in, for example, tax or interest rates. Rentals are calculated to recover the cost of assets less their residual value, and earn finance income.

	2018			2017		
	Total future minimum payment	**Unearned finance income**	**Present value**	Total future minimum payment	Unearned finance income	Present value
	$m	**$m**	**$m**	$m	$m	$m
Lease receivables:						
– no later than one year	**665**	**(47)**	**618**	615	(47)	568
– later than one year and no later than five years	**1,308**	**(65)**	**1,243**	1,225	(59)	1,166
– later than five years	**94**	**(3)**	**91**	76	(3)	73
At 31 Dec	**2,067**	**(115)**	**1,952**	1,916	(109)	1,807

At 31 December 2018, unguaranteed residual values of $18m (2017: $20m) had been accrued, and the accumulated allowance for uncollectible minimum lease payments is included in loan loss allowances.

During the year, no contingent rents were received (2017: $nil) and recognized in the consolidated income statement.

30 Related party transactions

The ultimate parent company of the bank is HSBC Holdings, which is incorporated in England. The bank's related parties include the parent, fellow subsidiaries, and Key Management Personnel.

(a) Transactions with Key Management Personnel

Key Management Personnel are defined as those persons having authority and responsibility for planning, directing and controlling the activities of the bank and includes members of the Board of HSBC Bank Canada.

Compensation of Key Management Personnel

The following represents the compensation paid to the Key Management Personnel of the bank in exchange for services rendered to the bank.

Compensation of Key Management Personnel

	2018	2017
	$m	$m
Short-term employee benefits	18	15
Post-employment benefits	1	1
Share-based payments	3	3
Year ended 31 Dec	**22**	**19**

Other transactions, arrangements and agreements involving Key Management Personnel

The disclosure of the year-end balance and the highest balance during the year is considered the most meaningful information to represent transactions during the year. The transactions below 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.

		2018		2017	
		Highest balance during the year	Balance at 31 December	Highest balance during the year	Balance at 31 December
	Footnote	$m	$m	$m	$m
Key Management Personnel	*1*				
– loans		11.3	8.5	9.9	8.9
– credit cards		0.4	0.2	0.3	0.2

1. *Includes Key Management Personnel, close family members of Key Management Personnel and entities which are controlled, jointly controlled or significantly influenced, or for which significant voting power is held, by Key Management Personnel or their close family member.*

(b) Transactions between the bank and HSBC Group

Transactions detailed below include amounts due to/from the bank and HSBC Group. The disclosure of the year-end balance and the highest balance during the year is considered the most meaningful information to represent transactions during the year. The transactions below were made 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. Certain collateral for derivatives are handled by other HSBC Group affiliate who have agreements with selected clearing houses and exchanges.

	2018		2017	
	Highest balance during the year	Balance at 31 December	Highest balance during the year	Balance at 31 December
	$m	$m	$m	$m
Assets				
Trading assets	–	–	945	161
Derivatives	3,513	2,774	2,785	2,687
Loans and advances to banks	660	632	1,381	634
Loans and advances to customers	–	–	2,243	278
Other assets	1,193	1,031	53	41
Liabilities				
Deposits by banks	912	912	1,046	843
Customer accounts	32	32	7	7
Repurchase agreements – non-trading	1,936	1,936	1,716	1,347
Derivatives	3,341	3,341	2,584	2,518
Trading liabilities	–	–	321	84
Other liabilities	1,113	192	799	35
Subordinated liabilities	1,000	1,000	1,000	1,000

	2018	2017
	$m	$m
Income Statement		
Interest income	21	22
Interest expense	(80)	(53)
Fee income	24	27
Fee expense	(16)	(11)
Other operating income	94	73
General and administrative expenses	(209)	(165)

31 Offsetting of financial assets and financial liabilities

Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements

	Footnotes	Gross amounts of recognized financial assets	Gross amounts set off in the balance sheet	Amounts presented in the balance sheet	Amounts not set off in the balance sheet: Financial instruments	Amounts not set off in the balance sheet: Non-cash collateral received	Amounts not set off in the balance sheet: Cash collateral received	Net amount
		$m	$m	$m	$m	$m	$m	$m
Derivatives (note 12)	1	**4,469**	**—**	**4,469**	**(443)**	**(47)**	**(14)**	**3,965**
Reverse repurchase agreements:		**7,341**	**(1,481)**	**5,860**	**—**	**(5,860)**	**—**	**—**
– loan and advances to banks at amortized cost		**271**	**(44)**	**227**	**—**	**(227)**	**—**	**—**
– loan and advances to customers at amortized cost		**7,070**	**(1,437)**	**5,633**	**—**	**(5,633)**	**—**	**—**
Loans and advances to customers		**896**	**—**	**896**	**(735)**	**—**	**—**	**161**
Other assets (note 18)	2	**798**	**(334)**	**464**	**—**	**—**	**—**	**464**
At 31 Dec 2018		**13,504**	**(1,815)**	**11,689**	**(1,178)**	**(5,907)**	**(14)**	**4,590**
Derivatives (note 12)	1	3,675	—	3,675	(368)	(42)	(234)	3,031
Reverse repurchase agreements:		8,022	(1,869)	6,153	—	(6,153)	—	—
– loan and advances to banks at amortized cost		495	(81)	414	—	(414)	—	—
– loan and advances to customers at amortized cost		7,527	(1,788)	5,739	—	(5,739)	—	—
Loans and advances to customers		1,111	—	1,111	(780)	—	—	331
Trading assets (note 11)	2	322	(74)	248	—	—	—	248
At 31 Dec 2017		13,130	(1,943)	11,187	(1,148)	(6,195)	(234)	3,610

1. *Includes derivative amounts that are both subject to and not subject to enforceable master netting agreements and similar agreements.*
2. *Settlement accounts of $248m at 31 December 2017 were reclassified from 'Trading assets' to 'Other assets' as of 1 January 2018.*

Financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements

	Footnotes	Gross amounts of recognized financial liabilities	Gross amounts set off in the balance sheet	Amounts presented in the balance sheet	Amounts not set off in the balance sheet: Financial instruments	Amounts not set off in the balance sheet: Non-cash collateral pledged	Amounts not set off in the balance sheet: Cash collateral pledged	Net amount
		$m	$m	$m	$m	$m	$m	$m
Derivatives (note 12)	1	**4,565**	**—**	**4,565**	**(443)**	**(75)**	**(293)**	**3,754**
Repurchase agreements		**9,704**	**(1,480)**	**8,224**	**—**	**(8,224)**	**—**	**—**
– deposits by banks at amortized cost		**2,996**	**(44)**	**2,952**	**—**	**(2,952)**	**—**	**—**
– customer accounts at amortized cost		**6,708**	**(1,436)**	**5,272**	**—**	**(5,272)**	**—**	**—**
Customer accounts excluding repos at amortized cost		**1,525**	**—**	**1,525**	**(735)**	**—**	**—**	**790**
Other liabilities (note 22)	2	**367**	**(334)**	**33**	**—**	**—**	**—**	**33**
At 31 Dec 2018		**16,161**	**(1,814)**	**14,347**	**(1,178)**	**(8,299)**	**(293)**	**4,577**
Derivatives (note 12)	1	3,516	—	3,516	(368)	(99)	(61)	2,988
Repurchase agreements		6,472	(1,868)	4,604	—	(4,603)	—	1
– deposits by banks at amortized cost		1,844	(80)	1,764	—	(1,763)	—	1
– customer accounts at amortized cost		4,628	(1,788)	2,840	—	(2,840)	—	—
Customer accounts excluding repos at amortized cost		1,863	—	1,863	(780)	—	—	1,083
Trading liabilities (note 20)	2	242	(74)	168	—	—	—	168
At 31 Dec 2017		12,093	(1,942)	10,151	(1,148)	(4,702)	(61)	4,240

1. *Includes derivative amounts that are both subject to and not subject to enforceable master netting agreements and similar agreements.*
2. *Settlement accounts of $160m at 31 December 2017 were reclassified from 'Trading liabilities' to 'Other liabilities' as of 1 January 2018.*

32 Legal proceedings and regulatory matters

The bank is subject to a number of legal proceedings and regulatory matters arising in the normal course of our business. The bank does not expect the outcome of any of these proceedings, in aggregate, to have a material effect on its consolidated balance sheet or its consolidated income statement.

33 Effects of reclassification upon adoption of IFRS 9

Reconciliation of consolidated balance sheet as at 31 December 2017 and 1 January 2018

					IFRS 9 reclassification to					
	IAS 39 measurement category	IFRS 9 measurement category	IAS 39 carrying amount as at 31 Dec 2017	Other changes in classification[1]	Fair value through profit and loss	Fair value through other comprehensive income	Amortized cost	Carrying amount post reclassification	IFRS 9 remeasurement including ECL	IFRS 9 carrying amount at 1 Jan 2018
			$m	$m	$m	$m	$m	$m	$m	$m
Assets										
Cash and balances at central bank	**Amortized cost**	**Amortized cost**	**411**	**–**	**–**	**–**	**–**	**411**	**–**	**411**
Items in the course of collection from other banks	**Amortized cost**	**Amortized cost**	**25**	**–**	**–**	**–**	**–**	**25**	**–**	**25**
Trading assets	**FVPL**	**FVPL**	**5,373**	**(248)**	**–**	**–**	**–**	**5,125**	**–**	**5,125**
Other financial assets mandatorily measured at fair value through profit or loss	**FVPL**	**FVPL**	**–**	**–**	**9**	**–**	**–**	**9**	**–**	**9**
Derivatives	**FVPL**	**FVPL**	**3,675**	**–**	**–**	**–**	**–**	**3,675**	**–**	**3,675**
Loans and advances to banks	**Amortized cost**	**Amortized cost**	**1,221**	**(59)**	**–**	**–**	**–**	**1,162**	**–**	**1,162**
Loans and advances to customers	**Amortized cost**	**Amortized cost**	**50,337**	**(28)**	**–**	**–**	**–**	**50,309**	**(4)**	**50,305**
Reverse repurchase agreements - non-trading	**Amortized cost**	**Amortized cost**	**6,153**	**–**	**–**	**–**	**–**	**6,153**	**–**	**6,153**
Financial investments	**FVOCI (Available-for-sale - debt instruments)**	**FVOCI**	**22,884**	**–**	**–**	**–**	**–**	**22,884**	**–**	**22,884**
	FVOCI (Available-for-sale - equity instruments)	**FVOCI**	**20**	**–**	**–**	**–**	**–**	**20**	**–**	**20**
		FVPL	**9**	**–**	**–**	**(9)**	**–**	**–**	**–**	**–**
Other assets	**Amortized cost**	**Amortized cost**	**899**	**335**	**–**	**–**	**–**	**1,234**	**–**	**1,234**
Prepayments and accrued income	**Amortized cost**	**Amortized cost**	**213**	**–**	**–**	**–**	**–**	**213**	**12**	**225**
Customers' liability under acceptances	**Amortized cost**	**Amortized cost**	**4,801**	**–**	**–**	**–**	**–**	**4,801**	**(5)**	**4,796**
Current tax assets	**n/a**	**n/a**	**44**	**–**	**–**	**–**	**–**	**44**	**–**	**44**
Property, plant and equipment	**n/a**	**n/a**	**106**	**–**	**–**	**–**	**–**	**106**	**–**	**106**
Goodwill and intangible assets	**n/a**	**n/a**	**90**	**–**	**–**	**–**	**–**	**90**	**–**	**90**
Deferred taxes	**n/a**	**n/a**	**118**	**–**	**–**	**–**	**–**	**118**	**(4)**	**114**
Total assets			**96,379**	**–**	**9**	**(9)**	**–**	**96,379**	**(1)**	**96,378**

1. *Effective 1 January 2018, settlement accounts of $248m have been reclassified from 'Trading assets' to 'Other assets', and cash collateral accounts of $59m and $28m, respectively, have been reclassified from 'Loans and advances to banks' and 'Loans and advances to customers' to 'Other assets'.*

Reconciliation of consolidated balance sheet as at 31 December 2017 and 1 January 2018

	IAS 39 measurement category	IFRS 9 measurement category	IAS 39 carrying amount as at 31 Dec 2017 $m	Other changes in classification[1] $m	IFRS 9 reclassification to: Fair value through profit and loss $m	IFRS 9 reclassification to: Fair value through other comprehensive income $m	IFRS 9 reclassification to: Amortized cost $m	Carrying amount post reclassification $m	IFRS 9 remeasurement including ECL $m	IFRS 9 carrying amount at 1 Jan 2018 $m
Liabilities										
Deposits by banks	Amortized cost	Amortized cost	1,696	(227)	–	–	–	1,469	–	1,469
Customer accounts	Amortized cost	Amortized cost	57,054	(8)	–	–	–	57,046	–	57,046
Repurchase agreements – non-trading	Amortized cost	Amortized cost	4,604	–	–	–	–	4,604	–	4,604
Items in the course of transmission to other banks	Amortized cost	Amortized cost	299	–	–	–	–	299	–	299
Trading liabilities	FVPL	FVPL	3,701	(160)	–	–	–	3,541	–	3,541
Derivatives	FVPL	FVPL	3,516	–	–	–	–	3,516	–	3,516
Debt securities in issue	Amortized cost	Amortized cost	10,820	–	–	–	–	10,820	–	10,820
Other liabilities	Amortized cost	Amortized cost	2,217	395	–	–	–	2,612	–	2,612
Acceptances	Amortized cost	Amortized cost	4,801	–	–	–	–	4,801	–	4,801
Accruals and deferred income	Amortized cost	Amortized cost	475	–	–	–	–	475	–	475
Retirement benefit liabilities	n/a	n/a	346	–	–	–	–	346	–	346
Subordinated liabilities	Amortized cost	Amortized cost	1,039	–	–	–	–	1,039	–	1,039
Provisions	n/a	n/a	61	–	–	–	–	61	(12)	49
Current tax liabilities	n/a	n/a	40	–	–	–	–	40	–	40
Total liabilities			90,669	–	–	–	–	90,669	(12)	90,657
Equity										
Common shares			1,225	–	–	–	–	1,225	–	1,225
Preferred shares			850	–	–	–	–	850	–	850
Other reserves			(61)	–	–	–	–	(61)	–	(61)
Retained earnings			3,696	–	–	–	–	3,696	11	3,707
Total equity			5,710	–	–	–	–	5,710	11	5,721
Total equity and liabilities			96,379	–	–	–	–	96,379	(1)	96,378

1. *Effective 1 January 2018, cash collateral accounts of $227m and $8m, respectively, have been reclassified from 'Deposits by banks' and 'Customer accounts' to 'Other liabilities', and settlement accounts of $160m have been reclassified from 'Trading liabilities' to 'Other liabilities'.*

The following table is a comparison of impairment allowances determined in accordance with IAS 39 and IAS 37 to the corresponding impairment allowance determined in accordance with IFRS 9 as at 1 January 2018.

Allowance for credit losses

	IAS 39 / IAS 37 as at 31 December 2017: Collectively assessed $m	Individually assessed $m	Total $m	Transition adjustments[1] $m	IFRS 9 / IAS 37 as at 1 January 2018: Stage 1 $m	Stage 2 $m	Stage 3 $m	Total $m
Loans and advances at amortized cost	134	149	283	4	30	77	180	287
Customers' liability under acceptances at amortized cost	–	–	–	5	4	1	–	5
Prepayments and accrued income at amortized cost	–	–	–	41	–	–	41	41
Off-balance sheet loan commitments and financial guarantees	41	1	42	(12)	8	15	7	30
Total allowance for credit losses	175	150	325	38	42	93	228	363

1. *Included in the transition adjustments is a reclassification of $53m from interest receivable to allowance for credit losses. The impact of transition adjustments to retained earnings before tax is $15m.*

34 Events after the reporting period

On 1 January 2019 the bank transferred certain shared services to the HSBC Global Services (Canada) Limited to meet global recovery and resolution requirements that ensure the operational continuity of critical shared services and facilitate recovery action. The transfer of people, systems and other supporting assets is not expected to have a significant impact on the overall financial results, position or operations of the bank.

There have been no other material events after the reporting period which would require disclosure or adjustment to the 31 December 2018 consolidated financial statements.

These accounts were approved by the Board of Directors on 15 February 2019 and authorized for issue.

HSBC Group International Network*

Services are provided in 66 countries and territories

Europe	Asia-Pacific	Americas	Middle East and Africa
Armenia	Australia	Argentina	Algeria
Austria	Bangladesh	Bermuda	Bahrain
Belgium	China	Brazil	Egypt
Channel Islands	India	British Virgin Islands	Israel
Czech Republic	Indonesia	Canada	Kuwait
France	Japan	Cayman Islands	Lebanon
Germany	Korea, Republic of	Chile	Mauritius
Greece	Malaysia	Colombia	Morocco
Ireland	Maldives	Mexico	Nigeria
Isle of Man	New Zealand	Peru	Oman
Italy	Philippines	United States of America	Qatar
Luxembourg	Singapore	Uruguay	Saudi Arabia
Malta	Sri Lanka		South Africa
Monaco	Taiwan		Turkey
Netherlands	Thailand		United Arab Emirates
Poland	Vietnam		
Russia	Hong Kong Special Administrative Region		
Spain			
Sweden	Macau Special Administrative Region		
Switzerland			
United Kingdom			

*As of 31 December 2018

Executive Committee*

Sandra Stuart
Group General Manager, President and Chief Executive Officer
Vancouver

Kimberly Flood
Senior Vice President and Head of Communications
Toronto

Stephen L. O'Leary
Chief Risk Officer
Vancouver

Kim Toews
Executive Vice President and Head of Human Resources
Vancouver

Santokh Birk
Head of Strategy and Planning
Vancouver

Kim Hallwood
Head of Corporate Sustainability
Vancouver

Linda Seymour
Executive Vice President and Country Head of Commercial Banking
Toronto

Larry Tomei
Executive Vice President and Head of Retail Banking and Wealth Management
Toronto

Lilac Bosma
General Counsel
Vancouver

Chris J. Hatton
Chief Operating Officer and Head of Regulatory Compliance
Vancouver

Georgia Stavridis
Senior Vice President and Head of Financial Crime Compliance
Vancouver

Sophia Tsui
Senior Vice President and Chief Auditor
Vancouver

Lisa Dalton
Chief of Staff, Office of the CEO
Vancouver

Jason R. Henderson
Executive Vice President and Managing Director, Head of Global Banking and Markets
Toronto

Gerhardt Samwell
Chief Financial Officer
Vancouver

Josée Turcotte
Senior Vice President, Corporate Secretary and Head of Governance
Toronto

Board of Directors*

Samuel Minzberg
Chair of the Board, HSBC Bank Canada and Senior Counsel, Davies Ward Phillips & Vineberg LLP

Noel Quinn
Group Managing Director and Chief Executive, Global Commercial Banking, HSBC Holdings plc

Sandra Stuart
Group General Manager, President and Chief Executive Officer, HSBC Bank Canada

Beth S. Horowitz
Corporate Director

Judith J. Athaide
Corporate Director, HSBC Bank Canada and President and Chief Executive Officer, Cogent Group Inc.

Jason R. Henderson
Executive Vice President and Managing Director, Head of Global Banking and Markets, HSBC Bank Canada

Robert G. McFarlane
Chair of the Audit and Risk Committee, HSBC Bank Canada

Nancy E. Hughes Anthony
Corporate Director

Michael J. Korenberg
Corporate Director

*As of February 2019

Shareholder information

PRINCIPAL ADDRESSES

Vancouver:
HSBC Bank Canada
885 West Georgia Street
Vancouver, British Columbia
Canada V6C 3E9
Tel: 604-685-1000
Fax: 604-641-3098

Toronto:
HSBC Bank Canada
70 York Street
Toronto, Ontario
Canada M5J 1S9

Media Inquiries:
English:
416-868-3878
604-641-1905
416-868-8282
French:
416-868-8282

Website
www.hsbc.ca

Social Media
Twitter: @HSBC_CA
Facebook: @HSBCCanada
YouTube: HSBC Canada

INVESTOR RELATIONS CONTACT

Enquiries may be directed to Investor Relations by writing to:

HSBC Bank Canada
Investor Relations -
Finance Department
4th Floor
2910 Virtual Way
Vancouver, British Columbia
Canada V5M 0B2
Email: investor_relations@hsbc.ca

Designation of eligible dividends:
For the purposes of the Income Tax Act (Canada), and any similar provincial legislation, HSBC Bank Canada advises that all of its dividends paid to Canadian residents in 2006 and subsequent years are eligible dividends unless indicated otherwise.

More HSBC contacts

HSBC Global Asset Management (Canada) Limited
1 (888) 390-3333

HSBC Investment Funds (Canada) Inc.
1 (800) 830-8888
www.hsbc.ca/funds

HSBC Private Wealth Services (Canada) Inc.
1 (844) 756-7783

HSBC Securities (Canada) Inc.
1 (800) 760-1180

For more information, or to find the HSBC Bank Canada branch nearest you, call 1 (888) 310-4722 or visit our website at www.hsbc.ca

HSBC Bank Canada

885 West Georgia Street
Vancouver, British Columbia
Canada V6C 3E9
Telephone: 1 604 685 1000
www.hsbc.ca