HSBC Bank Canada

Annual Report and Accounts 2021

Opening up a world of opportunity

Our ambition is to be the preferred international banking partner for our customers.

We aim to deliver long-term value for our stakeholders through…

…our international network…

HSBC is one of the world's largest banking and financial services organizations, and the leading international bank in Canada.

…our access to high growth markets…

Our network provides exceptional access to high-growth developing markets in Asia, the Middle East and Latin America.

….and our balance sheet strength.

We continue to maintain a strong capital, funding and liquidity position with a diversified business model.

Total assets

$119.9bn

(2020: $117.3bn)

Common equity tier 1 ratio[1]

14.0%

(2020: 13.7%)

1. *Refer to the 'Capital risk' section of the Management's Discussion and Analysis ('MD&A') for definition.*

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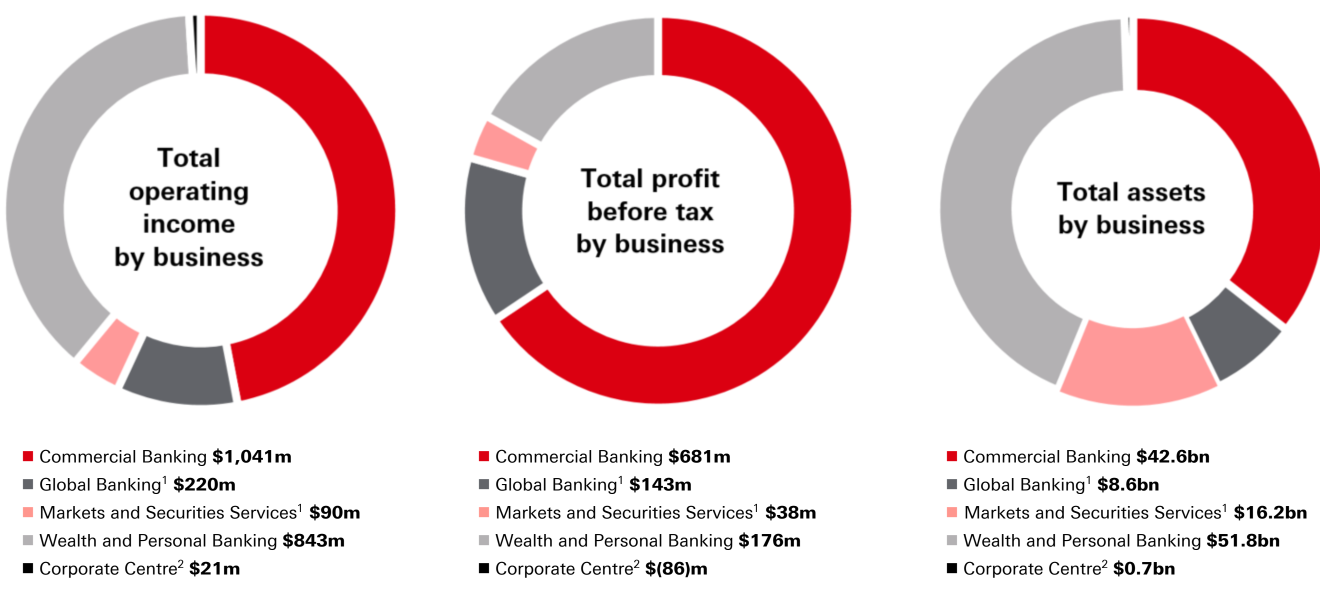
Highlights

Financial performance in 2021 was strong and resilient with both profit before tax and total operating income exceeding pre-pandemic results of 2019. Leveraging our financial strength and international network, we are delivering long-term value to our customers and our shareholder.

Financial performance by business for the year ended 31 December 2021



- Commercial Banking **$1,041m**
- Global Banking[1] **$220m**
- Markets and Securities Services[1] **$90m**
- Wealth and Personal Banking **$843m**
- Corporate Centre[2] **$21m**

- Commercial Banking **$681m**
- Global Banking[1] **$143m**
- Markets and Securities Services[1] **$38m**
- Wealth and Personal Banking **$176m**
- Corporate Centre[2] **$(86)m**

- Commercial Banking **$42.6bn**
- Global Banking[1] **$8.6bn**
- Markets and Securities Services[1] **$16.2bn**
- Wealth and Personal Banking **$51.8bn**
- Corporate Centre[2] **$0.7bn**

Financial performance for the year ended 31 December 2021

Total operating income

$2,215m ↑ 9.4%

(2020: $2,024m)

Profit before income tax expense

$952m ↑ 136%

(2020: $404m)

Profit attributable to the common shareholder

$672m ↑ 159%

(2020: $260m)

At 31 December 2021

Total assets

$119.9bn ↑ 2.1%

(At 31 Dec 2020: $117.3bn)

Common equity tier 1 ratio[3]

14.0% ↑ 30 bps

(At 31 Dec 2020: 13.7%)

Return on average common equity[4]

11.7% ↑ 700 bps

(At 31 Dec 2020: 4.7%)

1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation. For further information, refer to note 9 of the consolidated financial statements for the year ended 31 December 2021.*
2. *Corporate Centre is not an operating segment of the bank. The inclusion of this figure provides a reconciliation between operating segments and the entity results.*
3. *Refer to the 'Capital risk' section of the Management's Discussion and Analysis ('MD&A') for definition.*
4. *Refer to the 'Use of supplementary financial measures' section of the MD&A for a glossary of the measures used.*

HSBC at a glance

HSBC is one of the largest banking and financial services organizations in the world.

About HSBC

HSBC Holdings plc, the parent company of HSBC Bank Canada, is headquartered in London. With total assets of US$2,958bn at 31 December 2021, the HSBC Group serves customers worldwide from offices in 64 countries and territories in Europe, Asia, North America, Latin American, and Middle East and North Africa.

HSBC in Canada[1]

HSBC is Canada's leading international bank and celebrated its 40th anniversary in 2021. With more than 130 branches and total assets of $120bn, no international bank has our Canadian presence and no domestic bank has our international reach.

No one is better placed to serve Canadian companies that are doing business here at home and internationally, or individuals with a global outlook. We have unique expertise in trade and receivables finance, renminbi, emerging markets funds and sustainable finance and infrastructure financing. We offer unique banking solutions for internationally minded individuals and businesses. We have set plans to prioritize sustainable financing and investment that supports the global transition to a net zero carbon economy. Managing financial crime risk and other risks also remains a top priority.

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 our footprint across all key trade corridors.

Our values

Our values help define who we are as an organization, and are key to our long-term success.

We value difference
Seeking out different perspectives

We succeed together
Collaborating across boundaries

We take responsibility
Holding ourselves accountable and taking the long view

We get it done
Moving at pace and making things happen

Our strategy

Our strategy centres around four key areas: focus on our areas of strength, digitize at scale to adapt our operating model for the future, energize our organization for growth and support the transition to a net zero global economy. For more details on our strategy, see page 14.

Multi-award winning

We have won industry awards for a variety of reasons - ranging from quality of service we provide to customers, to our efforts to support diversity and inclusion in the workplace. Below are some examples of the awards received in the year. For more details, see page 15.

Selected awards and recognitions

Outstanding Client Experience in Wealth Management
Global Private Banking Innovation Awards (2021)

Canada's #1 Trade Finance Bank and Best Bank for Service Quality
Euromoney (2019 - 2021)

Best Technology Implementation by a Retail Bank Award
The Digital Banker - Gobal Retail Banking Innovation Award (2021)

Diversity and Inclusion
Governance Professionals of Canada (2021)

Best 50 Corporate Citizens in Canada
Corporate Knights (2012 - 2021)

Best Retail Bank for a Frictionless Banking Experience Award
The Digital Banker - Gobal Retail Banking Innovation Award (2021)

1. *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 MD&A, HSBC Holdings is defined as the 'HSBC Group' or the 'Group'.*

Our business segments[1]

Our operating model consists of four businesses and a Corporate Centre, supported by a number of corporate functions and our Digital Business Services teams. On pages 25 to 29 we provide an overview of our performance in 2021 for each of these businesses, as well as our Corporate Centre.

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 ('GB')[2]
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.

Markets and Securities Services ('MSS')[2]
We enable our corporate and institutional clients to access financial markets and liquidity, unlock investment opportunities, manage risk and transact seamlessly. We bring together financing solutions, sales and trading, research, clearing and settlement, global and direct custody, and asset servicing.

Wealth and Personal Banking ('WPB')
We offer 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 flavour with a large suite of global investment products and other specialized services available.

Year ended 31 December 2021

Total operating income

CMB	GB	MSS	WPB
$1,041m ↑ 9.7%	$220m —%	$90m ↓ 12%	$843m ↑ 8.5%
(2020: $949m)	(2020: $220m)	(2020: $102m)	(2020: $777m)

Profit before income tax expense

CMB	GB	MSS	WPB
$681m ↑ 129%	$143m ↑ 64%	$38m ↓ 21%	$176m ↑ 151%
(2020: $297m)	(2020: $87m)	(2020: $48m)	(2020: $70m)

At 31 December 2021

Customer related assets[3]

CMB	GB	MSS	WPB
$31.8bn ↑ 12%	$4.5bn ↓ 12%	nil	$35.9bn ↑ 14%
(At 31 Dec 2020: $28.3bn)	(At 31 Dec 2020: $5.1bn)	(At 31 Dec 2020: nil)	(At 31 Dec 2020: $31.6bn)

1. *We manage and report our operations around four businesses and the results presented are for these businesses. The consolidated HSBC Bank Canada results presented on page 1 also include the Corporate Centre (see page 29 of the MD&A for more information). Corporate Centre is not an operating segment of the bank. The equivalent results for the Corporate Centre were: total operating income of $21m (2020 total operating loss of $24m), profit/(loss) before income tax expense was a loss of $86m (2020 was a loss of $98m) and customer assets nil (2020: nil).*
2. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation. For further information, refer to note 9.*
3. *Customer related assets includes loans and advances to customers and customers' liability under acceptances.*

Message from the President and Chief Executive Officer

Linda Seymour
President and Chief Executive Officer

2021 marked HSBC's 40th anniversary in Canada. Throughout our history, our ability to bring global experience and perspective from our network spanning 64 countries and territories to trends and issues in Canada has been a major benefit to our clients. And that is clearly reflected in our results.

Financial performance in 2021 was very strong, continuing the momentum we saw from mid-2020 and creating a solid platform for 2022. Collaboration across business segments and borders led to significant increases in both revenue and profit before tax as lending grew in Commercial Banking and Wealth and Personal Banking. Deposit balances rose in Commercial Banking, advisory and capital market fee income grew in Global Banking[1], and investment funds under management and total relationship balances[2] grew in Wealth and Personal Banking.

These results also represent an increase over our 2019 results and are even more remarkable in light of being achieved in the midst of a global pandemic coming into its third year.

That's down to an incredible team of employees – whether they are keeping our branches open, running critical functions in our offices or balancing working from their homes – they are achieving great things in difficult circumstances. I can't thank them enough for their collaboration and dedication to delivering a world of opportunity to our clients.

In 2021, to help our clients realize their financial goals, we've digitized even more of our services, participated in government pandemic relief programs, launched new sustainable finance tools for enterprises of all sizes and special loans for individuals to fund energy efficiency upgrades and electric vehicle purchases. As a result of our global expertise in green bonds, we were honoured to be named as one of two structuring advisors for the Government of Canada's inaugural issuance of green bonds. The importance of supporting our clients through the transition to net zero was really brought home by the growing number of extreme weather events, including the historic flooding in British Columbia that caused extensive damage and further choked already strained supply chains.

HSBC has also supported the communities where we operate with over $5.3m in corporate community investment and our employees overcame COVID-related hurdles to continue volunteering with organizations that have meaning for them.

1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation. For further information, refer to note 9.*
2. *Total relationship balances includes lending, deposits and wealth balances.*

“We continue to work closely with, and learn from our incredibly resilient clients across the country as we all aim to emerge from this health crisis.”

The economy ended 2021 with solid momentum evidenced by a strong labour market and resilient trade. However, 2022 got off to a cautious start, and as in other parts of the world, Canada again faced pandemic-related restrictions to address the highly infectious Omicron variant. Many retail, hospitality and tourism businesses were forced to shut down or restrict access and beyond that many businesses are grappling with significant COVID-related absenteeism. And yet, many businesses are thriving despite these challenges, having used the early days of the pandemic to make their businesses more efficient and sustainable for the long term. We continue to work closely with, and learn, from our incredibly resilient clients across the country as we all aim to emerge from this health crisis.

In 2022, we expect GDP growth of 4.3%. With incomes rising and high consumer savings we expect consumption to rise on the back of pent up demand for retail, hospitality and tourism, and commercial/industrial investment to rebound in 2022 and 2023.

And HSBC is itself an example: In 2021, reflecting the ways our employees told us they want to work post-pandemic, we made significant changes to our corporate real estate to enable hybrid working when we return to the office. Our refurbished Montreal and Calgary offices welcomed critical workers late in 2021. Work on our Canadian head offices should be completed towards the end of the first quarter 2022 – a new, custom location in Toronto and renovations to our head office in Vancouver both designed for flexibility and sustainability.

If the pandemic is not yet behind us, we have at least adjusted to its realities for now and can see a time when it will not make daily headlines. And as we have for the last 40 years, we’ll be here to help Canadians and their businesses rise to this and future challenges – opening up a world of opportunity for them through our strong international network aligned to major trade and capital corridors.

Linda Seymour

President and Chief Executive Officer
HSBC Bank Canada
17 February 2022

How we do business

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

Our approach

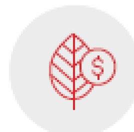
Our purpose is 'Opening up a world of opportunity' and we aim to be the preferred international banking partner for our customers. To achieve this in a way that is sustainable, we are guided by our values: we value difference; we succeed together; we take responsibility; and we get it done.

Building strong relationships with all of our stakeholders, including customers, employees and the communities in which we operate helps us deliver our strategy and operate our business in a sustainable way. We are committed to building a business for the long term, developing relationships that last. We want to be a well-managed organization that people are proud to work for, has the trust of our customers and the communities we serve, and minimizes its impact on the environment.

In the following subsections, we provide information about how we are working to meet the needs of our customers, employees, environment and our approach to creating a responsible business culture.

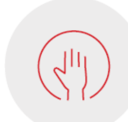
Fair outcomes
We define conduct as delivering fair outcomes for our customers and not disrupting the orderly and transparent operation of financial markets. This is central to our long-term success and ability to serve customers. We have clear policies, frameworks and governance in place to protect them. For further information on conduct, see page 8.

Our climate ambition



We recognize the scale of transformation and investment required to decarbonize the global economy. We are powering new solutions to the climate crisis and supporting the transition to a low-carbon future, moving to net zero carbon ourselves and helping others to do so. To find out more about our climate strategy, see page 11.

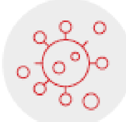
Our colleagues



We believe diversity makes us stronger, and we are dedicated to building a diverse and connected workforce where everyone feels a sense of belonging. As we plan for the time when we emerge from the pandemic, we are considerate of how we extend what worked during the pandemic to address new challenges. A hybrid operating model will allow our staff to maintain flexible working practices, creating a culture that enables us to be at our best, delivering exceptional outcomes for our customers.

In Canada, HSBC employs 5,348 people. We work hard to build and maintain our inclusive, positive and performance-oriented culture. Our actions are focused on ensuring our people are valued, respected and supported to fulfil their potential and thrive. In 2021, we were recognized as one of Canada's Best Diversity Employers. Our Board of Directors and Executive Committee are gender balanced and have been since 2013. For further information on employees, see page 9.

Our COVID-19 actions



Having a clear purpose and strong values has never been more important, with the COVID-19 pandemic testing us all in ways we could never have anticipated. Throughout the pandemic, our colleagues adapted at pace to new working arrangements in support of our customers and their evolving needs. As an essential service, our branches and contact centres remained open in 2021. To play our part in limiting the impact of this public health crisis, approximately 95% of non-branch staff worked from home. We continued to provided extra resources and wellness programs to support the mental and physical health of our people. You can find out more about the impact of and our response to COVID-19 on page 16.

Customers

We are putting clients at the heart of all we do - making it easier for them to bank with us by investing in enhanced digital services while maintaining financial crime standards to protect them and the financial system.

At a glance

Our relationship
We create value by providing the products and services our customers need and aim to do so in a way that fits seamlessly into their lives. This helps us to build long-lasting relationships with our customers. We maintain trust by delivering fair outcomes for our customers, and protecting our customers' data and information. If things go wrong, we aim to take action in a timely manner.

Our customers consist of the following main groups: individuals; small, medium and large-sized businesses; global businesses; and corporate and institutions. These groups are served by our four business segments, respectively: Wealth and Personal Banking ('WPB'), Commercial Banking ('CMB') and Global Banking ('GB')[1] and Markets and Securities Services ('MSS')[1].

Find out more

We are committed to doing business responsibly and thinking for the long term. You can find out more about HSBC's businesses at www.hsbc.com/who-we-are/business-and-customers and about HSBC Bank Canada's products and services at www.hsbc.ca.

Digital and technology

Our retail and wholesale customers are using digital services more than ever before, with the pandemic accelerating the shift. The investments we have made in digital and technology have made banking simpler and safer through the pandemic and beyond. In 2021, we continued to make it easier for our clients to bank with us and improved the client experience through digital enhancements, such as, mobile chat, digital account opening for our international clients, and the digital payment experience on HSBCnet and mobile applications.

Our continued focus on our clients' needs and digital enhancements helped us win several awards in 2021, including, Outstanding Client Experience in Wealth Management at Global Private Banking Innovation Awards, Best Retail Bank for a Frictionless Banking Experience and Best Technology Implementation by a Retail Bank at Global Retail Banking Innovation Awards.

Customer satisfaction - how we listen

To improve our services, we must be open to feedback and acknowledge when things go wrong. This has been even more essential through the pandemic. We continue to support our customers facing new challenges and new ways of working. We listen to complaints to address customers' concerns and understand where we can improve processes, procedures and systems. We focus on staff training to improve our complaint handling expertise and ensure our customers are provided with fair outcomes. Complaints are reported to governance forums and senior executives are measured against complaint handling performance.

Conduct

We responded rapidly to the changing environment caused by the pandemic and helped our customers with payment relief programs, lending support and digital solutions. We sought to address our customers needs in a responsible way - fairly and safely. Our conduct principles are embedded into the way we work and the way we develop, distribute, structure and execute our products and services. Details on our Conduct Approach are available at www.hsbc.com.

1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation. For further information, refer to note 9.*

Digital and technology

We continue to invest in digital and technology to help make banking simpler and safer for customers, especially prioritizing assistance through the pandemic, as well as digital solutions to support their growth ambitions.

We have focused our technology efforts on mobile apps and online banking platforms, making them faster and more secure for our retail customers. We continue to use video consultations and chat services to help customers with their queries and to support them through the pandemic and beyond.

HSBC EasyID™ a digital identification and verification tool to open accounts digitally, won Best Technology Implementation by a Retail Bank Award and Best Retail Bank for a Frictionless Banking Experience Award from the Digital Banker at the 2021 Global Retail Banking Innovation awards.

Customer satisfaction

Listening to drive continuous improvement
Throughout 2021, we continued to embed our new feedback system so we can better listen, learn and act on our customers' feedback. We use the net promoter score ('NPS') to provide a consistent measure of our performance.

We try to make it as easy as possible for customers to give us feedback, accelerating our use of digital real-time surveys to capture insight. By sharing this and other feedback with our front-line teams, and allowing them to respond directly to customers, we are improving how we address issues and realizing opportunities.

Acting on feedback
Below we have highlighted some examples of how customer feedback has driven improvements across our businesses in Canada.

Supporting our customers through the pandemic
We continued to support our retail and corporate customers through the pandemic, by providing financial relief through various initiatives including payment deferral and government lending schemes. HSBC's digital solutions helped customers navigate through the challenges of the pandemic and beyond. While keeping our branches and other customer channels operational through the pandemic, we also made it easier for our customers to bank from home by using mobile or webchat, customer video meetings, increasing digital transaction limits and mobile remote deposit capture.

Making banking accessible
We continued to strategically open new branches where our customers live. We continued to invest in our digital technologies such as, digital account openings for our clients, including our international clients who have not yet arrived in Canada, and enabling our clients with the ability to retrieve additional documents digitally at their convenience. For our commercial clients, we improved the payment experience on our digital channels. We won Digital Banker's Best Robo Advisory Experience from Wealth Compass in 2021. These investments have also enabled us to deepen our relationship with our existing customers and improve the customer experience.

Provide competitive products and services
With the introduction of new Wealth products, such as HSBC T Series funds and the launch of WPB Professional Banking Program in 2020, we were rewarded with the Outstanding Client Experience in Wealth Management from the 2021 Global Private Banking Innovation awards. We continued to provide highly competitive rates on mortgages, cards and deposit products, which was reflected in the 2021 awards won such as: Best Low Interest Credit Card Award from creditcardGenius, Best Mastercard in Canada and Best No Foreign Exchange Fee Credit Card from Prince of Travel. And for the third year in a row, we were named Canada's #1 Trade Finance Bank and Best Bank for Service Quality by Euromoney.

Accelerating new climate solutions and innovation
During the second quarter of 2021, we launched five new sustainable finance products for businesses of all sizes including Green Deposits – a market first – and financing for electric cars and home efficiency improvements for individuals. It is HSBC Group's commitment to support our customers on their transition to net zero, so that the greenhouse gas emissions from our portfolio of clients reaches net zero by 2050 or earlier. More information on HSBC Group's commitments, global programs and HSBC Group's Task Force on Climate-related Financial Disclosures ('TCFD') can be found in our HSBC Group Annual Report and Accounts.

Our approach to conduct

Our conduct approach guides us to do the right thing and to focus on the impact we have on our customers and the financial markets in which we operate. Operating with high standards of conduct is central to our long-term success and underpins our ability to serve our customers.

We are committed to delivering fair outcomes for our customers and doing our part to ensure the orderly and transparent operations of financial markets. We have clear policies, frameworks and governance in place to help us achieve these goals. Our conduct principles are embedded into the way we behave, design products and services, train and incentivize 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. It complements our purpose and values and – together with more formal policies and the tools we have to do our jobs – provides a clear path to achieving our purpose and delivering our strategy.

We consider our customers' financial needs and personal circumstances to make suitable product recommendations. This is supported by:

- robust testing during the design and development of a product to help ensure there is a clearly identifiable need in the market;
- a globally consistent standard to follow, while taking into account local regulations;
- a thorough customer risk profiling methodology to assess customers' financial objectives, attitude towards risk, ability to bear investment risk, and their investing knowledge and experiences; and
- tools and calculators to help customers plan for their future.

Employees

We are opening up a world of opportunity for our people by building a diverse and inclusive organization that prioritizes well-being, invests in learning and careers and prepares our people for the future of work.

At a glance

Our culture
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, we are shaped by diversity of thought, perspective and experience.

The COVID-19 pandemic demonstrated our resilience as we responded to the fast-changing environment. We continued to work both virtually and in person at our branches, to foster a culture that promotes the right behaviours, where diversity is celebrated and where people feel empowered to voice their opinions and concerns. Aligned with our global strategy, purpose, and values, we focused our efforts on evolving flexible working arrangements, supporting our customer facing employees, listening to our people, and promoting tools focused on the well-being and mental health of our employees, while staying on track with our diversity and inclusion goals.

Find out more

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

Listening to our people

We believe in the importance of seeking out and listening to the views of our people and encouraging employees to speak up. We monitor how we perform on metrics that we value and benchmark against our peers.

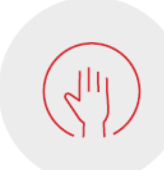
Supporting our people

We have continued to find new ways to support our employees' learning and growth, with on-demand and remote learning experiences and career development, and using digital technologies to collaborate across boundaries more than ever before.

The future of work

The COVID-19 pandemic gave us the opportunity to re-think not only where we work but how we work. Our approach will be driven by insights from both our employees and customers, considering our environmental impact.

Diversity and inclusion



In 2021, we reinforced our focus on inclusion, mental health and well-being. We are committed to fostering a thriving environment where people are valued, respected and supported to fulfill their potential. By valuing the differences and the extraordinary range of ideas, backgrounds, styles and perspectives of our employees and customers, we can effectively meet the needs of our different stakeholder groups and drive better business outcomes for all.

How we listen

Listening to our people
We were founded on the strength of different experiences, attributes and voices; they are integral to who we are and how we work. Seeking out and listening to the views of our colleagues is a fundamental part of this. This has been especially important in 2021, as we look to define the future of work, support employee well-being and develop the skills to enable future success. In the past year we have surveyed employees about the future of work, well-being, future skills and the progress of our refreshed purpose, strategy and values. Our employee engagement score for our Snap shot survey was 70% in December 2021, up 1% from 2020.The results are shared with our Board of Directors and Executive Committee and help shape the future of how and where we work. We continue to hold HSBC Exchange sessions – meetings where leaders listen and employees share their views on any issue – including one specifically about race, ethnicity, accessibility and how we can better support employees with disabilities.

Finding ways to speak up
Having a culture where our people feel able to speak up is critical to our success and we have multiple easily accessible whistleblowing channels to report concerns. In 2021, we reinforced expected standards of conduct, encouraged people to be active bystanders and highlighted escalation channels.

When things go wrong
We expect our people to treat each other with dignity and respect and do not tolerate bullying, harassment or acts of retaliation against anyone who reasonably believes the concern they have raised is true. When despite our best efforts, concerns are raised, we investigate them thoroughly and independently. In 2021, there was further mandatory training for our employees and enhanced investigator tools and training.

The HSBC Group Audit Committee has responsibility for reviewing the HSBC Group's whistleblowing policy and procedures. Locally, we monitor and analyze conduct cases to inform actions in response and future, preventative measures. The data is reported to management committees and the Canadian Board of Directors.

Supporting our people

Adapting through COVID-19
Our office-based colleagues continued working virtually throughout 2021. To support these employees in maintaining a healthy and safe home office set up, we introduced a home office equipment reimbursement allowance. All branches remained open and employees were supported with health and safety equipment and employee resource programs. We responded to over 500 enquiries regarding COVID-19 and our employees' valuable suggestions helped us adapt to emerging needs.

We also conducted a comprehensive review to ensure full compliance with the federal government's guidelines in meeting accessibility standards during COVID-19 and other emergencies. See more on HSBC's response to COVID-19 on page 16.

Well-being
The well-being of our people is a top priority. Our global well-being program was updated to provide guidance on how to spot signs of poor mental health virtually. HSBC was named multinational winner of the Global Healthy Workplace Award. Our existing Employee Assistance Program, telemedicine platform and mindfulness resources provided mental, social, physical health and financial well-being resources. We also hosted several well-being webinars for employees and their families. Guided by data and insight, we will continue to adapt our services and well-being programs to the changing needs of our employees.

Vaccination
As the world continued to change at a rapid pace due to COVID-19, vaccines were introduced in Canada in the spring and by August, the Federal Government had announced a vaccine mandate with expectations that all federally regulated industries would follow suit. In-line with other Canadian banks, we implemented a mandatory vaccination policy effective 1 November 2021 to ensure the safety of our customers and employees.

The future of work

Adapting how we work - COVID-19 and beyond
While flexible working arrangements were already in place for many of our employees, the COVID-19 pandemic gave us a new appreciation of the scope of roles that can be performed effectively outside of our offices. While most of our office-based staff continued to work from home, we introduced broader flexibility through updated flexible working policies and hybrid working. We also made significant changes to our real estate footprint to support flexibility and collaboration.

Building the skills of the future
We continue to invest heavily in retraining our workforce for the future needs of the customers and communities we serve through the Future Skills program. We delivered impactful learning on Data, Digital and Hybrid Working skills and equipped our people managers with the tools to support their success including a diverse suite of leadership training. Much of this content was delivered virtually, allowing us to reach more employees at a reduced cost. We also launched a best-in-class modern online learning platform for self-paced and guided learning.

Diversity and inclusion

Our commitment
HSBC Bank Canada is considered a leader in employment equity and has received an Employment Equity Award from the Canadian government. In 2021, we were recognized with the Governance Professionals of Canada's Excellence in Governance Award ('EGAs') in the Diversity, Equity and Inclusion.

In 2021, we continued to advance our Diversity and Inclusion ('D&I') strategy aligned with the Global D&I Benchmarks. Highlights include:

Leadership & Accountability: We continue to offer tools, training and resources to our leaders and people managers including a new D&I Leadership Intensive training program on unconscious bias and everyday micro-aggressions and an Inclusive Leadership Challenge consisting of concrete actions to champion inclusivity, remove barriers and seek out views different from our own.

Workforce Composition: Building on our long standing gender balanced Board of Directors and Executive Committee, we are removing barriers to diverse representation at senior levels, and hiring across all levels focusing on the most under-represented groups. This is reflected in our Executive Committee and Board of Directors, which as at 31 December 2021 consisted of 67% and 44% women, respectively, and 7% and 11% visible minorities, respectively. In 2021, we provided employees more options to self-identify including new categories of gender identity, sexual orientation and ethnicity. We also continued our work to ensure we met the accessibility standards outlined in the Accessibility for Ontarians with Disabilities Act ('AODA').

Cultural and market place presence
Last year, HSBC made a global commitment to improve opportunities for Black and ethnic minority employees and boost the diversity of our senior leadership. In Canada, we continue to make progress against our commitment to stand against all forms of racism and discrimination, including achieving 5% Black representation within graduate hires and 3% of total corporate donations to create opportunities in the Black community – aligned to our commitment to the BlackNorth Initiative.

We again marked PRIDE month, International Women's Day, National Indigenous History Day, and International Day for Persons with Disabilities and International Day of Pink. For the first time we also commemorated Canada's National Day for Truth and Reconciliation and have joined the Downie Wenjack Fund as a Legacy Spaces partner.

Climate

We are powering new solutions to the climate crisis and supporting the transition to a low-carbon future, moving to net zero carbon ourselves and helping others to do so too.

At a glance

Our climate ambition
Making the transition to net zero carbon, in line with the Paris Agreement, requires businesses and economies to undergo a fundamental transformation. We believe that finance has a crucial role to play in tackling climate change – and HSBC is recognized as a leading partner in the transition to a low carbon future.

In 2020, HSBC Group announced our global ambition to prioritize financing and investment that supports the transition to a net zero global economy. Our climate plan has three overarching themes: we will transform HSBC into a net zero bank, support our customers through their unique transformation journeys, and unlock new climate solutions.

In 2021, HSBC Group started to deliver on this climate plan, including work to align our financed emissions to net zero, engaging with clients on their transition strategies, and the delivery of our global climate risk program. More detail on these global programs and HSBC Group's Task Force on Climate-related Financial Disclosures ('TCFD') can be found in our HSBC Group Annual Report and Accounts.

Find out more

Our climate strategy is part of our broader Environmental, Social and Governance ('ESG') approach. You can find more information in the 'How we do business' sections on pages 6 to 12; on our global corporate website at www.hsbc.com/who-we-are/esg-and-responisble business; and on our website at www.about.hsbc.ca/hsbc-in-canada/community.

Becoming a net zero bank

HSBC Group's aim is to reduce carbon emissions from our operations and supply chains to net zero by 2030 or sooner, and to align financed emissions from our portfolio of customers to the Paris Agreement goal of net zero by 2050 or sooner.

In Canada, we have been actively managing our environmental performance for many years, and were recognized by Corporate Knights as one of Canada's Best 50 Corporate Citizens in 2021 for the 10th year in a row. In 2021, from our 2019 baseline we reduced our operational carbon emissions by 62% (2020: 48%) and our energy consumption by 15% (2020: 9%) in Canada. We also worked closely with global colleagues on the delivery and operationalization of our net zero financed emissions strategy, ensuring it takes into consideration the unique needs of our clients and our region.

Supporting our customers to thrive in transition

Financing the transformation of businesses and infrastructure is key to building a sustainable future. HSBC Group's ambition is to provide between US$750 billion and US$1 trillion in sustainable financing and investment by 2030 to support our customers to transition to more sustainable ways of doing business.

In Canada, we are a trusted partner to our clients in advancing their sustainability ambitions. In 2021, HSBC Bank Canada provided and facilitated US$2.3bn of sustainable finance, up 67% over 2020. We were selected as a structuring advisor on the Government of Canada's inaugural green bond; and were the first bank to introduce a wide range of products for wholesale clients to facilitate their sustainability journey. These included: green deposits, green trade finance, green revolving credit facilities, sustainability-linked loans and green equipment financing. We also introduced an Energy Efficiency and Electric Vehicle Loan for our personal banking customers.

Unlocking climate solutions and innovations

The transition to a net zero economy requires radical new solutions. We work closely with a range of partners to accelerate investment in natural resources, technology, and sustainable infrastructure.

In Canada, we support MaRS Cleantech's 'Mission from MaRS: Climate Action' program as part of HSBC Group's philanthropic Climate Solutions Partnership, which aims to rapidly accelerate the adoption and commercialization of climate technologies. In 2021, MaRS announced their support for ten carbon-reducing ventures in three greenhouse gas ('GHG')-intensive sectors: energy, real estate and transportation.

Climate risk management

Strong governance and sustainability risk management underpin our climate ambition. Sustainability and climate-related risks are managed through our Group-wide risk management framework, and we support and contribute to HSBC Group's Task Force on Climate-related Financial Disclosures ('TCFD') reporting. In 2021, we established a Climate Risk Oversight Forum to oversee the delivery of our global climate risk management programme in Canada, and we continue to evolve our risk appetite by developing measures to support our climate strategy. We delivered education sessions to the HBCA Board and Audit, Risk and Conduct Review Committee to raise awareness and enhance oversight of sustainability and climate risks.

Responsible business culture

We remain committed to high standards of governance. We work alongside our regulators and recognize our contribution to building healthy and sustainable societies.

At a glance

We act on our responsibility to run our business in a way that upholds high standards of corporate governance.

We are committed to working with our regulators to manage the safety of the financial system, adhering to the spirit and the letter of the rules and regulations governing our industry. We aim to act with courageous integrity and learn from past events to prevent their recurrence.

We meet our responsibility to society, including through being transparent in our approach to paying taxes. We continually work to improve our compliance management capabilities.

Non-Financial Risk

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 2021, we continued to strengthen our approach to managing non-financial risk as set out in our risk management framework. 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.

Find out more

Further details on our non-financial risks may be found in the 'Risk' section on page 36.

Safeguarding the financial system

HSBC has a responsibility to help protect the integrity of the global financial system. We have continued our efforts to combat financial crime risks and reduce their impact on our organization, customers and communities that we serve. These financial crime risks include money laundering, terrorist and proliferation financing, tax evasion, bribery and corruption, sanctions, fraud and market abuse.

We operate a zero tolerance approach to bribery and corruption, and consider such activity to be unethical and contrary to good governance. Our anti-bribery and corruption policy sets out the key principles and minimum control requirements that enable us to mitigate bribery and corruption risk and comply with all laws and regulations in the countries where we operate.

We also maintain clear whistleblowing policies and processes to ensure individuals can confidentially report concerns. There were no concluded legal cases regarding bribery or corruption brought against HSBC or its employees in 2021.

The Audit, Risk and Conduct Review Committee oversees our compliance program and policies. We are also working with governments, law enforcement and other banks to advance our collective interests in this area. We continue to invest in technology and training. In 2021, training on fighting financial crime and conduct was delivered to our entire workforce in Canada enabling us to manage risk much more effectively.

A responsible approach to tax

We are committed to follow the letter and spirit of tax laws 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 pay our fair share of taxes in Canada. Taxes paid in 2021 were $346m. We manage our tax risk through a formal tax risk management framework and apply global initiatives to improve transparency including 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).

Cybersecurity

We invest heavily in business and technical controls to help prevent, detect and mitigate these threats. We continually evaluate threat levels for the most prevalent attack types and their potential outcomes. We have a comprehensive range of policies and systems to ensure that the organization is well managed, with effective oversight and control. We understand the important role our people play in protecting against cybersecurity threats. Our mission is to equip every colleague with the tools to prevent, mitigate and report cyber incidents to keep our organization and customers' data safe.

Management's discussion and analysis

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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'), HSBC Holdings 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 2021, compared to the same periods in the preceding year. The MD&A should be read in conjunction with our 2021 consolidated financial statements and related notes for the year ended 31 December 2021 ('consolidated financial statements'). This MD&A is dated 17 February 2022, 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 2021.

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. Certain sections within the MD&A, that are marked with an asterisk (*), form an integral part of the accompanying consolidated financial statements. 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. The documents are also filed with the bank's Supplementary Prospectus on the Financial Conduct Authority ('FCA') National Storage Mechanism website at data.fca.org.uk. 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 2021*. Information contained in or otherwise accessible through the websites mentioned does not form part of this report.

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 14, 'Economic review and outlook' on page 31, 'Regulatory developments' on page 32, and 'Employee compensation and benefits' on page 89. 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' 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, treasury risk (inclusive of capital management, liquidity and funding risk and structural interest rate risk), market risk, resilience risk, regulatory compliance risk, financial crime risk, model risk and pension risk. Refer to the 'Risk' 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, cyber threat and unauthorized access to systems, changes to our credit rating, climate change risk including transition and physical risk impacts, interbank offered rate ('IBOR') transition, changes in accounting standards, changes in tax rates, tax law and policy, and its interpretation of taxing authorities, risk of fraud by employees or others, unauthorized transactions by employees and human error. Our success in delivering our strategic priorities and proactively managing the regulatory environment depends on the development and retention of our leadership and high-performing employees. The ability to continue to attract, develop and retain competent individuals in an employment market impacted by the COVID-19 pandemic proves challenging. We are monitoring people risks with attention to employee mental health and well-being, particularly in the face of the pandemic. Despite contingency plans we have in place for resilience in the event of sustained and significant operational disruption, our ability to conduct business may be adversely affected by 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, pandemics, environmental disasters and terrorist acts. 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 Canada and celebrated its 40th anniversary in 2021. We help companies and individuals across Canada to do business and manage their finances here and internationally through four businesses: Commercial Banking, Global Banking[1], Markets and Securities Services[1], and Wealth and Personal Banking. 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, Europe and with Asia.

HSBC Group has committed to becoming net-zero in its operations and financed emissions and is working with our customers to accelerate the transition to a low carbon economy.

HSBC Holdings plc, the parent company of HSBC Bank Canada, is headquartered in London. HSBC serves customers worldwide from offices in 64 countries and territories in its geographical regions: Europe, Asia, North America, Latin America, and Middle East and North Africa. With assets of US$2,958bn at 31 December 2021, HSBC is one of the world's largest banking and financial services organizations.

HSBC's purpose – Opening up a world of opportunity – explains why we exist. We're here to use our unique expertise, capabilities, breadth and perspectives to open up new opportunities for our customers. We're bringing together the people, ideas and capital that nurture progress and growth, helping to create a better world – for our customers, our people, our investors, our communities and the planet we all share.

Shares in HSBC Holdings are listed on the London, Hong Kong, New York and Bermuda stock exchanges. The HSBC Holdings shares are traded in New York in the form of American Depositary Receipts. HSBC Bank Canada has a Euro denominated covered bond listed on the London Stock Exchange.

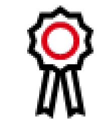
1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation. For further information, refer to note 9.*

Our strategy

Our long-term strategy positions us to be the preferred international finance partner for our customers, capitalizing on our unique combination of strategic advantages to drive growth.

Our strategy centers around four key areas which are aligned to the HSBC Group's purpose, values and strategy: focus on our areas of strength, digitize at scale to adapt our operating model for the future, energize our organization for growth and support the transition to a net zero global economy. Our ambition is to be the preferred international finance partner for our customers, and the core strategic priorities which underpin this remain unchanged. We will continue to monitor changes in the external environment and re-evaluate our strategy where appropriate.

Our strategic priorities

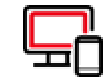


Focus on our strengths

We are focused on areas where we are strongest and have opportunities to grow. Our global network and expertise in international markets enables us to be the bank of choice for internationally-minded clients, building deep and enduring relationships with businesses and individuals with international needs. In 2021, HSBC Bank Canada was once again named 'Canada's #1 Trade Finance Bank and Best Bank for Service Quality' (2019-2021) by Euromoney.

We continue to realize value from the HSBC Group network to fulfil our customers' cross border banking needs, collaborating with colleagues both across the Americas region and in other geographies where HSBC has a presence. We are focused on collaboration across business segments and support functions, operating as one bank to bring more of HSBC to our customers in Canada.

We continue to expand our wealth proposition to capture growth opportunities, leveraging our international presence to create a competitive advantage in serving Canadian wealth and personal banking customers. HSBC Canada's Wealth Compass was awarded Best Robo Advisory Experience in 2021 by Digital Banker's CX Awards, highlighting the strength of our wealth proposition.

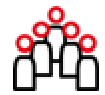


Digitize at scale

We continue to focus our investments in areas that enhance customer experience and help optimize our technology capabilities and operations.

We are investing in technology to improve customers' banking experience with enhancements of the HSBC mobile and online banking channels, providing digital solutions to address customer needs and equipping frontline staff to effectively serve our customers. HSBC Bank Canada was recognized for our digital excellence with two awards at The Digital Bankers' Global Retail Banking Innovation Awards (2021): Best Retail Bank for a Frictionless Banking Experience and Best Technology Implementation by a Retail Bank for our EasyID technology.

We also continue to automate processes to improve our operations as expectations for speed and efficiencies grow, and focus on increasing the speed, scale and resilience of our IT infrastructure to support execution of our strategy.



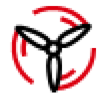
Energize for growth

HSBC Bank Canada is committed to empowering our people and creating a dynamic and inclusive culture.

Through our Future Skills program, we are bringing together new learning and technologies to help employees develop the skills needed today and in the future. We will continue to invest in training and development focused on leadership, technical capabilities and future skills.

The shift towards remote and hybrid working driven by the COVID-19 pandemic has required organizations to re-evaluate the purpose and use of their workspace. We are transitioning to a hybrid working model as part of our return to the office, which is focused on flexibility, engagement, well-being and sustainability.

HBCA is committed to strengthening inclusion in our workplaces and communities. We are focused on attracting, developing and retaining a connected and collaborative workforce that reflects the customers we serve and the communities in which we operate.



Transition to net zero

We are actively engaged to support the transition to a net zero economy. We work with our customers to advance their sustainability ambitions and offer a suite of green and sustainable products and solutions across capital markets, commercial banking, asset management and trade finance. In 2021, HSBC was selected as one of two structuring advisors for the Government of Canada's inaugural issuance of green bonds, highlighting our leadership in sustainable finance and support for the transition to a net zero economy.

To deliver on the HSBC Group's climate ambitions to align financed emissions from our portfolio of customers to net zero by 2050 or sooner, we will continue to work closely with our customers to develop tailored solutions to reduce emissions, taking into account the unique challenges for individual businesses, sectors, and geographies.

We are focused on delivering net zero in our own operations and supply chain by 2030 or sooner, committing to management of the environmental impact of our supply chain and incorporating sustainability in our every day operations.

Selected awards and recognition

Award	Awarded by
HSBC Bank Canada awards	
Best 50 Corporate Citizens in Canada	Corporate Knights (2012 - 2021)
Best Low Interest Credit Card with rewards	creditcardGenius (2021)
Diversity and Inclusion	Governance Professionals of Canada (2021)
Best Robo Advisory Experience	Digital Banker Digital CX Awards (2021)
Outstanding Client Experience in Wealth Management	Global Private Banking Innovation Awards (2021)
Canada's #1 Trade Finance Bank and Best Bank for Service Quality	Euromoney (2019-2021)
Best Mastercard in Canada	Prince of Travel (2021)
Best No foreign exchange fee credit card	Prince of Travel (2021)
Best Technology Implementation by a Retail Bank Award	The Digital Banker - Global Retail Banking Innovation Awards (2021)
Best Retail Bank for a Frictionless Banking Experience Award	The Digital Banker - Global Retail Banking Innovation Awards (2021)
HSBC Group awards	
Best Bank for Sustainable Finance in Asia and in the Middle East; Best Bank for Transaction Services in Asia; and Western Europe's Best Bank for Small Medium Enterprises.	Euromoney Awards for Excellence (2021)
Best global healthy workplace programme, multinational employer	Global Healthy Workplace Awards (2021)
Best overall bank for global, onshore and offshore renminbi ('RMB') products and services	Asianmoney Global RMB Poll (2021)
Business to business ('B2B') Payments Innovation of the Year	Payments Awards (2021)

Impact of COVID-19 and our response

In Canada, there have been varying levels of government imposed restrictions on mobility, business activities and social interactions since the onset of the pandemic in March 2020. At times these have had a significant impact on economic activity. In December 2021, with the emergence of the highly contagious variant, Omicron, restrictions were re-introduced as cases began to increase significantly in Canada. The situation remains fluid.

Customers, employees and communities

Banking in Canada is deemed an essential service and we have been operating within our Business Continuity Plan ('BCP') to maintain services for customers across all of our business segments since mid-March 2020. We will continue to be guided in our actions by public health officials and the safety of our customers and employees.

To address the additional stress on our people created by this extreme situation, we continue to provide wellness programs including for mental health. Where employees must be on site to perform critical roles, we have infection control measures in place including a vaccination policy, enhanced cleaning, protective shields, and control and screening of employees and customers. Branches are open and we also continue to support our customers through our digital channels and call centres. For further details on customer relief programs, see the 'Credit risk' section on page 40.

To reduce the risk and play our part in limiting the impact of this public health crisis, approximately 95% of non-branch staff have been working from home since March 2020. As restrictions eased during the year, a small number of employees returned to some of our offices on a phased and voluntary basis beginning in October 2021. However, in accordance with public health guidance office attendance was restricted to essential workers again in December 2021. The majority of non-branch employees will not return to the office until the second quarter of 2022 at the earliest. As they do, it will be into a hybrid working model, where our offices are primarily used to collaborate and connect with each other and clients.

Regulators and governments

We are actively participating in Federal government and Bank of Canada programs to help those most impacted by the pandemic. These programs include the Canada Emergency Business Account ('CEBA') program and the Business Credit Availability Program ('BCAP'), which is comprised of the Business Development Bank of Canada ('BDC'), Export Development Canada ('EDC') relief programs and the BDC Highly Affected Sectors Credit Availability Program ('HASCAP'). As of 31 December 2021, our customers have outstanding balances of $522m through these programs. New applications ended for CEBA loans on 30 June 2021 and for BDC and EDC programs on 31 December 2021. We continue to support our customers with the HASCAP program, which is currently available until 31 March 2022. In accordance with the federal government announcement in January 2022, the repayment deadline was extended to 31 December 2023 for our customers with CEBA loans to qualify for partial loan forgiveness.

In August 2021, the federal government announced its expectation that all federally regulated sectors would require vaccination for their employees. As a result, we implemented a mandatory vaccination policy effective 1 November 2021.

For further details of the regulatory developments, see the 'Regulatory development' section of the MD&A on page 32.

Impact on risk environment

The impact on financial crime risk and regulatory compliance has also been considered, and the bank remains vigilant regarding the effectiveness of our risk controls during this challenging period when malicious activities - such as cyber-attacks and fraud - tend to increase.

Refer to the 'Risk' section of this report for a description of how the bank manages risk across the organization and across all risk types, outlining the key principles, policies and practices that we employ in managing material financial and non-financial risks.

Impact on financial results

For the year ended 31 December 2021, as the forward-looking macro-economic environment improved in 2021, the bank released $45m in expected credit losses primarily from its performing loans. This was partly offset by impairment charges from a performing aviation loan and two non-performing energy loans.

This compared to the charge of $327m in the same period in the prior year, which was primarily driven by the elevated provisions on performing loans due to the impact of the pandemic. This is described in more detail in the 'Credit risk' section of the MD&A on page 40. While total operating income has increased by $75m or 15% for the quarter and $191m or 9.4% for the year as the economy continues to recover, the uncertainty brought on by the pandemic continues to disrupt global economic activities and there could be further adverse impact to HSBC Bank Canada's business operations and financial results.

Since the onset of the pandemic the bank has maintained elevated capital levels in order to support our customer needs and remains well in excess of the bank's minimum regulatory requirements. Our common equity tier 1 ratio of 14.0% at 31 December 2021 increased compared to 13.7% at 31 December 2020 and remained flat to 14.0% at 30 September 2021. The bank's liquidity levels also remained well above the bank's minimum regulatory requirements. Our average liquidity coverage ratio for the quarter ended 31 December 2021 was 147%, a planned decrease compared to 188% for the quarter ended 31 December 2020 and 152% for the quarter ended 30 September 2021.

HSBC Bank Canada is part of one of the world's largest banking groups. Canada is a key global market for HSBC, with total assets in Canada of $120bn and US$2,958bn globally as of 31 December 2021. HSBC has a strong capital, funding and liquidity position and we are looking to continue to support the Canadian economy, our customers and wider society through this challenge and through the recovery beyond.

Use of supplementary financial measures

In evaluating our performance, we use supplementary financial measures which have been calculated from IFRS figures. Following is a glossary of the relevant measures used throughout this document but not presented within the consolidated financial statements.

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 ratio 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[2].

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

1. *The net interest margin is calculated using daily average balances. All other financial measures use average balances that are calculated using quarter-end balances.*
2. *See 'Summary of interest income by types of assets' table on page 20 for the composition of interest earning assets.*
3. *Change in expected credit losses relates primarily to loans, acceptances and commitments.*

Financial highlights

Financial performance and position

($millions, except where otherwise stated)	Footnote	Year ended 31 Dec 2021	31 Dec 2020	31 Dec 2019
Financial performance for the year ended 31 December				
Total operating income		**2,215**	2,024	2,185
Change in expected credit losses and other credit impairment charges - release/(charge)		**45**	(327)	(78)
Operating expenses		**(1,308)**	(1,293)	(1,291)
Profit before income tax expense		**952**	404	816
Profit attributable to the common shareholder		**672**	260	555
Basic and diluted earnings per common share ($)		**1.22**	0.48	1.11

($millions, except where otherwise stated)	Footnote	At 31 Dec 2021	31 Dec 2020	31 Dec 2019
Financial position at 31 December				
Total assets		**119,853**	117,347	106,571
Loans and advances to customers		**68,699**	61,002	61,922
Customer accounts		**73,626**	71,950	62,889
Ratio of customer advances to customer accounts (%)	1	**93.3**	84.8	98.5
Common shareholder's equity		**5,776**	5,782	5,009

Financial ratios and capital measures

	Footnotes	Year ended 31 Dec 2021	31 Dec 2020
Financial ratios (%)	1		
Return on average common shareholder's equity		**11.7**	4.7
Return on average risk-weighted assets		**2.4**	1.0
Cost efficiency ratio		**59.1**	63.9
Operating leverage ratio		**8.3**	(7.5)
Net interest margin		**1.19**	1.03
Change in expected credit losses to average gross loans and advances and acceptances	2	**n/a**	0.49
Change in expected credit losses on stage 3 loans and advances and acceptances to average gross loans and advances and acceptances		**0.04**	0.17
Total stage 3 allowance for expected credit losses to gross stage 3 loans and advances and acceptances		**37.1**	31.1
Net write-offs as a percentage of average loans and advances and acceptances		**0.09**	0.18

	Footnotes	At 31 Dec 2021	31 Dec 2020
Capital, leverage and liquidity measures			
Common equity tier 1 capital ratio (%)	3	**14.0**	13.7
Tier 1 ratio (%)	3	**16.8**	16.4
Total capital ratio (%)	3	**19.3**	19.0
Leverage ratio (%)	3	**5.8**	6.0
Risk-weighted assets ($m)	3	**39,836**	40,014
Liquidity coverage ratio (%)	4	**147**	188

1. *Refer to the 'Use of supplementary financial measures' section of this document for a glossary of the measures used.*
2. *n/a is shown where the bank is in a net release position resulting in a negative ratio.*
3. *Capital ratios and risk weighted assets are calculated using OSFI's Capital Adequacy Requirements ('CAR') guideline, the Leverage ratio is calculated using OSFI's Leverage Requirements ('LR') guideline. The CAR and LR guidelines are based on the Basel III guidelines. Refer to the 'Capital risk' section of this document for more information.*
4. *The Liquidity coverage ratio is calculated using OSFI's Liquidity Adequacy Requirements ('LAR') guideline, which incorporates the Basel liquidity standards. The LCR in this table has been calculated using averages of the three month-end figures in the quarter. Refer to the 'Liquidity and funding risk' section of this document for more information.*

Financial performance

Summary consolidated income statement

	Quarter ended		Year ended	
	31 Dec 2021	31 Dec 2020	**31 Dec 2021**	31 Dec 2020
	$m	$m	**$m**	$m
Net interest income	**323**	275	**1,226**	1,086
Net fee income	**205**	185	**794**	713
Net income from financial instruments held for trading	**28**	30	**112**	132
Other items of income	**23**	14	**83**	93
Total operating income	**579**	504	**2,215**	2,024
Change in expected credit losses and other credit impairment charges - (charge)/release	**(8)**	1	**45**	(327)
Net operating income	**571**	505	**2,260**	1,697
Total operating expenses	**(344)**	(345)	**(1,308)**	(1,293)
Profit before income tax expense	**227**	160	**952**	404
Income tax expense	**(40)**	(35)	**(235)**	(96)
Profit for the period	**187**	125	**717**	308

For the quarter and year ended 31 December 2021 compared with the same periods in the prior year, unless otherwise stated.

Profit before tax has increased across three of our four businesses for the year, building on the momentum since the second half of 2020. The strong growth in both profit before tax and total operating income has exceeded pre-pandemic results of 2019.

Q4 2021 vs. Q4 2020

HSBC Bank Canada reported operating income for the quarter of $579m, an increase of $75m or 15%. Improved net interest margins and growth in lending drove net interest income higher. Net fee income increased as a result of higher investment funds under management in Wealth and Personal Banking and higher advisory fees in Global Banking. This was coupled with higher activity in our account services across all businesses, as well as increased activity in our trade finance services in both Commercial and Global Banking businesses. Higher gains from financial investments in other operating income also contributed to the increase. These increases were partly offset by lower trading income.

The change in expected credit losses for the quarter resulted in a charge of $8m. The charge for the current quarter was primarily driven by an impairment charge from a performing loan in the aviation sector, partly offset by releases from non-performing loans in the energy sector. The release of $1m in the prior year's quarter was related to improved forward-looking macro-economic variables on performing loans at that time, partly offset by impairment charges from non-performing loans in energy and various other sectors.

Total operating expenses decreased slightly by $1m or 0.3% for the quarter mainly due to the timing of certain employee compensation and benefit costs, partly offset by an increase in costs associated with strategic investments to grow our business, simplify our processes and provide digital services to meet customers' needs.

As a result, profit before income tax expense was up $67m or 42% for the quarter.

2021 vs. 2020

HSBC Bank Canada reported operating income for the year of $2.2bn, an increase of $191m or 9.4%. Improved net interest margins and growth in lending drove net interest income higher. Net fee income increased as a result of higher investment funds under management in Wealth and Personal Banking, an increase in credit facility fees from higher volumes of bankers' acceptances in Commercial Banking and higher advisory fees in Global Banking. This was coupled with higher activity in our account services across all businesses and in our online brokerage business in Wealth and Personal Banking. These increases were partly offset by lower trading income and lower other operating income.

The change in expected credit losses for the year was a release of $45m, compared to the charge of $327m in 2020. The release in 2021 was mainly driven by the improvement in forward-looking macro-economic variables on performing loans, partly offset by impairment charges from a performing aviation loan and two non-performing energy loans. The charges in the prior year reflects the impact of the significant deterioration in forward-looking economic guidance on performing loans due to the pandemic and impairments from non-performing loans due to the decline in oil prices in the first half of 2020.

Total operating expenses increased by $15m or 1.2% for the year as we strategically make investments to grow our business and move to adopt hybrid working, while prudently managing costs.

As a result, profit before income tax expense was $952m, up $548m or 136% for the year.

Performance by income and expense item

For the quarter and year ended 31 December 2021 compared with the same periods in the prior year, unless otherwise stated.

Net interest income

Net interest income increased by $48m or 17% for the quarter as a result of a favourable shift in the liability mix from debt securities issued to customer deposits and growth in lending.

Net interest income increased by $140m or 13% for the year as a result of improved margins, reduced volumes of interest bearing liabilities and growth in lending. This was partly offset by a reduction in lower yielding financial investments and margin compression in the first quarter of 2021 compared to the prior year due to central bank rate cuts in 2020.

Summary of interest income by types of assets

		Quarter ended						Year ended					
		31 Dec 2021			31 Dec 2020			**31 Dec 2021**			31 Dec 2020		
	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	1	**16,212**	**10**	**0.24**	16,489	10	0.25	**15,530**	**37**	**0.24**	12,077	29	0.24
Loans and advances to customers	2	**67,870**	**425**	**2.48**	61,660	428	2.76	**64,983**	**1,658**	**2.55**	62,242	1,826	2.93
Reverse repurchase agreements - non-trading		**8,765**	**5**	**0.25**	7,406	6	0.33	**6,887**	**19**	**0.29**	7,573	60	0.79
Financial investments	3	**14,941**	**24**	**0.64**	20,008	33	0.66	**15,439**	**95**	**0.62**	22,153	247	1.11
Other interest-earning assets	4	**563**	**1**	**0.62**	620	—	0.16	**527**	**4**	**0.62**	1,000	3	0.37
Total interest-earning assets (A)		**108,351**	**465**	**1.70**	106,183	477	1.78	**103,366**	**1,813**	**1.75**	105,045	2,165	2.06
Trading assets and financial assets designated at fair value	5	**3,161**	**8**	**1.06**	2,425	5	0.81	**3,488**	**30**	**0.86**	3,478	36	1.04
Non-interest-earning assets	6	**9,311**	**—**	**—**	11,549	—	—	**10,090**	**—**	**—**	12,837	—	—
Total		**120,823**	**473**	**1.55**	120,157	482	1.59	**116,944**	**1,843**	**1.58**	121,360	2,201	1.81

1. *'Short-term funds and loans and advances to banks' includes interest-earning cash and balances at central banks and loans and advances to banks.*
2. *'Loans and advances to customers' includes gross interest-earning loans and advances to customers.*
3. *'Financial investments' includes debt instruments at fair value through other comprehensive income.*
4. *'Other interest-earning assets' includes cash collateral and other interest-earning assets included within 'Other assets' on the balance sheet.*
5. *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.*
6. *'Non-interest-earning assets' includes non-interest earning cash and balances at central banks, items in the course of collection from other banks, equity shares held included within 'Trading assets', other financial assets mandatorily measured at fair value through profit or loss, derivatives, non-interest-earning loans and advances to banks and customers and impairment allowances, equity instruments at fair value through other comprehensive income included within 'Financial investments' on the balance sheet, customers' liability under acceptances, property, plant and equipment, goodwill and intangible assets, deferred and current tax assets and non-interest-earning other assets.*

Summary of interest expense by type of liability and equity

	Footnotes	Quarter ended						Year ended					
		31 Dec 2021			31 Dec 2020			**31 Dec 2021**			31 Dec 2020		
		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	1	**1,303**	**—**	**0.04**	1,095	—	0.02	**1,167**	**—**	**0.05**	1,233	2	0.18
Customer accounts	2	**64,427**	**51**	**0.32**	65,383	96	0.59	**63,081**	**214**	**0.34**	63,256	575	0.91
Repurchase agreements - non-trading		**7,766**	**3**	**0.17**	4,166	3	0.32	**5,137**	**12**	**0.25**	5,615	50	0.89
Debt securities in issue and subordinated debt		**16,466**	**71**	**1.70**	18,647	88	1.87	**16,103**	**294**	**1.82**	19,565	387	1.98
Other interest-bearing liabilities	3	**2,749**	**17**	**2.45**	2,502	15	2.40	**2,694**	**67**	**2.47**	2,616	65	2.48
Total interest bearing liabilities (B)		**92,711**	**142**	**0.61**	91,793	202	0.87	**88,182**	**587**	**0.67**	92,285	1,079	1.17
Trading liabilities	4	**3,044**	**9**	**1.16**	2,286	5	0.78	**3,312**	**32**	**0.96**	2,673	25	0.92
Non-interest bearing current accounts	5	**8,668**	**—**	**—**	7,184	—	—	**8,123**	**—**	**—**	6,425	—	—
Total equity and other non-interest bearing liabilities	6	**16,400**	**—**	**—**	18,894	—	—	**17,327**	**—**	**—**	19,977	—	—
Total		**120,823**	**151**	**0.50**	120,157	207	0.68	**116,944**	**619**	**0.53**	121,360	1,104	0.91
Net interest income (A-B)			**323**			275			**1,226**			1,086	

1. *'Deposits by banks' includes interest-bearing bank deposits only.*
2. *'Customer accounts' includes interest-bearing customer accounts only.*
3. *'Other interest-bearing liabilities' includes cash collateral and other interest-bearing liabilities included within 'Other liabilities' on the balance sheet.*
4. *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.*
5. *'Non-interest bearing current accounts' is included within 'Customer accounts' on the balance sheet.*
6. *'Total equity and other non-interest bearing liabilities' includes non-interest bearing bank deposits and other customer accounts not included within 'Non-interest bearing current accounts', items in the course of transmission to other banks, derivatives, acceptances, accruals and deferred income, retirement benefit liabilities, provisions, current tax liabilities and non-interest bearing other liabilities.*

Net fee income

	Quarter ended		Year ended	
	31 Dec 2021	31 Dec 2020	**31 Dec 2021**	31 Dec 2020
	$m	$m	**$m**	$m
Account services	**18**	15	**67**	62
Broking income	**3**	5	**17**	15
Cards	**22**	18	**74**	63
Credit facilities	**84**	83	**342**	318
Funds under management	**61**	49	**224**	193
Imports/exports	**5**	2	**14**	9
Insurance agency commission	**2**	1	**5**	5
Guarantee and other	**12**	11	**48**	47
Remittances	**11**	11	**43**	39
Underwriting	**13**	10	**68**	45
Fee income	**231**	205	**902**	796
Less: fee expense	**(26)**	(20)	**(108)**	(83)
Net fee income	**205**	185	**794**	713

Net fee income increased by $20m or 11% for the quarter. This was mainly from higher investment funds under management in Wealth and Personal Banking, increased card activity in both Wealth and Personal Banking and Commercial Banking and higher advisory fees in Global Banking. This was coupled with higher activity in our account services across all businesses, as well as increased activity in our trade finance import and export services in both Commercial and Global Banking businesses. These increases in fee income were partly offset by an increase in related fee expense as a result of the increased activity.

Net fee income increased by $81m or 11% for the year. This was mainly a result of higher investment funds under management in Wealth and Personal Banking, an increase in credit facility fees from higher volumes of bankers' acceptances in Commercial Banking and higher advisory fees in Global Banking. Fee income from higher activity in cards also increased in both Wealth and Personal Banking and Commercial Banking. This was coupled with higher activity in our account services across all businesses, online brokerage business in Wealth and Personal Banking and trade finance import and export services in both Commercial and Global Banking businesses. These increases in fee income were partly offset by an increase in related fee expense due to the increased activity.

Net income from financial instruments held for trading

	Quarter ended		Year ended	
	31 Dec 2021	31 Dec 2020	**31 Dec 2021**	31 Dec 2020
	$m	$m	**$m**	$m
Trading activities	**28**	27	**114**	116
Credit valuation, debit valuation and funding fair value adjustments	**—**	2	**4**	(2)
Net interest from trading activities	**(1)**	—	**(2)**	11
Hedge ineffectiveness	**1**	1	**(4)**	7
Net income from financial instruments held for trading	**28**	30	**112**	132

Net income from financial instruments held for trading for the quarter decreased by $2m or 6.7%. The decrease was mainly driven by unfavourable movement in credit and funding fair value adjustments and lower net interest from trading activities due to the lower interest environment. These decreases were partly offset by higher trading activities from increased Rates trading.

Net income from financial instruments held for trading decreased by $20m or 15% for the year. The decrease was driven by lower net interest from trading activities due to the lower interest rate environment, an unfavourable change to hedge ineffectiveness and lower Markets sales and trading activities from decreased Rates trading activities compared to the prior year. This was partly offset by favourable valuation adjustments on forward-looking scenarios due to reduced exposure and tightening of credit spreads.

Other items of income

	Quarter ended		Year ended	
	31 Dec 2021	31 Dec 2020	**31 Dec 2021**	31 Dec 2020
	$m	$m	**$m**	$m
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	**1**	—	**5**	—
Gains less losses from financial investments	**8**	2	**43**	50
Other operating income	**14**	12	**35**	43
Other items of income	**23**	14	**83**	93

Other items of income increased by $9m or 64% for the quarter mainly driven by higher gains from financial investments from re-balancing the bank’s liquid asset portfolio.

Other items of income decreased by $10m or 11% for the year, driven by lower gains on the disposal of financial investments from re-balancing the bank’s liquid asset portfolio. Lower other operating income from the prior year’s gain on the extinguishment of repurchased subordinated debentures also contributed to the decrease. These decreases were partly offset by a favourable movement in the fair value of other financial instruments.

Change in expected credit losses

	Quarter ended		Year ended	
	31 Dec 2021	31 Dec 2020	**31 Dec 2021**	31 Dec 2020
	$m	$m	**$m**	$m
Change in expected credit loss and other credit impairment charges - performing loans (stage 1 and 2) - charge/(release)	**26**	(11)	**(76)**	178
Change in expected credit loss and other credit impairment charges - non-performing loans (stage 3) - (release)/charge	**(18)**	10	**31**	149
Change in expected credit loss - charge/(release)	**8**	(1)	**(45)**	327

The change in expected credit losses for the quarter was a charge of $8m compared with a release of $1m for the same period in the prior year. The charge for the current quarter was primarily driven by an impairment charge from a performing loan in the aviation sector, partly offset by releases from non-performing loans in the energy sector.

The release in the fourth quarter of 2020 was primarily driven by improvement in forward-looking macro-economic variables on performing loans forecasted at that time, partly offset by impairment charges from non-performing loans in energy and various other sectors.

The change in expected credit losses for the year resulted in a release of $45m. The release for the year was driven by improvement in the forward-looking macro-economic variables related to performing loans, partly offset by impairment charges from a performing aviation loan and two non-performing energy loans.

The change in expected credit losses for the prior year resulted in a charge of $327m. The charge was driven by elevated provisions on performing loans due to the impact of the pandemic coupled with impairments from non-performing loans in the energy sector in the first half of 2020.

Total operating expenses

	Quarter ended		Year ended	
	31 Dec 2021	31 Dec 2020	**31 Dec 2021**	31 Dec 2020
	$m	$m	**$m**	$m
Employee compensation and benefits	**148**	159	**604**	630
General and administrative expenses	**165**	150	**570**	545
Depreciation of property, plant and equipment	**17**	23	**81**	78
Amortization of intangible assets	**14**	13	**53**	40
Total operating expenses	**344**	345	**1,308**	1,293

Total operating expenses decreased slightly by $1m or 0.3% for the quarter mainly due to the timing of certain employee compensation and benefit costs, partly offset by an increase in general and administrative expenses associated with strategic investments to grow our business, simplify our processes and provide digital services to meet customers' needs.

Total operating expenses increased by $15m or 1.2% for the year mainly due to costs associated with reorganizing our real estate footprint as we prepare to adopt a hybrid working model, impairment of certain software assets and strategic investments to grow our business, simplify our processes and provide digital services to meet customers' needs. These increases were partly offset by reduced discretionary costs in response to the current economic environment.

Income tax expense

The effective tax rate for the quarter was 17.6%, compared with 21.9% for the same period in the prior year. The effective tax rate for the year was 24.7%, compared with 23.7% for 2020. The difference for the quarter was due to a decrease in tax provisions. The difference for the year was also coupled with an increase in pre-tax profit.

Movement in financial position

Summary consolidated balance sheet

	31 Dec 2021	31 Dec 2020
	$m	$m
Assets		
Cash and balances at central bank	**13,955**	15,750
Trading assets	**2,907**	1,719
Derivatives	**2,773**	5,447
Loans and advances	**70,358**	62,272
Reverse repurchase agreements – non-trading	**9,058**	5,996
Financial investments	**14,969**	19,879
Customers' liability under acceptances	**3,548**	4,043
Other assets	**2,285**	2,241
Total assets	**119,853**	117,347
Liabilities and equity		
Liabilities		
Deposits by banks	**1,313**	1,139
Customer accounts	**73,626**	71,950
Repurchase agreements – non-trading	**8,044**	3,227
Trading liabilities	**3,598**	1,831
Derivatives	**2,978**	5,647
Debt securities in issue	**14,339**	17,387
Acceptances	**3,556**	4,062
Other liabilities	**5,523**	5,222
Total liabilities	**112,977**	110,465
Total equity	**6,876**	6,882
Total liabilities and equity	**119,853**	117,347

Assets

Total assets at 31 December 2021 were $119.9bn, an increase of $2.5bn, or 2.1%, from 31 December 2020. The increase was primarily from loans and advances of $8.1bn as volumes in residential mortgages and commercial loans increased. Higher reverse repurchase agreements of $3.1bn and higher volumes in trading assets of $1.2bn, also contributed to the increase. These increases were partly offset by reduced financial investments of $4.9bn and cash and balances at central bank of $1.8bn as we supported growth in other asset classes and repositioned the bank's liquidity needs. Derivatives decreased by $2.7bn as a result of the mark-to-market changes from interest rates and foreign exchange.

Liabilities

Total liabilities at 31 December 2021 were $113.0bn, an increase of $2.5bn, or 2.3%, from 31 December 2020. The increase was primarily from repurchase agreements of $4.8bn and higher volumes in trading liabilities of $1.8bn, which corresponds with the movement within the respective asset classes. Customer accounts increased by $1.7bn as a result of deposit growth in Commercial Banking and Wealth and Personal Banking. These increases were partly offset by a decrease in debt securities in issue of $3bn from lower term and wholesale funding. Derivatives decreased by $2.7bn, which corresponds with the movement in derivative assets.

Equity

Total equity at 31 December 2021 remained flat at $6.9bn from 31 December 2020. The increase in profits after tax of $0.7bn generated in the period was partly offset by $0.4bn of dividends on common shares declared in the period and a loss of $0.2bn recorded on debt instruments at fair value through other comprehensive income and cash flow hedges.

Our business segments

We manage and report our operations around the following businesses: Commercial Banking, Global Banking[1], Markets and Securities Services[1], and Wealth and Personal Banking.

Commercial Banking

Commercial Banking ('CMB') offers a full range of commercial financial services and tailored solutions to clients ranging from small enterprises to large corporates operating internationally. The HSBC Group supports business customers in 53 countries and territories globally. Canada is an important market for HSBC's CMB business and in 2021 was the third largest contributor to CMB profits. We connect businesses to opportunities through our relationship managers and digital channels, meeting our clients' financial needs by providing cross-border trade and payment services, by helping them to become more sustainable, and by giving them access to products and services offered by other business segments.

Our clients are segmented based on their needs and degree of complexity ranging from Business Banking for small enterprises to 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 clients in both segments.

Products and services

- *Credit and Lending:* we offer a broad range of domestic and cross-border financing solutions, including overdrafts, corporate cards, term loans, syndicated financing and project finance.
- *Global Trade and Receivables Finance ('GTRF')*: we provide services and financing for buyers and suppliers throughout the trade cycle, helping them to use working capital efficiently, manage trade risk and fund their supply chains.
- *Global Liquidity and Cash Management ('GLCM')*: helps clients move, control, access and invest their cash through a global network strategically located where most of the world's payments and capital flows originate. Products include non-retail deposit taking and international, regional and domestic payments and cash management services. In addition, our digital platforms enable clients to make seamless payments between countries and currencies.
- *Global Banking ('GB') and Markets and Securities Services ('MSS')*: we provide commercial clients with access to a wide range of investment banking and local and global capital financing solutions including debt, equity and advisory services in addition to services in credit, rates and foreign exchange.

Strategic direction

Our ambition is to maintain our leadership position as the preferred international financial partner for our clients and to continue to support their plans to transition to a net zero carbon economy. Taking advantage of our international network and with continued investments in our front-end platforms for GLCM and GTRF, we are well positioned to deepen client relationships with our award-winning transaction banking capabilities and to support our clients with both their domestic and cross-border banking requirements.

In 2021, we continued to develop a growing suite of green financial instruments including the launch of five new sustainable finance products for commercial banking clients: green deposits, sustainable trade finance, green revolving credit facilities, sustainability-linked loans and green equipment financing. At the same time, we continued to invest to improve our clients' digital experiences while ensuring security and resilience and delivering on our optimization, productivity and efficiency gain goals.

Our investments support our efforts to put our clients first and resulted in GLCM being voted the number one Regional Cash Manager for Corporates in North America in the Euromoney Cash Management Survey. In addition, GTRF was named #1 trade finance bank and #1 in service quality in Canada in the Euromoney Trade Finance Survey.

Review of financial performance[2]

Summary income statement

	Year ended	
	31 Dec 2021	31 Dec 2020
	$m	$m
Net interest income	**581**	525
Non-interest income	**460**	424
Total operating income	**1,041**	949
Change in expected credit losses - release/ (charge)	**29**	(256)
Net operating income	**1,070**	693
Total operating expenses	**(389)**	(396)
Profit before income tax expense	**681**	297

Overview

Total operating income increased by $92m or 9.7% for the year. The CMB business has recovered strongly in 2021 with loans and acceptances increasing by $3.5bn and deposit balances increasing by $2.1bn. Net interest income has improved as a result of an increase in volumes and a recovery in lending margins offset by deposit margin compression in the first quarter of 2021 compared to the prior year as a result of central bank rate cuts in 2020. Non-interest income has similarly improved with higher volumes of bankers' acceptances and higher client activity in foreign exchange, international and domestic payments and credit cards.

Profit before income tax was up by $384m or 129%, primarily due to a significant decrease in expected credit losses and higher operating income.

Financial performance by income and expense item

Net interest income increased by $56m or 11% due to higher loan and deposit balances and improved lending margins, offset by deposit margin compression in the first quarter of 2021 compared to the prior year due to central bank rate decreases in 2020.

Non-interest income increased by $36m or 8.5%. This was mainly due to higher fees from higher volumes of bankers' acceptances, higher fees from domestic and international payments as well as higher foreign exchange income.

Change in expected credit losses resulted in a release of $29m. This was primarily driven by an improvement in the forward-looking macro-economic scenarios as the economy continues to recover from the pandemic, partly offset by impairment charges from non-performing loans, particularly in the energy sector.

Total operating expenses decreased by $7m or 1.8% as we continued to prudently manage costs in response to the current economic environment.

1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation. For further information, refer to note 9.*
2. *For the year ended 31 December 2021 compared with the same period in the prior year, unless otherwise stated.*

Global Banking[1]

Global Banking ('GB') provides tailored financial services and products to major government, corporate and institutional clients worldwide. Our product specialists deliver a comprehensive range of transaction banking, financing, advisory, capital markets and risk management services. Our products, combined with our expertise across industries, enable us to help clients achieve their sustainability goals.

Products and services

GB takes a long-term relationship management approach, building a full understanding of clients' financial requirements and strategic goals. Client coverage is centralized in GB, under relationship managers who work with clients to understand their needs and provide holistic solutions by bringing together our broad array of products and extensive global network.

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

GB provides wholesale capital markets and transaction banking services through the following product verticals:

- *Capital Financing and Advisory:* provides clients with expertise ranging from primary equity and debt capital markets, specialized leveraged financing solutions as well as transformative solutions such as asset finance, leveraged and acquisition finance, merger and acquisition advisory and execution.
- *Investment Banking Coverage:* provides clients with a single integrated financing business, focused across a client's capital structure including relationship-based credit and lending and structured financing solutions.
- *Global Liquidity and Cash Management ('GLCM'):* helps clients move, control, access and invest their cash through a global network strategically located where most of the world's payments and capital flows originate. Products include non-retail deposit taking and international, regional and domestic payments and cash management services. In addition, our digital platforms enable clients to make seamless payments between countries and currencies.
- *Global Trade and Receivables Finance ('GTRF'):* we provide services and financing for buyers and suppliers throughout the trade cycle, helping them to use working capital efficiently, manage trade risk and fund their supply chains.

Strategic direction

The Global Banking coverage model is focused on driving revenue from proactive content led origination. This continues to focus on cross border events leveraging our global networks and aligned to the structure of the Canadian economy.

We focus on four strategic initiatives:

- driving event transactions in Capital Markets and Advisory (including ESG financing);
- serving a targeted universe of globally focused clients;
- growing ancillary revenue from transaction banking particularly in GLCM and GTRF; and
- enhancing collaboration with other HSBC business segments to serve the needs of our international clients.

In 2021, we continued to develop a growing suite of green financial instruments and to help the Canadian clients execute on their ESG strategies. Our management of financial crime and other risks, and simplifying processes also remain top priorities for GB.

Review of financial performance[2]

Summary income statement

	Year ended	
	31 Dec 2021	31 Dec 2020
	$m	$m
Net interest income	**92**	98
Non-interest income	**128**	122
Total operating income	**220**	220
Change in expected credit losses - release/ (charge)	**9**	(34)
Net operating income	**229**	186
Total operating expenses	**(86)**	(99)
Profit before income tax expense	**143**	87

Overview

Total operating income remained flat compared to the prior year. This was a result of higher fee income from advisory and capital market activity, offset by lower transaction banking volumes and lower deposit margins in the first quarter of 2021 as a result of central bank rate cuts in 2020.

GB continues to pursue its well-established strategy to provide tailored, wholesale banking solutions, leveraging HSBC's extensive distribution network to provide products and solutions to meet our global clients' needs.

As the Canadian economy continues to emerge from the pandemic, we continue to work closely with our clients to understand their unique challenges, support them as they look to return to growth and in their plans to transition to a net zero carbon economy.

Profit before income tax increased by $56m or 64% mainly due to a favourable movement in expected credit losses on performing loans as forward-looking macro-economic guidance improved, along with lower operating expenses due to prudent cost management and higher total operating income.

Financial performance by income and expense item

Net interest income decreased by $6m or 6.1% due primarily to deposit margin compression in the first quarter of 2021 due to central bank rate decreases in 2020 and lower credit origination volumes, partly offset by improved lending margins.

Non-interest income increased by $6m or 4.9% primarily due to higher advisory fees and an increase in capital markets activity, offset by lower gains on the sale of financial assets.

Change in expected credit losses improved by $43m compared to the prior year as forward-looking macro-economic variables relating to performing loans improved, partly offset by an impairment in a non-performing energy loan.

Total operating expenses decreased by $13m or 13% mainly due to lower staff costs and lower discretionary spend as a result of streamlining initiatives as well as prudent cost management.

1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation. For further information, refer to note 9.*
2. *For the year ended 31 December 2021 compared with the same period in the prior year, unless otherwise stated.*

Markets and Securities Services[1]

Markets and Securities Services ('MSS') provides tailored financial services and products to major government, corporate and institutional clients worldwide. Our knowledge and expertise of local and international markets coupled with our global reach enables us to provide comprehensive and bespoke services across various asset classes, which can be combined and customized to meet clients' specific objectives.

Products and services

MSS takes a long-term relationship management approach to build a full understanding of clients' financial requirements and strategic goals and provide wholesale capital markets and transaction banking services through the following businesses.

- *Credit and Rates:* sells, trades and distributes fixed income securities to clients including corporates, financial institutions, sovereigns, agencies and public sector issuers. We assist clients in managing risk via interest rate derivatives and facilitate client facing financing activities.
- *Foreign Exchange:* provides spot and derivative products to institutional investors and corporate clients. We utilize our extensive global footprint to help our clients meet their investment and execution requirements.
- *Securities Financing:* provides institutional clients with financing solutions from repurchase agreements, bond forwards, collateral upgrades/downgrades and bespoke structured financing arrangements.

Strategic direction

MSS continues to leverage our global reach and extensive network to provide clients with tailored trading and liquidity solutions supporting their businesses.

We focus on four strategic initiatives:

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

Operating with high standards of conduct is central to our long-term success and ability to serve clients, 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 also remains top priorities for MSS.

HSBC is prioritizing financing and investment to drive towards a net zero global economy and being an active participant in the green, social and sustainable bond market. HSBC Canada is well positioned to bring HSBC's global expertise in ESG to our Canadian clients to help them transition to a greener future.

Review of financial performance[2]

Summary income statement

	Year ended	
	31 Dec 2021	31 Dec 2020
	$m	$m
Net interest income	**24**	26
Non-interest income	**66**	76
Total operating income	**90**	102
Total operating expenses	**(52)**	(54)
Profit before income tax expense	**38**	48

Overview

Total operating income decreased by $12m or 12% compared to the prior year. Markets revenue was lower than prior year as a result of lower sales and trading volumes on foreign exchange, rates and credit activities. This was partly offset by favourable movements in certain credit spreads as financial markets continue to recover from the initial impact of COVID-19 in the prior year.

MSS continues to pursue its well-established strategy to provide tailored solutions, leveraging HSBC's extensive distribution network to provide products and solutions to meet our global clients' needs.

As the Canadian economy continues to emerge from the pandemic, we continue to work closely with our clients to understand their unique challenges, support them as they look to return to growth and in their plans to transition to a net zero carbon economy.

Profit before income tax decreased by $10m or 21% mainly due to lower operating income, partly offset by lower operating expenses due to prudent cost management.

Financial performance by income and expense item

Net interest income decreased by $2m or 7.7% due to lower rates in the first quarter compared to the prior year due to the central bank rate decreases in 2020.

Non-interest income decreased by $10m or 13% primarily due to lower rates and credit activity and lower gains on the sale of financial assets.

Total operating expenses decreased by $2m or 3.7% mainly due to streamlining initiatives and prudent cost management.

1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Global Markets' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation. For further information, refer to note 9.*
2. *For the year ended 31 December 2021 compared with the same period in the prior year, unless otherwise stated.*

Wealth and Personal Banking

Wealth and Personal Banking ('WPB') 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 flavour 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 clients who value a relationship based approach to banking. In addition, HSBC Jade and Private Investment Counsel offers an exclusive service for high-net-worth clients and HSBC Fusion helps our clients manage their small business and personal accounts in one place.

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

Products and services

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

Strategic direction

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

- building a consistent, high standard wealth management service for clients through our wealth advisory and asset management businesses, putting the client at the heart of what we do;
- leveraging our international capabilities and global HSBC network to differentiate our offering;
- leveraging our balance sheet to build and grow relationship based lending; and
- strategic cost management to recycle resources towards investing in distribution capabilities and product offerings across wealth, retail and small business to improve the client experience.

As a result of these initiatives, WPB achieved record[1] volume growth in total relationship balances[2] during the year while continuing to deepen client relationships. Our management of financial crime and other risks also remains a top priority for WPB.

Review of financial performance[3]

Summary income statement

	Year ended	
	31 Dec 2021	31 Dec 2020
	$m	$m
Net interest income	**523**	486
Non-interest income	**320**	291
Total operating income	**843**	777
Change in expected credit losses - release/ (charge)	**7**	(37)
Net operating income	**850**	740
Total operating expenses	**(674)**	(670)
Profit before income tax expense	**176**	70

Overview

Total operating income increased by $66m or 8.5%. The increase was driven by record[1] volume growth in total relationship balances[2], record[1] client activity in our online brokerage business and a favourable shift in product mix, partly offset by lower deposit margins as a result of central bank rate decreases in 2020. The prior year also included higher costs associated with maintaining increased liquidity. Growth in total relationship balances[2] was led by record[1] net sales in investment funds under management and real estate secured lending. Market appreciation also resulted in higher investment funds under management.

We grew our overall and international client base as we continue to invest in our distribution channels and market-competitive products. During the year, we continued to make it easier for our clients to bank with us and improved the client experience through digital enhancements, such as, mobile chat, digital account opening for our international clients who have not yet arrived in Canada and allowing our clients to retrieve additional documents digitally at their convenience. Our continued focus on our clients' needs and digital enhancements helped us win several awards in 2021, including, Outstanding Client Experience in Wealth Management at Global Private Banking Innovation Awards, Best Retail Bank for a Frictionless Banking Experience and Best Technology Implementation by a Retail Bank at Global Retail Banking Innovation Awards.

Excluding 2012 which included a one-time gain, we had record[1] revenues and profit before income tax expense for the year. Profit before income tax expense increased by $106m or 151% due to higher operating income as noted above and lower expected credit losses, partly offset by higher operating expenses.

Financial performance by income and expense item

Net interest income increased by $37m or 7.6% primarily due to higher lending and deposit volumes and a favourable shift in product mix, partly offset by lower margins on deposits as a result of central bank rate decreases in 2020. The prior year also included higher costs associated with maintaining increased liquidity.

Non-interest income increased by $29m or 10% due to higher investment funds under management and increased client activity in our online brokerage business.

Change in expected credit losses resulted in a favourable changes of $44m compared to the prior year as a result of improvements in forward-looking economic variables.

Total operating expenses increased by $4m or 0.6% due to strategic investments to grow our business, partly offset by streamlining initiatives.

1. *Record year since inception of WPB (previously RBWM) as a single global business in 2011.*
2. *Total relationship balances includes lending, deposits and wealth balances.*
3. *For the year ended 31 December 2021 compared with the same period in the prior year, unless otherwise stated.*

Corporate Centre

Corporate Centre contains other transactions which do not directly relate to our businesses.

Review of financial performance[1, 2]

Summary income statement[2]

	Year ended	
	31 Dec 2021	31 Dec 2020
	$m	$m
Net interest income	**6**	(49)
Non-interest income	**15**	25
Net operating income/(loss)	**21**	(24)
Total operating expenses	**(107)**	(74)
Profit/(loss) before income tax expense	**(86)**	(98)

Overview

Net operating income increased by $45m mainly due to a decrease in liquidity costs in net interest income, partly offset by lower other operating income as a result of the prior year's gain on the extinguishment of repurchased subordinated debentures. Operating expenses increased by $33m primarily due to the cost of initiatives to support future growth and move to hybrid working. The impact of these movements increased profit before income tax by $12m for the year.

1. *For the year ended 31 December 2021 compared with the same period in the prior year, unless otherwise stated.*
2. *Corporate Centre is not an operating segment of the bank. The numbers included above provides a reconciliation between operating segments and the entity results.*

Summary quarterly performance

Summary consolidated income statement

	Quarter ended							
	2021				2020			
	Dec 31	Sep 30	Jun 30	Mar 31	Dec 31	Sep 30	Jun 30	Mar 31
	$m	$m	$m	$m	$m	$m	$m	$m
Net interest income	323	315	306	282	275	244	249	318
Net fee income	205	197	196	196	185	172	178	178
Net income from financial instruments held for trading	28	26	28	30	30	29	47	26
Other items of income	23	22	17	21	14	27	28	24
Total operating income	579	560	547	529	504	472	502	546
Change in expected credit losses and other credit impairment charges - (charge)/release	(8)	(3)	40	16	1	2	(190)	(140)
Net operating income	571	557	587	545	505	474	312	406
Total operating expenses	(344)	(323)	(328)	(313)	(345)	(317)	(304)	(327)
Profit before income tax expense	227	234	259	232	160	157	8	79
Income tax expense	(40)	(63)	(69)	(63)	(35)	(45)	(3)	(13)
Profit for the period	187	171	190	169	125	112	5	66
Profit/(loss) attributable to:								
– common shareholder	176	159	179	158	113	101	(8)	54
– preferred shareholder	11	12	11	11	12	11	13	12
Basic and diluted earnings per common share ($)	0.32	0.29	0.32	0.29	0.21	0.18	(0.01)	0.11

Comments on trends over the past eight quarters

Net interest income continued to increase in the fourth quarter of 2021 from the third quarter of 2020 due to improvements in net interest margin from improved spread resulting from reduced volumes of interest bearing liabilities and growth in lending, partly offset by a reduction in lower yielding financial investments. Net interest income decreased in the third and second quarter of 2020 due to the negative impact of central bank rate cuts and maintaining elevated levels of liquidity at lower yields.

Net fee income is comprised of income from several sources that can fluctuate from quarter to quarter and are impacted by business activity, number of days in the quarter and seasonality. The largest drivers of fluctuation from quarter to quarter are underwriting and advisory fees which are event driven. Otherwise, there is an underlying trend of growth in fees from investment funds under management, credit facilities related to higher volumes of bankers' acceptances, and credit cards. In the fourth quarter of 2021, net fee income continued to increase from the third quarter of 2020, reaching its highest point on record[1]. During the third and second quarters of 2020, customer activity decreased due to COVID-19, decreasing net fee income.

Net income from financial instruments held for trading is, by its nature, subject to fluctuations from quarter to quarter. From the third quarter of 2020 to the fourth quarter of 2021, it remained relatively flat. It decreased in the third quarter of 2020 due to unfavourable credit and funding fair value adjustments. In the second quarter of 2020, the increase was related to favourable movements in credit and funding fair value adjustments driven by reduced credit spreads and lower market volatility, as well as increased Rates trading and balance sheet management activities. In the first quarter of 2020, it decreased as market volatility related to COVID-19 led to unfavourable credit and funding valuation movements.

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. Notwithstanding this, during the second quarter of 2020, other items of income increased from a gain related to the extinguishment of repurchased subordinated debentures.

Expected credit losses resulted in a charge in the fourth quarter of 2021 due to an impairment charge from a performing loan in the aviation sector, partly offset by releases from non-performing loans in the energy sector. Expected credit losses resulted in a nominal charge in the third quarter of 2021 due to two non-performing energy loans, partly offset by a release in performing loans as the forward-looking macro-economic variables continued to improve. Expected credit losses resulted in releases in performing loans from the third quarter of 2020 through to the second quarter of 2021, although modest in the third and fourth quarters of 2020, as forward-looking macro-economic variables improved. This was partly offset by increased impairment charges from a non-performing loan in the energy sector in the first quarter of 2021 and non-performing loans in the energy and various other sectors in second half of 2020. This was a material change from the first two quarters of 2020 when deterioration in forward-looking economic guidance due to the pandemic coupled with a weakened energy sector from declining oil prices resulted in increases in charges for expected credit losses.

With regards to operating expenses, our focus has been on growing our business in support of our strategic plan, and we continue to make these investments in 2021. This is balanced with prudent management of costs in response to the current economic environment. From 2020 onward, we further streamlined our processes and prioritized digital solutions to assist our customers during the pandemic and beyond.

1. *Record quarter since net fee income began to be reported separately in 2012.*

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 Canadian economy continued to demonstrate its resilience into year-end 2021. However, the rapid spread of the Omicron variant of COVID-19 in December and January highlighted that the pandemic remains a key source of uncertainty in early 2022.

Solid economic growth into year-end 2021

The economy ended 2021 with solid economic momentum. We expect gross domestic product ('GDP') growth of 4.9% quarter-over-quarter annualized in the fourth quarter, reflecting a strong labour market, which has seen employment return to pre-pandemic levels, and the unemployment rate fall to 5.9%, just slightly above its pre-pandemic reading. With firms reporting near record open positions through November the labour market looks to remain strong.

The trade performance in November is another sign of resilience. Severe flooding in British Columbia in mid-November temporarily cut off road and rail traffic to the Port of Vancouver, but both exports and imports still managed to increase in November as an increase in trade with the US, offset a decline in activity through the port, which tends to be with countries other than the US.

With the fourth quarter GDP yet to be reported, we project annual GDP growth of 4.6% in 2021. However, despite solid economic growth in the second half of the year, this is lower than our earlier forecast of 5.0%, primarily due to a large downward revision to second quarter growth. In 2022, we anticipate GDP growth of 4.3%, supported by the release of pent-up demand for services. In 2023, economic growth is forecast to be 2.8%. Omicron, however, reinforces that economic growth will remain choppy.

Omicron highlights that pandemic risks linger

Despite the good economic news late last year, 2022 has started on a cautious note, largely due to Omicron, the most recent variant of COVID-19. This highly transmissible variant has led to a sharp increase in infections and hospitalizations, with the surge in cases prompting some governments to re-introduce temporary public health restrictions.

These restrictions, as with those imposed during past pandemic waves, are weighing heavily on those sectors that are particularly sensitive to the pandemic — including accommodation and food services, arts and entertainment, retail, transportation and building services. Output and employment in these sectors will continue to lag the recovery of other sectors, which has lifted overall economic activity and employment to around pre-pandemic levels. For example, while GDP has returned to its pre-pandemic level of activity in November 2021, those sectors most affected by COVID-19 were still operating 15% to 20% below pre-pandemic levels.

Omicron is also having broader effects via a sharp increase in absenteeism, as those that become infected enter a short period of isolation. Thus, firms that were already facing challenges attracting enough labour, now face a potential rise in absenteeism among current employees, magnifying the challenge of maintaining production levels.

Another challenge that emerged in early 2022 was a disruption at the Ambassador Bridge, a key trade link between Canada and the US, and the busiest international border in North America. The bridge was effectively blocked from 7 to 13 February. This presented a notable challenge to the auto sector with some plants having to slow production schedules due to a lack of parts, and comes on top of other global supply disruptions that have affected output.

Even so, we do not expect these developments to knock the recovery off course. As with prior pandemic waves, we look for a strong rebound in activity as restrictions ease, with a high vaccination rate (including boosters), and elevated household savings helping to support a rebound from the latest lockdowns. Meanwhile, even though the disruptions at the Ambassador Bridge were estimated to have affected $400m in cross border trade per day, we think that the lost auto sector activity will be recouped, so long as there are no further lengthy disruptions.

Hence, concerns about diminishing slack and elevated inflation will remain key challenges for policymakers as these short-term downside economic risks dissipate.

Policy stimulus to start to decline

Thus, we continue to expect the Bank of Canada ('BoC') to begin to remove some of the significant monetary policy stimulus. In particular, we look for the BoC to begin to raise its policy rate by 25 basis points on 2 March, as the economy regains positive momentum.

Subsequent rate increases are anticipated in April, July, and October. This would raise the policy rate to 1.25% by the end of 2022. We then expect the BoC to leave the policy rate unchanged until the second half of 2023. In our view, this would reflect BoC Governor Tiff Macklem's pledge to take steps to bring inflation back to target without choking off the recovery. Among the factors likely to justify a pause are the high level of household indebtedness, and that the benefits of the recovery have not been shared broadly.

Inflation and inflation expectations

A key reason likely to prompt the BoC to raise the policy rate is the recent increase in inflation expectations. For example, surveys show that over 60% of firms expect inflation to be above 3% over the next year, while one survey shows that over 35% of firms anticipate inflation over 6%.

Meanwhile, the BoC's fourth quarter Business Outlook Survey showed that a record low 32% of firms expect inflation to be within the 1% to 3% inflation control range over the next two years. Statements by BoC officials have expressed a desire to prevent elevated inflation expectations from feeding into ongoing inflation, particularly given that inflation is seen remaining above target until late 2023. In its most recent forecast, the BoC projected inflation to remain near 5% through mid-2022 before falling toward 3% by year-end, and not getting close to 2% until into the second half of 2023.

With slack in the overall economy essentially absorbed, inflation above target, and elevated inflation expectations we think that the BoC will soon take steps to start to reduce the amount of monetary stimulus.

Fiscal policy to remain stimulative

Though monetary policy stimulus will be reduced in 2022, we expect fiscal policy to remain stimulative. Even so, the budget deficit is still expected to decline compared to 2020 and 2021 in part, as some pandemic support programs are expected to roll off. Omicron reinforces that some programs need to remain in place to provide support to vulnerable industries and workers. As well, budget revenues will benefit from the strength of the economic recovery and the rebound in commodity prices. In the December 2021 Economic and Fiscal Update, the federal government reported that the budget deficit in 2020-21 is projected to be 5.8% of GDP, down from 6.4% in the April 2021 budget. In 2022-23, the budget deficit is projected to be 2.2% of GDP, down only slightly from the April forecast of 2.3%.

However, the December fiscal update foreshadowed initiatives to support jobs and growth that would be forthcoming in the next federal budget. In our view, the next federal budget is also likely to introduce further measures to support the transition to a low carbon economy, and to ensure Canada is on pace to hit its target to reduce

emissions between 40% to 45% below 2005 levels by 2030. Achieving such a shift will require ongoing support from and cooperation between all levels of government.

Another reason that we think fiscal stimulus will remain in place is that Finance Minister Chrystia Freeland has said that the recovery from the 2008-09 global financial crisis was prolonged by premature tightening of fiscal policy. She has thus pledged to provide ongoing support as the economy recovers from the pandemic. Hence, we expect a period of stimulative fiscal policy alongside more restrictive monetary policy.

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:

Office of the Superintendent of Financial Institutions (OSFI)

Basel III Reforms

On 11 March 2021, OSFI proposed regulatory changes to its capital adequacy, leverage, and liquidity guidelines ('Guidelines') to implement the final round of Basel III reforms for banks. OSFI also released a draft new guideline that outlines the segmentation, capital and liquidity frameworks for small and medium-sized deposit taking institutions ('SMSBs'). For Pillar 3 requirements applicable to SMSBs, OSFI included consultative questions for SMSB stakeholders, the feedback received was used to develop OSFI's Pillar 3 Disclosure Guideline for SMSBs.

On 4 May, OSFI released the proposed revisions to Basel Capital Adequacy Reporting ('BCAR') and Leverage Requirements ('LR') Return for public consultation to reflect the corresponding proposed regulatory changes for Basel III reforms.

On 18 June, as a continuation of the domestic implementation of the final Basel III reforms, OSFI released the proposed revisions to credit valuation adjustment ('CVA') risk for public consultation. Key changes included enhanced risk sensitivity by expanding the scope of coverage towards market risk factors of CVA and greater robustness by aligning CVA sensitivities with the standardized approach for market risk.

On 5 August, OSFI issued for public consultation the draft Pillar 3 Disclosure Guideline 2023 for SMSBs, which proposes to implement a proportional set of Pillar 3 disclosure requirements by SMSBs.

On 29 November, OSFI announced a deferral in the timing for the domestic implementation of the final Basel III reforms by one quarter from the first quarter to the second quarter of 2023 (with the exception of market risk and CVA risk, which will be implemented in the first quarter of 2024). Consistent with this change, OSFI is also delaying the timing for the implementation of the SMSB Capital and Liquidity framework and changes to the Pillar 3 Disclosure Requirements Guidelines for all institutions, also to the second quarter of 2023. Revisions to the Liquidity Adequacy Requirements ('LAR') Guideline will be implemented as of 1 April 2023 for all institutions. OSFI also announced details of its final policy positions on a series of key topics that have been the subject of extensive consultation in the spring of 2021 associated with the following guidelines: Capital Adequacy Requirements ('CAR'); LR; LAR; SMSB Capital and Liquidity; and Pillar 3 Disclosure Requirements. OSFI will complement the information contained in the annexes to its letter with specific revisions to the noted guidelines released in January 2022.

On 31 January 2022, OSFI released the latest and final versions of CAR Guideline, LR Guideline, LAR Guideline, SMSBs Capital and Liquidity Guideline; and separate Pillar 3 Disclosure Guidelines for Domestic Systemically Important Banks ('D-SIBs') and SMSBs. The Guidelines have taken into account the unique characteristics of the Canadian market, improvement to risk sensitivity, and the consideration of level playing field and competitiveness issues. OSFI also provided in the annexes to its letter, non-attributed summaries of the comments received from stakeholders during public consultations on the Guidelines in spring 2021 and an explanation of whether the comments resulted in revisions. To complement the revisions to the Guidelines, OSFI is finalizing corresponding changes to the related regulatory returns, which will be published in February 2022.

Other Regulatory Changes

On 11 January 2021, OSFI launched a three-month consultation with the publication of a discussion paper, Navigating Uncertainty in Climate Change - Promoting Preparedness and Resilience to Climate-Related Risks. The paper focuses on risks arising from climate change that can affect the safety and soundness of financial institutions. Through this consultation, OSFI is seeking to engage financial institutions and other interested stakeholders in a dialogue on climate-related risks. OSFI is interested in how stakeholders define, identify, measure and build resilience to climate related risks.

On 13 April, OSFI launched a ten-week consultation with the publication of a discussion paper, Assurance on Capital, Leverage and Liquidity Returns, for federally regulated insurers ('FRIs') and deposit-taking institutions ('DTIs'). The paper focuses on enhancing and aligning assurance expectations given the increasing complexity arising from the evolving regulatory reporting framework, particularly changes resulting from International Financial Reporting Standards 17 Insurance Contracts and the Basel III reforms.

On 6 April, OSFI announced the unwinding of the temporary increase to the covered bond limit.

On 20 May, OSFI announced that effective 1 June 2021, the minimum qualifying rate for uninsured mortgages (i.e., residential mortgages with a down payment of 20% or more) will be the greater of the mortgage contract rate plus 2% or 5.25%. To align with this new rate, the Department of Finance Canada announced that it is establishing a new minimum qualifying rate for insured mortgages, subject to review and periodic adjustment, which will be the greater of the borrower's mortgage contract rate plus 2% or 5.25%.

On 22 June, OSFI issued an industry letter that outlines its expectations of federally regulated financial institutions ('FRFIs') as they transition away from LIBOR. With confirmation of cessation dates for LIBOR, OSFI expects FRFIs to ensure a smooth transition to new reference rates prior to the cessation dates.

On 12 August, OSFI announced that the temporary exclusion of sovereign-issued securities qualified as High Quality Liquid Assets ('HQLA') from banks' leverage ratio exposure measures will be unwound. Starting 1 January 2022, banks will be required to include these securities in their leverage ratio exposure measures. This temporary relief was put in place as a response to the COVID-19 pandemic and OSFI has concluded that the level of uncertainty in the outlook for economic and financial conditions has now reduced. Meanwhile, banks can continue to exclude central bank reserves from their leverage ratio exposure measures until otherwise notified.

On 13 August, OSFI released updated requirements governing how FRFIs should disclose and report technology and cyber security incidents to OSFI within 24 hours, or sooner if possible.

On 4 November, OSFI announced that FRFIs may again increase regular dividends and executive compensation, and subject to the existing requirement for Superintendent approval, repurchase shares. This follows a period of a year and a half when institutions were expected to not undertake these measures due to the onset of the COVID-19 pandemic.

On 9 November, OSFI launched a public consultation on draft Guideline B 13: Technology and Cyber Risk Management ('Proposed

Guideline'). The Proposed Guideline sets out OSFI's expectations for all FRFIs related to technology and cyber risk management across five domains: Governance and Risk Management; Technology Operations; Cyber Security; Third-Party Provider Technology and Cyber Risk; and Technology Resilience. Each domain is guided by a desired outcome and related technology-neutral principles that collectively contribute to operational resilience. The Proposed Guideline responds to feedback received as a result of OSFI's fall 2020 discussion paper on technology and related risks.

Government of Canada

Consumer Protection

On 18 August 2021, the Canada Gazette published the Financial Consumer Protection Framework Regulations ('Regulations'). The Regulations consolidate and streamline existing requirements to create a comprehensive set of financial consumer protection rules, while introducing new requirements to further protect bank consumers.

On 22 November, the Financial Consumer Agency of Canada ('FCAC') launched a public consultation on a proposed Guideline on Appropriate Products and Services for Banks and Authorized Foreign Banks ('Proposed Guideline') in support of the implementation of the new Financial Consumer Protection Framework under the Bank Act. The Proposed Guideline sets out clear principles and expectations that banks should use to ensure they offer or sell products and services that are appropriate for their consumers, having regard to their circumstances, including their financial needs.

Anti-Money Laundering and Terrorist Financing Supervision

On 1 June 2021, a number of regulatory amendments came into force which created or changed obligations for reporting entities that are subject to the Proceeds of Crime ('Money Laundering') and Terrorist Financing Act ('Act') and associated Regulations. On 29 June 2021, Canada's An Act to implement certain provisions of the budget tabled in Parliament on 19 April 2021 and other measures ('Bill C-30') received Royal Assent. Among other measures, the legislation expands the power of the Financial Transactions and Reports Analysis Centre of Canada ('FINTRAC'), including the ability to recover its compliance costs from the industry and impose harsher penalties for criminal conviction.

Open Banking

On 4 August 2021, the Government of Canada published the final report from the Advisory Committee on Open Banking. The report makes recommendations on how to modernize the Canadian financial services sector and implement a secure open banking system. Open banking has the potential to drive changes to traditional bank business models. The bank is actively monitoring these developments.

Other Regulators and Governments

Climate

On 18 October 2021, the Canadian Securities Administrators ('CSA') published for comment proposed climate-related disclosure requirements, which contemplate disclosure largely consistent with the Task Force on Climate-related Financial Disclosures ('TCFD') recommendations.

Self-Regulatory Framework Reform

On 3 August 2021, the Canadian Securities Administrators ('CSA') published a position paper, setting out its plan to create a new, single self-regulatory organization ('SRO'). The new SRO will consolidate the functions of the Investment Industry Regulatory Organization of Canada ('IIROC') and the Mutual Fund Dealers Association of Canada ('MFDA') and will combine the two existing investor protection funds, the Canadian Investor Protection Fund and the MFDA Investor Protection Corporation. The new SRO will also harmonize, where appropriate, IIROC and MFDA rules, and will streamline their complaint process, among others.

On 18 November, the CSA published the timeline established for the new SRO. Under the present timetable, the corporate transactions necessary for amalgamation (including obtaining the necessary ministerial approvals) are expected to be completed by the end of 2022. It is expected that the CEO and Board of the new SRO will be announced in the second quarter of 2022.

Capital Markets

On 15 July 2021, the CSA announced that they are adopting amendments to enhance the protection of vulnerable clients. The amendments will require registrants to take reasonable steps where a registrant reasonably believes that financial exploitation of a vulnerable client has occurred or is occurring and the client does not have the mental capacity to make decisions involving financial matters.

On 30 November, the Ontario Securities Commission ('OSC') announced that it is seeking input on potential anti-competitive practices in Ontario's capital markets. In particular, the OSC is seeking submissions on the practice of tied selling – the tying of capital market and commercial lending services, including where a commercial lender requires a client to retain the services of an affiliated investment dealer for their capital raising and advisory needs, as a condition in a commercial lending transaction.

Non-GAAP and Other Financial Measures Disclosure

On 27 May 2021, the CSA published National Instrument 52-112 Non-GAAP and Other Financial Measures Disclosure ('NI 52-122), which provides disclosure requirements and guidance for non-GAAP (generally accepted accounting principles) and certain other financial measures. The intent of these requirements is to provide additional information to help investors understand the context of such measures in the bank's public disclosures. These requirements apply to the disclosures of reporting issuers for the financial years ending on or after 15 October 2021. The bank has implemented all requirements in its year-end disclosures in the annual report within the MD&A.

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 2021 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. Judgment is required in selecting and calibrating the PD, LGD, and EAD models, which support the calculations, including making reasonable and supportable judgments about how models react to current and future economic conditions.

Additionally, judgment is required in selecting model inputs and economic forecasts, including determining whether sufficient and appropriately weighted forecasts are incorporated to calculate unbiased expected loss. Judgement is also required in making management adjustments to account for late breaking events, model and data limitations and deficiencies, and expert credit judgements.

The 'measurement uncertainty and sensitivity analysis of ECL estimates' section of this report sets out the assumptions used in determining ECL and provides an indication of different weightings being applied to different economic assumptions.

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. In the event that the market for a financial instrument is not active, a valuation technique is used.

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 2021

There were no new accounting standards or interpretations that had a significant effect on the bank in 2021. Accounting policies have been consistently applied.

Future accounting developments

The International Accounting and Standards Board ('IASB') has issued standards on insurance contracts in 2017, with amendments to the standards issued in 2020, which is discussed below and which may represent significant changes to accounting requirements in the future.

Major new IFRSs

IFRS 17 'Insurance contracts'

The IASB issued IFRS 17 'Insurance contracts' in May 2017, with amendments to the standards issued in June 2020. The standard sets out the requirements that an entity should apply in accounting for insurance contracts it issues and reinsurance contracts it holds. Following the amendments, IFRS 17 is effective from 1 January 2023. The bank has assessed the impact of this standard and it is not expected to have a material impact to these financial statements.

Minor amendments to IFRSs

The IASB has published a number of minor amendments to IFRSs which are effective from 1 January 2022 and 1 January 2023. We expect they will have an insignificant effect, when adopted, on our consolidated financial statements.

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 26.

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 36 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 2021, 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 2021.

Changes in internal control over financial reporting

There were no changes in our internal control over financial reporting during the year ended 31 December 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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 28.

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

Risk

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Our approach to risk

Our risk appetite

We recognize the importance of a strong culture, which refers to our shared attitudes, values and standards that shape behaviours related to risk awareness, risk taking and risk management. All our people are responsible for the management of risk, with the ultimate accountability residing with the Board.

We seek to build our business for the long term by balancing social, environmental and economic considerations in the decisions we make. Our strategic priorities are underpinned by our endeavour to operate in a sustainable way. This helps us to carry out our social responsibility and manage the risk profile of the business. We are committed to managing and mitigating climate-related risks, both physical and transition, and continue to incorporate consideration of these into how we manage and oversee risks internally and with our customers.

The following principles guide the Group's overarching appetite for risk and determine how our businesses and risks are managed.

Financial position

- We aim to maintain a strong capital position, defined by regulatory and internal capital ratios.
- We carry out liquidity and funding management for each operating entity, on a stand-alone basis.

Operating model

- We seek to generate returns in line with a conservative risk appetite and strong risk management capability.
- We aim to deliver sustainable earnings and consistent returns for our shareholder.

Business practice

- We have zero tolerance for any of our people to knowingly engage in any business, activity or association where foreseeable reputational risk or damage has not been considered and/or mitigated.
- We have no appetite for deliberately or knowingly causing detriment to consumers, or incurring a breach of the letter or spirit of regulatory requirements.
- We have no appetite for inappropriate market conduct by a member of staff or by any business.

Enterprise-wide application

Our risk appetite encapsulates consideration of financial and non-financial risks. We define financial risk as the risk of a financial loss as a result of business activities. We actively take these types of risks to maximize shareholder value and profits. Non-financial risk is defined as the risk to achieving our strategy or objectives as a result of inadequate or failed internal processes, people and systems or from external events.

The Board reviews and approves the Bank's risk appetite twice a year to make sure it remains fit for purpose. The risk appetite is considered, developed and enhanced through:

- an alignment with our strategy, purpose, values and customer needs;
- trends highlighted in other risk reports;
- communication with risk stewards on the developing risk landscape;
- strength of our capital, liquidity and balance sheet;
- compliance with applicable laws and regulations;
- effectiveness of the applicable control environment to mitigate risk, informed by risk ratings from risk control assessments;
- functionality, capacity and resilience of available systems to manage risk; and
- the level of available staff with the required competencies to manage risks.

We formally articulate our risk appetite through our risk appetite statement ('RAS'). Setting out our risk appetite ensures that we agree a suitable level of risk for our strategy. In this way, risk appetite informs our financial planning process and helps senior management to allocate capital to business activities, services and products.

The RAS consists of qualitative statements and quantitative metrics, covering financial and non-financial risks. It is applied to the development of business line strategies, strategic and business planning and remuneration. Performance against the RAS is reported to the bank's Risk Management Meeting ('RMM') alongside key risk indicators to support targeted insight and discussion on breaches of risk appetite and associated mitigating actions. This reporting allows risks to be promptly identified and mitigated, and informs risk-adjusted remuneration to drive a strong risk culture.

Risk management

We recognize that the primary role of risk management is to protect our customers, business, colleagues, shareholder and the communities that we serve, while ensuring we are able to support our strategy and provide sustainable growth. This is supported by our three lines of defence model described on page 38.

The implementation of our business strategy, which includes a major transformation program, remains a key focus. As we implement change initiatives, we actively manage the execution risks. We also perform periodic risk assessments, including against strategies, to help ensure retention of key personnel for our continued safe operation.

We aim to use a comprehensive risk management approach across the organization and across all risk types, underpinned by our culture and values. This is outlined in our risk management framework, including the key principles and practices that we employ in managing material risks, both financial and non-financial. The framework fosters continual monitoring, promotes risk awareness and encourages a sound operational and strategic decision making process. It also supports a consistent approach to identifying, assessing, managing and reporting the risks we accept and incur in our activities. We continue to actively review and develop our risk management framework and enhance our approach to managing risk, through our activities with regard to: people and capabilities; governance; reporting and management information; credit risk management models; and data.

Our risk management framework

The following diagram and descriptions summarize key aspects of the risk management framework, including governance and structure, our risk management tools and our risk culture, which together help align employee behaviour with our risk appetite.

Key components of our risk management framework

HSBC values and risk culture		
Risk governance	**Non-executive risk governance**	The Board approves the bank's risk appetite, plans and performance targets. It sets the tone from the top and is advised by the Audit, Risk and Conduct Review Committee of the Board.
	Executive risk governance	Our executive risk governance structure is responsible for the enterprise-wide management of all risks, including key policies and frameworks for the management of risk.
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**	The bank has 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	Operational and resilience risk management defines minimum standards and processes for managing operational risks and internal controls.
	Systems and infrastructure	The bank has systems and/or processes that support the identification, capture and exchange of information to support risk management activities.
Systems and tools		

Risk Governance

The Board has ultimate responsibility for the effective management of risk and approves our risk appetite. It is advised on risk-related matters by the Audit, Risk and Conduct Review Committee ('ARC').

The Chief Risk Officer, supported by the RMM of the bank's senior executives, holds executive accountability for the ongoing monitoring, assessment and management of the risk environment and the effectiveness of the risk management framework.

The Chief Risk Officer is responsible for oversight of reputational risk and is supported by Reputational Risk and Client Selection Committees ('RRCSC') for each line of business. The RRCSCs consider matters arising from customers, transactions and third parties that either present a serious potential reputational risk to the bank or merit an entity-led decision to ensure a consistent group risk management approach throughout the bank.

Day-to-day responsibility for risk management is delegated to senior managers with individual accountability for decision making. All our people have a role to play in risk management. These roles are defined using the three lines of defence model, which takes into account our business and functional structures as described in the following commentary, under 'Our responsibilities'.

We use a defined executive risk governance structure to help ensure appropriate oversight and accountability of risk, which facilitates reporting and escalation to the RMM. This structure is 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 Chief Compliance Officer Head of Human Resources Head of Communications General Counsel Heads of the four business segments All other members of the bank's Executive Committee.	• Supporting the Chief Risk Officer in exercising Board-delegated risk management authority • Overseeing the implementation of risk appetite and the 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 our people are responsible for identifying and managing risk within the scope of their roles. Roles are defined using the three lines of defence model which takes into account our business and functional structures as described below.

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 them in line with risk appetite, and ensuring that the right controls and assessments are in place to mitigate them.
- The second line of defence sets the policy and control standards 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 assurance that our risk management approach and processes are designed effectively.

Risk function

Our Risk function, headed by the Chief Risk Officer, 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. It forms part of the second line of defence and is independent from the businesses, including sales and trading functions, to provide challenge, appropriate oversight and balance in risk/return decisions.

Responsibility for minimizing both financial and non-financial risk lies with our people. They are required to manage the risks of the business and operational activities for which they are responsible. We maintain adequate oversight of our non-financial risks through our various specialist Risk Stewards, along with our aggregate overview through the Chief Risk Officer.

Non-financial risk is the risk to achieving out strategy or objectives as a result of failed internal processes, people and systems, or from external events. Sound non-financial risk management is central to achieving good outcomes for customers.

We have continued to strengthen the control environment and our approach to the management of non-financial risk, as broadly set out in our risk management framework. The management of non-financial risk focuses on governance and risk appetite, and provides a single view of the non-financial risks that matter the most along with the associated controls. It incorporates a risk management system designed to enable the active management of non-financial risk. Our ongoing focus is on simplifying our approach to non-financial risk management, while driving more effective oversight and better end-to-end identification and management of non-financial risks. This is overseen by the Operational and Resilience Risk function, headed by the Head of Operational and Resilience Risk.

Stress testing and recovery planning

We operate a wide-ranging stress testing program that is a key part of our risk management and capital and liquidity planning. Stress testing provides management with key insights into the impact of severely adverse events on the bank.

Our stress testing program assesses our capital and liquidity strength through a rigorous examination of our resilience to external shocks. As well as undertaking regulatory-driven stress tests, we conduct our own internal stress tests, in order to understand the nature and level of all material risks, quantify the impact and develop plausible business-as-usual mitigating actions.

Internal stress tests

Our internal capital assessment uses a range of stress scenarios that explore risks identified by management. They include potential adverse macroeconomic, geopolitical and operational risk events, as well as other potential events specific to HSBC.

The selection of stress scenarios is based upon the output of our top and emerging risks identified and our risk appetite. 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.

Recovery and resolution plans

Recovery and resolution plans form part of the integral framework safeguarding of the bank’s financial stability. Together with stress testing, it helps us understand the likely outcomes of adverse business or economic conditions and the identification of mitigating actions.

Key developments in 2021

We continued to actively managed the risks resulting from the COVID-19 pandemic and its impacts on our customers and operations during 2021.In addition, we enhanced our risk management in the following areas:

- We continued to simplify our approach to non-financial risk, with the implementation of more effective oversight tools and techniques to improve end-to-end identification and management of these risks.
- We accelerated the transformation of our approach to managing financial risks across the businesses and risk functions, including initiatives to enhance portfolio monitoring and analytics, credit risk, traded risk and treasury risk management, as well as the models used to manage financial risks.
- The Climate Risk Oversight Forum, chaired by the CRO, was established to oversee our approach to climate risk.
- We continued to improve the effectiveness of our financial crime controls with a targeted update of our fraud controls. We refreshed our financial crime policies, ensuring they remained current and addressed changing and emerging risks while continuing to meet regulatory obligations.

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 40)		
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.
Treasury risk (see page 56)		
Treasury risk is the risk of having insufficient capital, liquidity or funding resources to meet financial obligations and satisfy regulatory requirements, including the risk of adverse impact on earnings or capital due to structural foreign exchange exposures and changes in market interest rates, and including the financial risks arising from historical and current provision of pensions and other post-employment benefits to staff and their dependents.	Treasury risk arises from changes to the respective resources and risk profiles driven by customer behaviours, management decisions, or pension plan fiduciary decisions. It also arises from the external environment, including changes to market parameters such as interest rates or foreign exchange rates, together with updates to the regulatory requirements.	Treasury risk is: • measured through risk appetite and more granular limits, set to provide an early warning of increasing risk, minimum ratios of relevant regulatory metrics, and metrics to monitor the key risk drivers impacting treasury resources; • monitored and projected against appetites and by using operating plans based on strategic objectives together with stress and scenario testing; and • managed through control of resources in conjunction with risk profiles, strategic objectives and cash flows.
Market risk (see page 62)		
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 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 value at risk, stress testing and other measures; and • managed using risk limits reviewed by the RMM and the the business risk forums.
Resilience risk (see page 64)		
Resilience risk is the risk that we are unable to provide critical services to our customers, affiliates, and/or counterparties as a result of sustained and significant operational disruption.	Resilience risk arises from failures or inadequacies in processes, people, systems or external events.	Resilience risk is: • measured through a range of metrics with defined maximum acceptable impact tolerances and compared against our agreed risk appetite; • monitored through oversight of enterprise processes, risks, controls and strategic change programs; and • managed by continuous monitoring and thematic reviews.
Regulatory compliance risk (see page 65)		
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 arises from the risks associated with breaching our duty to our customers and inappropriate market conduct, as well as breaching regulatory licensing, permission and rules.	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 65)		
Financial crime risk is the risk that we knowingly or unknowingly help parties to commit or to further potentially illegal activity through HSBC, including money laundering, fraud, bribery and corruption, tax evasion, sanctions breaches, and terrorist and proliferation financing.	Financial crime and fraud risk arises from day-to-day banking operations involving customers, third parties and employees. Exceptional circumstances that impact day-to-day operations may additionally increase financial crime risk.	Financial crime risk is: • measured by reference to risk appetite, identified metrics, incident assessments, regulatory feedback and the judgment and assessment of our compliance teams; • monitored against the first line of defence risk and control assessments, the results of 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.
Model risk (see page 66)		
Model risk is the potential for adverse consequences from business decisions informed by models, which can be exacerbated by errors in methodology, design or the way they are used.	Model risk arises in both financial and non-financial context whenever business decision making includes reliance on models.	Model risk is: • measured by reference to model performance tracking and the output of detailed technical reviews, with key metrics including model review statuses and findings; • monitored against model risk appetite statements, insight from the independent review function, feedback from internal and external audits, and regulatory reviews; and • managed by creating and communicating appropriate policies, procedures and guidance, training colleagues in their application, and supervising their adoption to ensure operational effectiveness.

Credit Risk

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Overview

Credit risk is the risk of financial loss if a customer or counterparty fails to meet a payment 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

Key developments in 2021

There were no material changes to the policies and practices for the management of credit risk in 2021. We continued to apply the requirements of IFRS 9 'Financial Instruments' within the Credit Risk sub-function.

Due to the unique market conditions observed during the COVID-19 pandemic, we expanded operational practices to provide short-term support to customers under the current policy framework.

Governance and structure

We have established credit risk management and related IFRS 9 processes and we actively assess the impact of economic developments on specific customers, customer segments or portfolios. As credit conditions change, 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.

Credit risk sub-function*

Credit risk is managed in accordance with the bank's credit policy, which is established in consultation with HSBC Group and the key elements are approved by the Audit, Risk and Conduct Review Committee. 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 a strong culture of responsible lending, and robust risk policies and control frameworks;
- to 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.

Key risk management processes

IFRS 9 'Financial Instruments' process

The IFRS 9 process comprises three main areas: modelling and data, implementation and governance.

Modelling and data

We have established modelling and data processes which are subject to appropriate governance and independent review.

Implementation

A centralized impairment engine performs the expected credit loss ('ECL') calculation using data, which is subject to a number of validation checks and enhancements, from a variety of client, finance and risk systems. Where possible, these checks and processes are performed in a 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.

Concentration of exposure*

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*

Our risk rating system facilitates the internal ratings-based approach under the Basel framework adopted by the bank to support the 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 the wholesale and personal 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.

Personal lending

Personal lending credit quality is based on a 12-month point-in-time ('PIT') probability-weighted probability of default ('PD').

Credit quality classification

	Debt securities and other bills	Wholesale lending		Personal 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**	**CRR 1 to CRR 2**	**0.000 - 0.169**	**Band 1 and 2**	**0.000 - 0.500**
Good	**BBB+ to BBB-**	**CRR 3**	**0.170 - 0.740**	**Band 3**	**0.501 - 1.500**
Satisfactory	**BB+ to B and unrated**	**CRR 4 to CRR 5**	**0.741 - 4.914**	**Band 4 and 5**	**1.501 - 20.000**
Sub-standard	**B- to C**	**CRR 6 to CRR 8**	**4.915 - 99.999**	**Band 6**	**20.001 - 99.999**
Credit-impaired	**Default**	**CRR 9 to CRR 10**	**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, as described on note 2(i) on the Consolidated Financial Statements.

Renegotiated loans and forbearance*

'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 personal lending, renegotiated loans remain in stage 3 until maturity or write-off.

Renegotiated loans and recognition of expected credit losses*

For personal lending, unsecured renegotiated loans are generally separated from other parts of the loan portfolio. Renegotiated expected credit loss assessments reflect the higher rates of losses typically encountered with renegotiated loans.

For wholesale lending, renegotiated loans are typically assessed individually. Credit risk ratings are intrinsic to the impairment assessments. The individual impairment assessment takes into account the higher risk of the future non-payment inherent in renegotiated loans.

Impairment assessment*

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*

For details of our policy on the write-off of loans and advances, see note 2(i) on the Financial Statements.

Unsecured personal lending 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.

Summary of credit risk

The following disclosure presents the gross carrying/nominal amount of financial instruments to which the impairment requirements in IFRS 9 are applied and the associated allowance for ECL.

The allowance for ECL at 31 December 2021 comprised of $362m in respect of assets held at amortized cost, $35m in respect of loans and other credit related commitments and financial guarantees and $8m in respect of performance guarantee contracts.

Summary of financial instruments to which the impairment requirements in IFRS 9 are applied*

	Footnotes	31 December 2021		31 December 2020	
		Gross carrying/ nominal amount	**Allowance for ECL**	Gross carrying/ nominal amount	Allowance for ECL
		$m	**$m**	$m	$m
Loans and advances to customers at amortized cost		**69,033**	**(334)**	61,410	(408)
– personal		**35,341**	**(75)**	31,131	(87)
– corporate and commercial		**33,692**	**(259)**	30,279	(321)
Loans and advances to banks at amortized cost		**1,659**	**—**	1,270	—
Other financial assets measured at amortized costs		**28,134**	**(28)**	27,443	(41)
– cash and balances at central banks		**13,955**	**—**	15,750	—
– items in the course of collection from other banks		**9**	**—**	13	—
– reverse repurchase agreements non - trading		**9,058**	**—**	5,996	—
– customers' liability under acceptances		**3,556**	**(8)**	4,062	(19)
– other assets, prepayments and accrued income	1	**1,556**	**(20)**	1,622	(22)
Total gross carrying amount on-balance sheet		**98,826**	**(362)**	90,123	(449)
Loans and other credit related commitments		**46,737**	**(31)**	44,426	(42)
– personal		**8,141**	**(2)**	7,734	(1)
– corporate and commercial		**38,596**	**(29)**	36,692	(41)
Financial guarantees	2	**1,949**	**(4)**	1,985	(3)
– personal		**7**	**—**	7	—
– corporate and commercial		**1,942**	**(4)**	1,978	(3)
Total nominal amount off-balance sheet	3	**48,686**	**(35)**	46,411	(45)

		Fair value	**Allowance for ECL**	Fair value	Allowance for ECL
		$m	**$m**	$m	$m
Debt instruments measured at fair value through other comprehensive income ('FVOCI')	4	**14,958**	**—**	19,873	(1)

1. 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.
2. Excludes performance guarantee contracts.
3. Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.
4. 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 disclosure provides an overview of the bank's credit risk by stage and customer type, and the associated ECL coverage. The financial assets recorded in each stage have the following characteristics:

Stage 1: These financial assets are 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 on these financial assets since initial recognition on which a lifetime ECL is recognized.

Stage 3: There is objective evidence of impairment and the financial assets 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*

	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	**62,493**	**6,198**	**342**	**69,033**	**(62)**	**(145)**	**(127)**	**(334)**	**0.1**	**2.3**	**37.1**	**0.5**
– personal	**33,756**	**1,455**	**130**	**35,341**	**(9)**	**(44)**	**(22)**	**(75)**	**—**	**3.0**	**16.9**	**0.2**
– corporate and commercial	**28,737**	**4,743**	**212**	**33,692**	**(53)**	**(101)**	**(105)**	**(259)**	**0.2**	**2.1**	**49.5**	**0.8**
Loans and advances to banks at amortized cost	**1,659**	**—**	**—**	**1,659**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Other financial assets measured at amortized cost	**27,768**	**346**	**20**	**28,134**	**(3)**	**(5)**	**(20)**	**(28)**	**—**	**1.4**	**100.0**	**0.1**
Loan and other credit-related commitments	**42,403**	**4,275**	**59**	**46,737**	**(15)**	**(16)**	**—**	**(31)**	**—**	**0.4**	**—**	**0.1**
– personal	**7,990**	**138**	**13**	**8,141**	**(2)**	**—**	**—**	**(2)**	**—**	**—**	**—**	**—**
– corporate and commercial	**34,413**	**4,137**	**46**	**38,596**	**(13)**	**(16)**	**—**	**(29)**	**—**	**0.4**	**—**	**0.1**
Financial guarantees[2]	**1,848**	**80**	**21**	**1,949**	**(1)**	**(2)**	**(1)**	**(4)**	**0.1**	**2.5**	**4.8**	**0.2**
– personal	**7**	**—**	**—**	**7**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
– corporate and commercial	**1,841**	**80**	**21**	**1,942**	**(1)**	**(2)**	**(1)**	**(4)**	**0.1**	**2.5**	**4.8**	**0.2**
At 31 Dec 2021	**136,171**	**10,899**	**442**	**147,512**	**(81)**	**(168)**	**(148)**	**(397)**	**0.1**	**1.5**	**33.5**	**0.3**
Loans and advances to customers at amortized cost	49,642	11,292	476	61,410	(45)	(215)	(148)	(408)	0.1	1.9	31.1	0.7
– personal	29,163	1,866	102	31,131	(15)	(53)	(19)	(87)	0.1	2.8	18.6	0.3
– corporate and commercial	20,479	9,426	374	30,279	(30)	(162)	(129)	(321)	0.1	1.7	34.5	1.1
Loans and advances to banks at amortized cost	1,270	—	—	1,270	—	—	—	—	—	—	—	—
Other financial assets measured at amortized cost	26,536	885	22	27,443	(3)	(16)	(22)	(41)	—	1.8	100.0	0.1
Loan and other credit-related commitments	35,262	9,019	145	44,426	(10)	(32)	—	(42)	—	0.4	—	0.1
– personal	7,652	66	16	7,734	(1)	—	—	(1)	—	—	—	—
– corporate and commercial	27,610	8,953	129	36,692	(9)	(32)	—	(41)	—	0.4	—	0.1
Financial guarantees[2]	1,834	149	2	1,985	(1)	(2)	—	(3)	0.1	1.3	—	0.2
– personal	6	1	—	7	—	—	—	—	—	—	—	—
– corporate and commercial	1,828	148	2	1,978	(1)	(2)	—	(3)	0.1	1.4	—	0.2
At 31 Dec 2020	114,544	21,345	645	136,534	(59)	(265)	(170)	(494)	0.1	1.2	26.4	0.4

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*

This section provides information on balance sheet items, loan and other credit-related commitments and the associated offsetting arrangements.

Commentary on consolidated balance sheet movements in 2021 is provided on page 24.

'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 55.

Maximum exposure to credit risk*

	2021			2020		
	Maximum exposure	**Offset**	**Net**	Maximum exposure	Offset	Net
	$m	**$m**	**$m**	$m	$m	$m
Loans and advances to customers held at amortized cost	**68,699**	**(246)**	**68,453**	61,002	(748)	60,254
– personal	**35,266**	**—**	**35,266**	31,044	—	31,044
– corporate and commercial	**33,433**	**(246)**	**33,187**	29,958	(748)	29,210
Derivatives	**2,773**	**(2,600)**	**173**	5,447	(4,856)	591
On-balance sheet exposure to credit risk	**71,472**	**(2,846)**	**68,626**	66,449	(5,604)	60,845
Off-balance sheet exposure to credit risk	**52,561**	**—**	**52,561**	50,239	—	50,239
– financial guarantees and similar contracts	**5,812**	**—**	**5,812**	5,797	—	5,797
– loan and other credit-related commitments	**46,749**	**—**	**46,749**	44,442	—	44,442
At 31 Dec	**124,033**	**(2,846)**	**121,187**	116,688	(5,604)	111,084

Measurement uncertainty and sensitivity analysis of ECL estimates*

Despite a broad recovery in economic conditions during 2021, expected credit loss ('ECL') estimates continue to be subject to a high degree of uncertainty, as explained below, and management judgements and estimates continue to reflect a degree of caution, both in the selection of economic scenarios and their weightings, and through judgmental adjustments.

The recognition and measurement of ECL involves the use of significant judgment and estimation. We form multiple economic scenarios based on economic forecasts, apply these assumptions to credit risk models to estimate future credit losses, and probability-weight the results to determine an unbiased ECL estimate.

Methodology

Four economic scenarios are used to capture the potential impact of the current and future expected economic environment and to articulate management's view of the range of potential outcomes. In second quarter of 2020, to ensure that the severe risks associated with the pandemic were appropriately captured, management added a fourth, more severe, scenario to use in the measurement of ECL. Starting in the fourth quarter 2021, the bank's methodology has been adjusted so that the use of four scenarios, of which two are downside scenarios, is the standard approach to ECL calculation. The second downside scenario is known as the 'Downside 2' scenario.

Three of the scenarios are drawn from consensus forecasts and distributional estimates. The Central scenario is deemed the 'most likely' scenario, and usually attracts the largest probability weighting, while the outer scenarios represent the tails of the distribution, which are less likely to occur. The Central scenario is created using the average of a panel of external forecasters. Consensus Upside and Downside scenarios are created with reference to distributions that capture forecasters' views of the entire range of outcomes. In the later years of the scenarios, projections revert to long-term consensus trend expectations. In the consensus outer scenarios, reversion to trend expectations is done mechanically with reference to historically observed quarterly changes in the values of macroeconomic variables.

The fourth scenario, Downside 2, is designed to represent management's view of severe downside risks. It is a narrative driven scenario that explores more extreme economic outcomes than those captured by the consensus scenarios. In this scenario, variables do not, by design, revert to long-term trend expectations. They may instead explore alternative states of equilibrium, where economic activity moves permanently away from past trend.

Description of consensus economic scenarios

The economic assumptions presented in this section have been formed by the bank with reference to external forecasts specifically for the purpose of calculating ECL.

The global economy experienced a recovery in 2021, following an unprecedented contraction in 2020. Restrictions to mobility and travel have eased, aided by the successful roll-out of vaccination programs. Vaccinations have shown their effectiveness in lowering hospitalizations and deaths enabling economies to reopen. The emergence of new variants that potentially reduce the efficacy of vaccines remains a risk.

Economic forecasts remain subject to a high degree of uncertainty in the current environment. Risks to the economic outlook are dominated by the progression of the pandemic, vaccine-rollout and the public policy response. Geopolitical risks also remain significant and include continued differences between the US and China over a range of strategic issues. Continued uncertainty over the long-term economic relationship between the UK and EU also present downside risks.

The scenarios used to calculate ECL in the *Annual Report and Accounts 2021* are described below.

The consensus central scenario

The bank's Central scenario features a continued recovery in economic growth in 2022 as activity and employment gradually return to the levels reached prior to the pandemic of COVID-19.

Our Central scenario assumes that the stringent restrictions on activity, imposed in 2020 and early 2021 are not repeated. The new viral strain, that emerged late in 2021 - Omicron - has only a limited impact on the recovery. Consumer spending and business investment, supported by elevated levels of private sector savings, are expected to drive the economic recovery as fiscal and monetary policy support recedes.

The key features of our Central scenario are:

- Economic activity continues to recover. GDP grows at a moderate rate and exceeds pre-pandemic levels in 2022.
- Unemployment recovers to levels only slightly higher than existed pre-pandemic.
- COVID related fiscal spending recedes in 2022 as fewer restrictions on activity allow fiscal support to be withdrawn while deficits remain high.
- Inflation remains elevated through 2022. Supply driven price pressures persist through the first half of 2022 before gradually easing. In subsequent years, inflation quickly converges back towards central bank target rates.
- Policy interest rates expected to rise over our projection period, in line with economic recovery.
- The Brent oil price is forecast to average USD66 per barrel over the projection period.

In the longer-term, growth trend reverts back towards similar levels that existed prior to the pandemic, suggesting that minimal long-term damage to economic prospects is expected. The Central scenario was initially prepared with forecasts from November with

ongoing monitoring for any material developments. No material developments were identified.

The following tables disclose key macroeconomic variables and the probabilities assigned in the consensus central scenario.

Consensus central scenario (2022–2026)

	2021
GDP growth rate (%)	
2022: Annual average growth rate	**4.1**
2023: Annual average growth rate	**2.8**
2024: Annual average growth rate	**2.0**
5 Year Average	**2.5**
Unemployment rate (%)	
2022: Annual average rate	**6.3**
2023: Annual average rate	**5.9**
2024: Annual average rate	**5.8**
5 Year Average	**5.9**
House price growth (%)	
2022: Annual average growth rate	**6.4**
2023: Annual average growth rate	**2.8**
2024: Annual average growth rate	**2.1**
5 Year Average	**3.3**
Brent oil prices (US$/barrel)	
2022: Annual average rate	**69.5**
2023: Annual average rate	**66.6**
2024: Annual average rate	**65.2**
5 Year Average	**66.1**
Probability (%)	**75**

Consensus central scenario (2021-2025)

	2020
GDP growth rate (%)	
2021: Annual average growth rate	5.0
2022: Annual average growth rate	3.1
2023: Annual average growth rate	2.4
5 Year Average	2.9
Unemployment rate (%)	
2021: Annual average rate	7.9
2022: Annual average rate	6.8
2023: Annual average rate	6.5
5 Year Average	6.8
House price growth (%)	
2021: Annual average growth rate	2.1
2022: Annual average growth rate	2.0
2023: Annual average growth rate	3.1
5 Year Average	2.7
Brent oil prices (US$/barrel)	
2021: Annual average rate	44.3
2022: Annual average rate	45.7
2023: Annual average rate	47.0
5 Year Average	46.6
Probability (%)	70

The consensus upside scenario

Compared to the consensus central scenario, the consensus upside scenario features a faster recovery in economic activity during the first two years, before converging to long-run trend expectations.

The scenario is consistent with a number of key upside risk themes. These include the orderly and rapid global abatement of COVID-19 via successful containment and ongoing vaccine efficacy; de-escalation of tensions between the US and China; continued support from fiscal and monetary policy and smooth relations between the UK and the EU.

The following tables disclose key macroeconomic variables and the probabilities assigned in the consensus upside scenario.

Consensus upside scenario best outcome[1]

	2021	2020
GDP growth rate (%)	**9.1 (3Q22)**	15.8 (2Q21)
Unemployment (%)	**5.0 (2Q23)**	5.3 (3Q22)
House price growth (%)	**16.0 (4Q22)**	5.2 (1Q21)
Brent oil prices (US$/barrel)	**101.8 (2Q22)**	81.0 (4Q21)
Probability (%)	**10**	10

1. *Extreme point in the consensus upside is 'best outcome' in the scenario, for example the highest GDP growth and the lowest unemployment rate, in the first two years of the scenario.*

The consensus downside scenario

The progress of the pandemic continues to be a key source of risk. Consensus downside scenario assumes that new strains of the virus result in an acceleration in infection rates and increased pressure on public health services, necessitating restrictions on activity. The re-imposition of such restrictions could be assumed to have damaging effects on consumer and business confidence.

Government fiscal programs in 2020 and 2021 were supported by accommodative actions taken by the central bank. These measures have provided households and firms with significant support. An inability or unwillingness to continue with such support or the untimely withdrawal of support present a downside risk to growth.

While COVID-19 and related risks dominate the economic outlook, geopolitical risks also present a threat. These risks include:

- Continued long-term differences between the US and China, which could affect sentiment and restrict global economic activity.
- The re-emergence of social unrest in Hong Kong, despite the passage of the national security law in 2020.
- The Trade and Cooperation Agreement between the UK and EU averted a disorderly UK departure from the EU, but the risk of future disagreements remains, which may hinder the ability to reach a more comprehensive agreement on trade and services.

In the consensus downside scenario, economic recovery is considerably weaker compared to the central scenario. GDP growth is lower, unemployment rates rise moderately and asset and commodity prices fall, before gradually recovering towards their long-run trend expectations. Depressed oil prices and fall in auto and aerospace demand hit Canadian exports hard.

The scenario is consistent with the key downside risks articulated above. Further outbreaks of COVID-19, coupled with delays in vaccination programs, lead to longer-lasting restrictions on economic activity in this scenario. Other global risks also increase and drive increased risk-aversion in asset markets.

The following tables provide key macroeconomic variables and the probabilities assigned in the consensus downside scenario.

Consensus downside scenario worst outcome[1]

	2021	2020
GDP growth rate (%)	**(0.5) (4Q22)**	(3.6) (1Q21)
Unemployment (%)	**7.3 (3Q22)**	9.2 (1Q21)
House price growth (%)	**(2.3) (4Q22)**	(1.3) (1Q22)
Brent oil prices (US$/barrel)	**34.9 (4Q22)**	26.3 (4Q21)
Probability (%)	**10**	10

1. *Extreme point in the consensus downside is 'worst outcome' in the scenario, for example lowest GDP growth and the highest unemployment rate, in the first two years of the scenario.*

Downside 2 scenario

The downside 2 scenario features a deep global recession. In this scenario, new COVID variants emerge that cause infections to rise sharply in 2022, resulting in setbacks to vaccine programs and the rapid imposition of travel restrictions and lockdowns. The scenario also assumes government and central bank are unable to significantly increase fiscal and monetary support, which results in abrupt corrections in labour and asset markets.

The following table discloses key macroeconomic variables and the probabilities assigned in the downside 2 scenario.

Downside 2 scenario worst outcome[1]

	2021	2020
GDP growth rate (%)	**(13.9) (4Q22)**	(5.0) (1Q21)
Unemployment (%)	**11.5 (2Q23)**	11.3 (1Q21)
House price growth (%)	**(23.8) (1Q23)**	(10.4) (4Q21)
Brent oil prices (US$/barrel)	**26.4 (1Q23)**	17.3 (1Q22)
Probability (%)	**5**	10

1. *Extreme point in the downside 2 is 'worst outcome' in the scenario, for example lowest GDP growth and the highest unemployment rate, in the first two years of the scenario.*

Critical accounting estimates and judgments

The calculation of ECL under IFRS 9 involves significant judgements, assumptions and estimates. Despite a general recovery in economic conditions during 2021, the level of estimation uncertainty and judgement has remained high during 2021 as a result of the ongoing economic effects of the COVID-19 pandemic and other sources of economic instability, including significant judgements relating to:

- the selection and weighting of economic scenarios, given rapidly changing economic conditions in an unprecedented manner, uncertainty as to the effect of government and central bank support measures designed to alleviate adverse economic impacts, and a wider distribution of economic forecasts than before the pandemic. The key judgements are the length of time over which the economic effects of the pandemic will occur, and the speed and shape of recovery. The main factors include the effectiveness of pandemic containment measures, the pace of roll-out and effectiveness of vaccines, and the emergence of new variants of the virus, plus a range of geopolitical uncertainties, which together represent a high degree of estimation uncertainty, particularly in assessing downside scenarios;
- estimating the economic effects of those scenarios on ECL, where there is no observable historical trend that can be reflected in the models that will accurately represent the effects of the economic changes of the severity and speed brought about by the COVID-19 pandemic and the recovery from those conditions. Modelled assumptions and linkages between economic factors and credit losses may underestimate or overestimate ECL in these conditions, and there is significant uncertainty in the estimation of parameters such as collateral values and loss severity; and
- the identification of customers experiencing significant increases in credit risk and credit impairment, particularly where those customers have accepted payment deferrals and other reliefs designed to address short-term liquidity issues given muted default experience to date. The use of segmentation techniques for indicators of significant increases in credit risk involves significant estimation uncertainty.

How economic scenarios are reflected in the wholesale lending calculation of ECL

The bank has developed a 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 personal lending calculation of ECL

The bank has developed a methodology for incorporating forecasts of economic conditions into ECL estimates. The impact of economic scenarios on 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 these scenarios on PD is modelled over a period equal to the remaining maturity of underlying asset or assets. The impact on LGD is modelled for mortgage portfolios by forecasting future loan-to-value ('LTV') profiles for the remaining maturity of the asset by using forecasts of the house price index and applying the corresponding LGD expectation.

Management judgemental adjustments

In the context of IFRS 9, management judgemental adjustments are short-term increases or decreases to the ECL at either a customer or portfolio level to account for late breaking events, model deficiencies and expert credit judgement applied following management review and challenge.

At 31 December 2021, management judgements were applied to reflect credit risk dynamics not captured by our models. The drivers of the management judgemental adjustments reflect the changing economic outlook and evolving risks.

Where the macroeconomic and portfolio risk outlook continues to improve, supported by low levels of observed defaults, adjustments initially taken to reflect increased risk expectations have been retired or reduced.

However, other adjustments have increased where modelled outcomes are overly sensitive and not aligned to observed changes in the risk of the underlying portfolios during the pandemic, or where sector-specific risks are not adequately captured.

We have internal governance in place to monitor management judgemental adjustments regularly and, where possible, to reduce the reliance on these through model recalibration or redevelopment, as appropriate.

Management judgemental adjustments made in estimating the reported ECL are set out in the following table. The table includes adjustments in relation to data and model limitations, including those driven by late-breaking events and sector specific risks and as a result of the model development and implementation. It shows the adjustments applicable to the scenario-weighted ECL numbers.

Management judgemental adjustments to ECL[1]

	Personal	Wholesale	Total
Expert credit and model adjustments	**32**	**122**	**154**
Adjustments for FEG and late breaking events	**21**	**–**	**21**
At 31 Dec 2021	**53**	**122**	**175**
Expert credit and model adjustments	28	30	58
Adjustments for FEG and late breaking events	26	16	42
At 31 Dec 2020	54	46	100

1. *Management judgemental adjustments presented in the table reflect increases to ECL.*

Adjustments of ECL to wholesale exposures increased at 31 December 2021 compared to 31 December 2020. These principally reflected the outcome of management judgements for high-risk and vulnerable sectors, supported by credit experts' input, portfolio risk metrics, quantitative analyses and benchmarks. Considerations include risk of individual exposures under different macroeconomic scenarios and comparison of key risk metrics to pre-pandemic levels, resulting in increases to ECL. The increase in adjustment impact relative to 31 December 2020 was mostly driven by management judgements as a result of the effect of further improvement of macroeconomic scenarios which because of the historically unprecedented volatility in economic data over the pandemic period led to increased dislocation of modelled outcomes as compared to management expectations for high-risk sectors which were not fully reflected in the underlying data.

Where management identifies the potential need for ECL adjustments, management applies the ECL adjustments according to the stage distribution of the exposures. In addition, to the extent that the adjustments are driven by or attributable to changes in the assessment of credit risk, management process incorporates consideration of the appropriate staging either on an individual loan by loan level to the extent possible or at industry segment levels where necessary.

When we apply these management judgemental adjustments, we assess whether a significant change in credit risk has occurred. In such instances on an individual or portfolio basis where a significant change in credit risk has been identified, we have migrated the related exposures between stages 1 and 2 based on whether the change is positive or negative from the model. The corresponding ECL adjustment is based on the stage distribution of the portfolio with stage 1 exposures measured on a 12-month ECL and stage 2 exposures measured on a lifetime ECL basis.

Economic scenarios sensitivity analysis of ECL estimates

Management considered the sensitivity of the ECL outcome against the economic forecasts 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 ECL calculated for the upside and downside scenarios should not be taken to represent the upper and lower limits of possible actual ECL outcomes. The impact of defaults that might occur in the future under different economic scenarios is captured by recalculating ECL for loans in stages 1 and 2 at the balance sheet date. The population of stage 3 loans (in default) at the balance sheet date is unchanged in these sensitivity calculations. Stage 3 ECL would only be sensitive to changes in forecasts of future economic conditions if the LGD of a particular portfolio was sensitive to these changes.

For wholesale credit risk exposures, the sensitivity analysis excludes ECL and financial instruments related to defaulted obligors because the measurement of ECL is relatively more sensitive to credit factors specific to the obligor than future economic scenarios, and it is impracticable to separate the effect of macroeconomic factors in individual assessments.

For retail credit risk exposures, the sensitivity analysis includes ECL for loans and advances to customers related to defaulted obligors. This is because the retail ECL for secured mortgage portfolios including loans in all stages is sensitive to macroeconomic variables.

Wholesale portfolio 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 of financial instruments subject to significant measurement uncertainty at 31 December[2]

	2021	2020
	$m	$m
Reported ECL	**192**	252
Consensus central scenario	**125**	195
Consensus upside scenario	**78**	115
Consensus downside scenario	**192**	347
Downside 2 scenario	**1,431**	715
Gross carrying amount/nominal amount[3]	**109,335**	111,095

1. *Excludes ECL and financial instruments relating to defaulted obligors because the measurement of ECL is relatively more sensitive to credit factors specific to the obligor than future economic scenarios.*
2. *Includes off-balance sheet financial instruments that are subject to significant measurement uncertainty.*
3. *Includes low credit-risk financial instruments such as debt instruments at FVOCI, which have high carrying amounts but low ECL under all the above scenarios.*

Retail portfolio analysis

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

IFRS 9 ECL sensitivity to future economic conditions[1]

ECL of loans and advances to customers at 31 December[2]

	2021	2020
	$m	$m
Reported ECL	**71**	78
Consensus central scenario	**69**	76
Consensus upside scenario	**66**	72
Consensus downside scenario	**74**	81
Downside 2 scenario	**112**	92
Gross carrying amount	**35,440**	31,154

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

		2021				2020			
		Non-credit impaired		Credit-impaired		Non-credit impaired		Credit-impaired	
		Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	Footnote	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan		**56**	**249**	**148**	**453**	47	101	118	266
Transfers of financial instruments:	2	**123**	**(126)**	**3**	**—**	68	(98)	30	—
– transfers from stage 1 to stage 2		**(11)**	**11**	**—**	**—**	(35)	35	—	—
– transfers from stage 2 to stage 1		**133**	**(133)**	**—**	**—**	101	(101)	—	—
– transfers to stage 3		**—**	**(10)**	**10**	**—**	—	(35)	35	—
– transfers from stage 3		**1**	**6**	**(7)**	**—**	2	3	(5)	—
Net remeasurement of ECL arising from transfer of stage	2	**(56)**	**12**	**—**	**(44)**	(53)	66	—	13
New financial assets originated or purchased		**18**	**—**	**—**	**18**	13	—	—	13
Changes to risk parameters		**(60)**	**45**	**43**	**28**	(14)	193	127	306
Asset derecognized (including final repayments)		**(3)**	**(17)**	**(6)**	**(26)**	(4)	(9)	(7)	(20)
Assets written off		**—**	**—**	**(60)**	**(60)**	—	—	(118)	(118)
Foreign exchange		**—**	**—**	**—**	**—**	(1)	(4)	(2)	(7)
At 31 Dec		**78**	**163**	**128**	**369**	56	249	148	453
ECL income statement change for the period		**(101)**	**40**	**37**	**(24)**	(58)	250	120	312
Recoveries		**—**	**—**	**(7)**	**(7)**	—	—	(12)	(12)
Total ECL income statement change for the period		**(101)**	**40**	**30**	**(31)**	(58)	250	108	300

1. Excludes performance guarantee contracts.
2. Transfers of financial instruments represent stage movements of prior period ECL allowances to the current period stage classification. Net remeasurement line represents the current period change in ECL allowances for transfers, without considering changes to credit or other risk parameters.

	At	Year ended	At	Year ended
	31 December 2021	31 December 2021	31 December 2020	31 December 2020
	Allowance for ECL/ Other credit loss provisions	ECL charge	Allowance for ECL/ Other credit loss provisions	ECL charge
	$m	$m	$m	$m
As above	**369**	**(31)**	453	300
Other financial assets measured at amortized cost	**28**	**(12)**	41	21
Performance guarantee contracts	**8**	**(1)**	10	6
Debt instruments measured at FVOCI	**—**	**(1)**	1	—
Total allowance for ECL / Total income statement ECL (release)/charge for the period	**405**	**(45)**	505	327

Credit quality of financial instruments*

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 ('PD') 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 personal lending businesses and the external ratings attributed by external agencies to debt securities.

The information on credit quality classifications is provided on page 40.

Distribution of financial instruments by credit quality and stage allocation*

	Gross carrying/notional amount						Allowance for ECL/ other credit loss provisions	Net
	Strong	Good	Satisfactory	Sub-standard	Credit-impaired	Total		
	$m	$m	$m	$m	$m	$m	$m	$m
In-scope for IFRS 9								
Debt instruments at fair value through other comprehensive income[1]	**14,962**	**—**	**—**	**—**	**—**	**14,962**	**—**	**14,962**
– stage 1	**14,962**	**—**	**—**	**—**	**—**	**14,962**	**—**	**14,962**
– stage 2	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
– stage 3	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Loans and advances to customers at amortized cost	**35,475**	**17,915**	**13,937**	**1,364**	**342**	**69,033**	**(334)**	**68,699**
– stage 1	**35,300**	**16,653**	**10,321**	**219**	**—**	**62,493**	**(62)**	**62,431**
– stage 2	**175**	**1,262**	**3,616**	**1,145**	**—**	**6,198**	**(145)**	**6,053**
– stage 3	**—**	**—**	**—**	**—**	**342**	**342**	**(127)**	**215**
Loans and advances to banks at amortized cost	**1,659**	**—**	**—**	**—**	**—**	**1,659**	**—**	**1,659**
– stage 1	**1,659**	**—**	**—**	**—**	**—**	**1,659**	**—**	**1,659**
– stage 2	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
– stage 3	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Other financial assets at amortized cost	**23,733**	**2,513**	**1,776**	**92**	**20**	**28,134**	**(28)**	**28,106**
– stage 1	**23,732**	**2,480**	**1,550**	**6**	**—**	**27,768**	**(3)**	**27,765**
– stage 2	**1**	**33**	**226**	**86**	**—**	**346**	**(5)**	**341**
– stage 3	**—**	**—**	**—**	**—**	**20**	**20**	**(20)**	**—**
Out-of-scope for IFRS 9								
Trading assets	**2,833**	**74**	**—**	**—**	**—**	**2,907**	**—**	**2,907**
Other financial assets mandatorily measured at fair value through profit or loss	**18**	**—**	**—**	**—**	**—**	**18**	**—**	**18**
Derivatives	**2,522**	**175**	**73**	**3**	**—**	**2,773**	**—**	**2,773**
Total gross carrying amount on-balance sheet	**81,202**	**20,677**	**15,786**	**1,459**	**362**	**119,486**	**(362)**	**119,124**
Percentage of total credit quality	**68.0 %**	**17.3 %**	**13.2 %**	**1.2 %**	**0.3 %**	**100.0 %**		
Loan and other credit-related commitments	**17,597**	**19,251**	**8,994**	**836**	**59**	**46,737**	**(31)**	**46,706**
– stage 1	**17,083**	**18,326**	**6,891**	**103**	**—**	**42,403**	**(15)**	**42,388**
– stage 2	**514**	**925**	**2,103**	**733**	**—**	**4,275**	**(16)**	**4,259**
– stage 3	**—**	**—**	**—**	**—**	**59**	**59**	**—**	**59**
Financial guarantees	**1,113**	**497**	**245**	**73**	**21**	**1,949**	**(4)**	**1,945**
– stage 1	**1,113**	**488**	**235**	**12**	**—**	**1,848**	**(1)**	**1,847**
– stage 2	**—**	**9**	**10**	**61**	**—**	**80**	**(2)**	**78**
– stage 3	**—**	**—**	**—**	**—**	**21**	**21**	**(1)**	**20**
In-scope: Loan and other credit-related commitments and financial guarantees	**18,710**	**19,748**	**9,239**	**909**	**80**	**48,686**	**(35)**	**48,651**
Out-of-scope: Performance guarantee contracts	**1,818**	**951**	**997**	**88**	**9**	**3,863**	**(8)**	**3,855**
At 31 Dec 2021	**101,730**	**41,376**	**26,022**	**2,456**	**451**	**172,035**	**(405)**	**171,630**

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.*

Distribution of financial instruments by credit quality and stage allocation (continued)*

	Gross carrying/notional amount						Allowance for ECL/other credit loss provisions	Net
	Strong	Good	Satisfactory	Sub-standard	Credit-impaired	Total		
	$m	$m	$m	$m	$m	$m	$m	$m
In-scope for IFRS 9								
Debt instruments at fair value through other comprehensive income[1]	19,325	—	—	—	—	19,325	(1)	19,324
– stage 1	19,325	—	—	—	—	19,325	(1)	19,324
– stage 2	—	—	—	—	—	—	—	—
– stage 3	—	—	—	—	—	—	—	—
Loans and advances to customers at amortized cost	29,753	14,679	14,357	2,145	476	61,410	(408)	61,002
– stage 1	29,590	12,284	7,624	144	—	49,642	(45)	49,597
– stage 2	163	2,395	6,733	2,001	—	11,292	(215)	11,077
– stage 3	—	—	—	—	476	476	(148)	328
Loans and advances to banks at amortized cost	1,270	—	—	—	—	1,270	—	1,270
– stage 1	1,270	—	—	—	—	1,270	—	1,270
– stage 2	—	—	—	—	—	—	—	—
– stage 3	—	—	—	—	—	—	—	—
Other financial assets at amortized cost	23,143	2,231	1,894	153	22	27,443	(41)	27,402
– stage 1	23,107	2,004	1,412	13	—	26,536	(3)	26,533
– stage 2	36	227	482	140	—	885	(16)	869
– stage 3	—	—	—	—	22	22	(22)	—
Out-of-scope for IFRS 9								
Trading assets	1,712	7	—	—	—	1,719	—	1,719
Other financial assets mandatorily measured at fair value through profit or loss	9	—	—	—	—	9	—	9
Derivatives	4,981	268	187	11	—	5,447	—	5,447
Total gross carrying amount on-balance sheet	80,193	17,185	16,438	2,309	498	116,623	(450)	116,173
Percentage of total credit quality	68.8 %	14.7 %	14.1 %	2.0 %	0.4 %	100.0 %		
Loan and other credit-related commitments	16,325	16,224	10,436	1,296	145	44,426	(42)	44,384
– stage 1	15,554	13,773	5,861	74	—	35,262	(10)	35,252
– stage 2	771	2,451	4,575	1,222	—	9,019	(32)	8,987
– stage 3	—	—	—	—	145	145	—	145
Financial guarantees	1,163	477	264	79	2	1,985	(3)	1,982
– stage 1	1,163	469	192	10	—	1,834	(1)	1,833
– stage 2	—	8	72	69	—	149	(2)	147
– stage 3	—	—	—	—	2	2	—	2
In-scope: Loan and other credit-related commitments and financial guarantees	17,488	16,701	10,700	1,375	147	46,411	(45)	46,366
Out-of-scope: Performance guarantee contracts	1,661	981	1,043	116	11	3,812	(10)	3,802
31 December 2020	99,342	34,867	28,181	3,800	656	166,846	(505)	166,341

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.*

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 $770m at 31 December 2021 (2020: $759m). At 31 December 2021, the aggregate approved facilities from large customers was $38,972m (2020: $26,805m), an average of $1,771m (2020: $1,117m) 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

Wholesale loans are money lent to sovereign borrowers, banks, non-bank financial institutions and corporate entities.

This section provides further detail on the industries driving the movement in wholesale loans and advances to customers. Additionally, it provides a reconciliation of the opening 1 January 2021 allowance for ECL to the 31 December 2021 balance.

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

		2021		2020	
		Gross carrying amount	**Allowance for ECL**	Gross carrying amount	Allowance for ECL
		Total	**Total**	Total	Total
	Footnote	**$m**	**$m**	$m	$m
Corporate and commercial					
– agriculture, forestry and fishing		**646**	**(3)**	474	(6)
– mining and quarrying	1	**1,211**	**(69)**	1,464	(95)
– manufacturing		**5,406**	**(31)**	4,448	(43)
– electricity, gas, steam and air-conditioning supply		**250**	**(19)**	355	(1)
– water supply, sewerage, waste management and remediation		**118**	**(1)**	115	—
– construction		**869**	**(12)**	864	(11)
– wholesale and retail trade, repair of motor vehicles and motorcycles		**6,024**	**(27)**	4,663	(39)
– aviation, transportation and storage		**2,860**	**(29)**	2,723	(21)
– accommodation and food		**1,485**	**(26)**	1,375	(28)
– publishing, audiovisual and broadcasting		**775**	**(1)**	891	(6)
– real estate		**9,692**	**(19)**	8,454	(34)
– professional, scientific and technical activities		**725**	**(1)**	1,028	(5)
– administrative and support services		**837**	**(9)**	770	(20)
– education		**39**	**—**	148	—
– health and care		**259**	**—**	219	—
– arts, entertainment and recreation		**285**	**(2)**	298	(1)
– other services		**220**	**(2)**	133	—
– government		**32**	**—**	25	—
– non-bank financial institutions		**1,959**	**(8)**	1,832	(11)
At 31 Dec		**33,692**	**(259)**	30,279	(321)
By geography	2				
Canada		**31,569**	**(235)**	28,435	(304)
– British Columbia		**9,323**	**(31)**	8,819	(56)
– Ontario		**12,077**	**(78)**	10,247	(88)
– Alberta		**4,783**	**(91)**	4,820	(115)
– Quebec		**3,656**	**(18)**	3,247	(29)
– Saskatchewan and Manitoba		**1,153**	**(16)**	904	(13)
– Atlantic provinces		**577**	**(1)**	398	(3)
United States of America		**1,103**	**(6)**	1,119	(8)
Other		**1,020**	**(18)**	725	(9)
At 31 Dec		**33,692**	**(259)**	30,279	(321)

1. *Mining and quarrying includes energy related exposures which constitute approximately 86% of the gross carrying amount and 96% of the allowance for ECL at 31 December 2021 (31 December 2020: Gross carrying amount was 86% and allowance for ECL was 92%).*
2. *Provincial geographic distribution is based on the address of originating branch and foreign geographic distribution is based on the country of incorporation.*

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

	Footnote	2021				2020			
		Non-credit impaired		Credit-impaired		Non-credit impaired		Credit-impaired	
		Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
		Allowance for ECL	Allowance for ECL	Allowance for ECL	Allowance for ECL	Allowance for ECL	Allowance for ECL	Allowance for ECL	Allowance for ECL
		$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan		**40**	**196**	**129**	**365**	32	70	103	205
Transfers of financial instruments:	2	**73**	**(73)**	**—**	**—**	36	(64)	28	—
– transfers from stage 1 to stage 2		**(9)**	**9**	**—**	**—**	(31)	31	—	—
– transfers from stage 2 to stage 1		**81**	**(81)**	**—**	**—**	66	(66)	—	—
– transfers to stage 3		**—**	**(1)**	**1**	**—**	—	(29)	29	—
– transfers from stage 3		**1**	**—**	**(1)**	**—**	1	—	(1)	—
Net remeasurement of ECL arising from transfer of stage	2	**(36)**	**7**	**—**	**(29)**	(33)	57	—	24
New financial assets originated or purchased		**15**	**—**	**—**	**15**	9	—	—	9
Changes to risk parameters		**(24)**	**(5)**	**29**	**—**	(2)	140	108	246
Asset derecognized (including final repayments)		**(1)**	**(6)**	**(4)**	**(11)**	(1)	(3)	(4)	(8)
Assets written off		**—**	**—**	**(48)**	**(48)**	—	—	(104)	(104)
Foreign exchange		**—**	**—**	**—**	**—**	(1)	(4)	(2)	(7)
At 31 Dec		**67**	**119**	**106**	**292**	40	196	129	365
ECL income statement change for the period		**(46)**	**(4)**	**25**	**(25)**	(27)	194	104	271
Recoveries		**—**	**—**	**(1)**	**(1)**	—	—	(2)	(2)
Total ECL income statement change for the period		**(46)**	**(4)**	**24**	**(26)**	(27)	194	102	269

1. *Excludes performance guarantee contracts.*
2. *Transfers of financial instruments represent stage movements of prior period ECL allowances to the current period stage classification. Net remeasurement line represents the current period change in ECL allowances for transfers, without considering changes to credit or other risk parameters.*

The wholesale allowance for ECL decreased by $73m or 20% as compared to 31 December 2020, and the wholesale lending change in ECL for the year ended 31 December 2021 resulted in an income statement release of $26m. This release for the year was driven by improvement in the forward-looking macro-economic variables related to performing loans, partly offset by impairment charges from a performing aviation loan and two non-performing energy loans.

The ECL release for the year ended 31 December 2021 of $26m presented in the above table consisted of $29m release relating to the net remeasurement impact of stage transfers, partly offset by a charge of $4m relating to underlying net volume movement. There were $1m recoveries during the year.

The total ECL coverage for loans and advances to customers for corporate and commercial at 31 December 2021 was 0.8%, a decrease of 0.3% as compared to 31 December 2020.

Personal lending

Personal loans are money lent to individuals rather than institutions. This includes both secured and unsecured loans such as mortgages and credit card balances.

This section presents further disclosures related to personal lending. Additionally, it provides a reconciliation of the opening 1 January 2021 to 31 December 2021 closing allowance for ECL.

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

	Footnote	2021 Gross carrying amount $m	2021 Allowance for ECL $m	2020 Gross carrying amount $m	2020 Allowance for ECL $m
Residential mortgages		**32,406**	**(36)**	28,129	(42)
Home equity lines of credit		**1,404**	**(8)**	1,550	(5)
Personal revolving loan facilities		**471**	**(11)**	533	(16)
Other personal loan facilities		**673**	**(4)**	543	(5)
Retail card		**354**	**(12)**	331	(13)
Run-off consumer loan portfolio		**33**	**(4)**	45	(6)
At 31 Dec		**35,341**	**(75)**	31,131	(87)
By geography	1				
Canada		**35,147**	**(73)**	30,947	(85)
– British Columbia		**16,989**	**(31)**	15,220	(36)
– Ontario		**14,174**	**(25)**	12,018	(29)
– Alberta		**1,801**	**(8)**	1,747	(9)
– Quebec		**1,566**	**(4)**	1,374	(5)
– Saskatchewan and Manitoba		**349**	**(2)**	338	(2)
– Atlantic provinces		**260**	**(3)**	243	(4)
– Territories		**8**	**—**	7	—
Other		**194**	**(2)**	184	(2)
At 31 Dec		**35,341**	**(75)**	31,131	(87)

1. *Geographic distribution is based on the customer address.*

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

	Footnote	2021 Non-credit impaired Stage 1 $m	2021 Non-credit impaired Stage 2 $m	2021 Credit-impaired Stage 3 $m	2021 Total $m	2020 Non-credit impaired Stage 1 $m	2020 Non-credit impaired Stage 2 $m	2020 Credit-impaired Stage 3 $m	2020 Total $m
At 1 Jan		**16**	**53**	**19**	**88**	15	31	15	61
Transfers of financial instruments:	2	**50**	**(53)**	**3**	**—**	32	(34)	2	—
– transfers from stage 1 to stage 2		**(2)**	**2**	**—**	**—**	(4)	4	—	—
– transfers from stage 2 to stage 1		**52**	**(52)**	**—**	**—**	35	(35)	—	—
– transfers to stage 3		**—**	**(9)**	**9**	**—**	—	(6)	6	—
– transfers from stage 3		**—**	**6**	**(6)**	**—**	1	3	(4)	—
Net remeasurement of ECL arising from transfer of stage	2	**(20)**	**5**	**—**	**(15)**	(20)	9	—	(11)
New financial assets originated or purchased		**3**	**—**	**—**	**3**	4	—	—	4
Changes to risk parameters		**(36)**	**50**	**14**	**28**	(12)	53	19	60
Asset derecognized (including final repayments)		**(2)**	**(11)**	**(2)**	**(15)**	(3)	(6)	(3)	(12)
Assets written off		**—**	**—**	**(12)**	**(12)**	—	—	(14)	(14)
At 31 Dec		**11**	**44**	**22**	**77**	16	53	19	88
ECL income statement change for the period		**(55)**	**44**	**12**	**1**	(31)	56	16	41
Recoveries		**—**	**—**	**(6)**	**(6)**	—	—	(10)	(10)
Total ECL income statement change for the period		**(55)**	**44**	**6**	**(5)**	(31)	56	6	31

1. *Excludes performance guarantee contracts.*
2. *Transfers of financial instruments represent stage movements of prior period ECL allowances to the current period stage classification. Net remeasurement line represents the current period change in ECL allowances for transfers, without considering changes to credit or other risk parameters.*

The personal lending allowance for ECL decreased by $11m or 13% during 2021. The ECL release for the year ended of $5m presented in the above table consisted of $15m release relating to the net remeasurement impact of stage transfers and $12m release relating to underlying net volume movement, offset by a charge of $28m relating to underlying risk parameter changes, including the credit quality impact of financial instruments transferred between stages. There were recoveries of $6m during the year.

The write-offs were from retail card, revolving loan facilities and residential mortgages.

We have evaluated the potential impact from the flooding events that occurred in British Columbia and have not identified any consequential impact on the personal lending portfolio. We are monitoring the situation to offer appropriate support to our affected customers.

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, 5]

	Year ended						
	Residential mortgages[6]					HELOC[2, 6]	
	Insured[3]		Uninsured[3]		Total	Uninsured	
	$m	%	$m	%	$m	$m	%
British Columbia	**1,520**	**10 %**	**13,184**	**90 %**	**14,704**	**688**	**100 %**
Western Canada[4]	**868**	**46 %**	**1,008**	**54 %**	**1,876**	**152**	**100 %**
Ontario	**2,700**	**18 %**	**12,261**	**82 %**	**14,961**	**517**	**100 %**
Quebec and Atlantic provinces	**740**	**44 %**	**950**	**56 %**	**1,690**	**67**	**100 %**
At 31 Dec 2021	**5,828**	**18 %**	**27,403**	**82 %**	**33,231**	**1,424**	**100 %**
British Columbia	1,252	9 %	12,528	91 %	13,780	763	100 %
Western Canada[4]	698	41 %	1,016	59 %	1,714	170	100 %
Ontario	2,094	18 %	9,743	82 %	11,837	555	100 %
Quebec and Atlantic provinces	557	38 %	910	62 %	1,467	70	100 %
At 31 Dec 2020	4,601	16 %	24,197	84 %	28,798	1,558	100 %

1. *Geographic distribution is based on the property location.*
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.*
5. *Residential mortgages and HELOC include Wholesale lending and Personal lending exposures.*
6. *Certain prior year amounts have been reclassified to conform to the current year presentation.*

Amortization period[1]

	Year ended		
	Residential mortgages		
	≤ 20 years	> 20 years ≤ 25 years	> 25 years ≤ 30 years
At 31 Dec 2021	**17.5 %**	**62.4 %**	**20.1 %**
At 31 Dec 2020	20.1 %	56.0 %	23.9 %

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	**61.2 %**	**53.9 %**
Western Canada[4]	**66.9 %**	**65.7 %**
Ontario	**63.8 %**	**59.0 %**
Quebec and Atlantic provinces	**64.7 %**	**59.2 %**
Total Canada for the three months ended 31 Dec 2021	**63.2 %**	**57.8 %**
Total Canada for the three months ended 31 Dec 2020	62.8 %	57.5 %

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 personal lending 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 composition of the portfolio, the low Loan-to-Value in the portfolio and risk mitigation strategies in place.

Credit-impaired loans*

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*

	Footnotes	2021 Gross carrying amount $m	2021 Allowance for ECL $m	2020 Gross carrying amount $m	2020 Allowance for ECL $m
Corporate and commercial		**212**	**(105)**	374	(129)
– agriculture, forestry and fishing		**3**	**(1)**	6	(4)
– mining and quarrying	1	**108**	**(42)**	137	(56)
– manufacture		**25**	**(13)**	119	(16)
– electricity, gas, steam and air-conditioning supply		**20**	**(19)**	—	—
– construction		**9**	**(7)**	10	(4)
– wholesale and retail trade, repair of motor vehicles and motorcycles		**35**	**(14)**	53	(19)
– aviation, transportation and storage		**4**	**(2)**	7	(6)
– accommodation and food		**1**	**(1)**	5	(4)
– publishing, audiovisual and broadcasting		**—**	**—**	12	(4)
– real estate		**1**	**(1)**	13	(5)
– administrative and support services		**4**	**(4)**	11	(10)
– non-bank financial institutions		**2**	**(1)**	1	(1)
Households	2	**130**	**(22)**	102	(19)
Loans and advances to banks		**—**	**—**	—	—
At 31 Dec		**342**	**(127)**	476	(148)

1. *Mining and quarrying includes energy related exposures which constitute approximately 99% of the gross carrying amount and 94% of the allowance for ECL at 31 December 2021 (31 December 2020: Gross carrying amount was 99% and allowance for ECL was 97%).*
2. *Households includes the personal lending portfolio.*

The decrease in allowance for ECL from credit-impaired loans during 2021 was primarily driven by the write-offs across various sectors, offset by an increase mainly in the energy sector.

Renegotiated loans

The gross carrying amount of renegotiated loans was $166m at 31 December 2021 (31 December 2020: $289m) and the allowance for ECL was $28m (31 December 2020: $30m).

Payment relief options

In response to COVID-19, we worked with our wholesale and personal customers who needed additional assistance to manage their working capital cycle, or supply chain and other risks, or who needed flexibility in managing their loans.

As at 31 December 2021, payment deferral periods for clients that participated in these programs have concluded, however, we have assessed and will continue to assess the needs of each individual client and continue to provide support to clients on a case by case basis. The majority of our clients that have exited these programs have returned to making regular payments on their loans following the expiry of their payment deferral periods.

We continue to monitor the recoverability of loans granted payment relief options subsequent to the relief options expiring and normal payment terms resuming. The ongoing performance of such loans remains an area of uncertainty at 31 December 2021.

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.

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.

For credit-impaired loans, the collateral values cannot be directly compared with impairment allowances recognized. The collateral figures are based on latest assessment performed of the collateral. Impairment allowances are calculated on a different basis, by considering other cash flows and adjusting collateral values for costs of realizing collateral.

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

	2021				2020			
	Gross carrying amount	**Allowance for ECL**	**Net carrying amount**	**Collateral**	Gross carrying amount	Allowance for ECL	Net carrying amount	Collateral
	$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Stage 3								
Corporate and commercial	**258**	**(105)**	**153**	**264**	503	(129)	374	699
Personal - Residential mortgages	**103**	**(10)**	**93**	**188**	73	(11)	62	139

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.

Treasury risk

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Overview

Treasury risk is the risk of having insufficient capital, liquidity or funding resources to meet financial obligations and satisfy regulatory requirements. Treasury risk also includes the risk to our earnings or capital due to changes in market interest rates.

Treasury risk arises from changes to the respective resources and risk profiles driven by customer behaviour, management decisions or the external environment.

Approach and policy

Our objective in the management of treasury risk is to maintain appropriate levels of capital, liquidity, funding, foreign exchange and market risk to support our business strategy, and meet our regulatory and stress testing-related requirements.

Our approach to treasury management is driven by our strategic and organizational requirements, taking into account the regulatory, economic and commercial environment. We aim to maintain a strong capital and liquidity base to support the risks inherent in our business and invest in accordance with our strategy, meeting both consolidated and local regulatory requirements at all times.

Our policy is underpinned by our risk management framework, our internal capital adequacy assessment process ('ICAAP') and our internal liquidity adequacy assessment process ('ILAAP'). The risk framework incorporates a number of measures aligned to our assessment of risks for both internal and regulatory purposes.

The ICAAP and ILAAP provide an assessment of the bank's capital and liquidity adequacy with consideration of the bank's risk metrics, business model, strategy, performance and planning, risks to capital, and the implications of stress testing to capital and liquidity.

Treasury risk management

Governance and structure

The ARC is responsible for defining the bank's risk appetite within the bank's management framework. The ARC also reviews and recommends the approval of the bank's treasury risk policies and is responsible for its oversight.

The bank's Asset and Liability Committee ('ALCO') is responsible for the implementation of policies and procedures to manage treasury risk including monitoring metrics against the bank's risk appetite. Its mandate is established by the ARC, and the bank's Executive Committee. ALCO supports the Chief Financial Officer's executive accountability for the treasury risks and is overseen by the Risk Management Meeting ('RMM').

The Chief Risk Officer is the executive risk steward and is individually accountable for second line decision making over Treasury Risk activities. Treasury Risk Management ('TRM') supports the risk steward in undertaking the individual's second line of defence responsibilities and the related decision-making process.

The ALCM team is responsible for the application of the treasury risk management framework. Markets Treasury has responsibility for cash and liquidity management in accordance with practices and limits approved by ALCO, RMM and the ARC.

TRM carries out independent review, challenge and assurance of the appropriateness of the risk management activities undertaken by ALCM and Markets Treasury. Their work includes setting policies, providing advice on policy implementation, and reviewing and challenging risk appetite, ICAAP, ILAAP and other treasury risk activities.

Internal Audit provides independent assurance that risk is managed effectively.

Capital, liquidity and funding risk management processes

Assessment and risk appetite

Our capital management policy is underpinned by a capital management framework and our ICAAP. The framework incorporates key capital risk appetites for common equity tier 1 capital ratio, Tier 1 capital ratio, total capital ratio and leverage ratio. The ICAAP is an assessment of the bank's capital position, outlining both regulatory and internal capital resources and requirements resulting from the bank's business model, strategy, risk profile and management, performance and planning, risks to capital, and the implications of stress testing. Our assessment of capital adequacy is driven by an assessment of risks. The ICAAP supports the determination of the capital risk appetite and target ratios, as well as enables the assessment and determination of regulatory capital requirements.

An appropriate funding and liquidity profile is managed through critical Board-level appetite measures including liquidity coverage ratio ('LCR'), net stable funding ratio ('NSFR') and the internal liquidity metric ('ILM'), which was implemented in January 2021 to supplement the LCR and NSFR metrics. The ILM is being used to monitor and manage liquidity risk via a low-point measure across a 270-day horizon, taking into account recovery capacity.

We aim to ensure that management has oversight of our liquidity and funding risks by maintaining comprehensive policies, metrics and controls. We aim to meet internal minimum requirements and any applicable regulatory requirements at all times. These requirements are assessed through the ILAAP, which ensures that the bank has robust strategies, policies, stress testing, processes and systems for the identification, measurement, management and monitoring of liquidity risk over an appropriate set of time horizons, including intra-day. The ILAAP informs the validation of risk tolerance and the setting of risk appetite and also assesses the bank's capability to manage liquidity and funding effectively.

Planning and performance

Capital and risk-weighted asset ('RWA') plans and funding and liquidity plan form part of the financial resource plan that is approved by the Board. Capital, RWAs and liquidity metrics are monitored and managed against the plan.

Risks to capital and liquidity

Outside the stress testing framework, other risks may be identified that have the potential to affect our RWAs, capital position and/or funding and liquidity profile. Downside and Upside scenarios are assessed against our capital and liquidity management objectives and mitigating actions are assigned as necessary. We closely monitor future regulatory changes, including the implementation of Basel III Reforms, which have been continuously evolving and we continue to evaluate the impact of these upon our capital and liquidity requirements.

Stress testing and recovery planning

The bank uses stress testing to evaluate the robustness of plans and risk portfolios, and to meet the requirements for stress testing set by the supervisor. Stress testing also informs the ICAAP and ILAAP and supports recovery planning. It is an important output used to evaluate how much capital and liquidity the bank requires in setting risk appetite for capital and liquidity risk. It is also used to re-evaluate business plans where analysis shows capital, liquidity and/or returns do not meet their target.

In addition to a range of internal stress tests, we are subject to supervisory stress testing. The results of regulatory stress testing and our internal stress tests are used when assessing our internal capital requirements through the ICAAP.

The bank has established recovery plan providing detailed actions that management would consider taking in a stress scenario should the positions deteriorate and threaten to breach risk appetite and regulatory minimum levels. The bank monitors the internal and external triggers that could threaten the capital, liquidity or funding positions. This is to help ensure that our capital and liquidity position can be recovered even in an extreme stress event.

Measurement of interest rate risk in the banking book processes

Assessment and risk appetite

We use a variety of cash and derivative instruments to manage our interest rate risk within prescribed Board-level appetite measures. 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 ALCM team uses a number of measures to monitor and control interest rate risk in the banking book, including: net interest income sensitivity and economic value of equity sensitivity.

Net interest income sensitivity (earnings at risk sensitivity)

A principal part of our management of non-traded interest rate risk is to monitor the sensitivity of expected net interest income ('NII') under varying interest rate scenarios (i.e. simulation modelling), through the earning at risk ('EaR') model, where all other economic variables are held constant. This monitoring is undertaken by ALCO, where both one-year and five-year NII sensitivities across a range of interest rate scenarios are forecasted.

Projected NII sensitivity figures represent the effect of pro forma movements in projected yield curves based on a static balance sheet size and structure. The exception to this is where the size of the balances or repricing is deemed interest rate sensitive. These sensitivity calculations do not incorporate actions that would be taken by Markets Treasury or in the business that originates the risk to mitigate the effect of interest rate movements.

The NII sensitivity calculations assume that interest rates of all maturities move by the same amount in the 'up-shock' scenario. The sensitivity calculations in the 'down-shock' scenario reflect no floors to the shocked market rates. However, customer product-specific interest rate floors are recognized where applicable.

Economic value of equity sensitivity

Economic value of equity ('EVE') represents the present value of the future banking book cash flows that could be distributed to equity providers under a managed run-off scenario. This equates to the current book value of equity plus the present value of future NII in this scenario. EVE can be used to assess the economic capital required to support interest rate risk in the banking book. An EVE sensitivity represents the expected movement in EVE due to pre-specified interest rate shocks, where all other economic variables are held constant. We monitor EVE sensitivities as a percentage of capital resources.

Liquidity and funding risk in 2021

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.

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 bank remained above regulatory minimum liquidity and funding levels throughout 2021.

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 2021, the bank was compliant with both requirements.

HBCA uses a wider set of measures to manage an appropriate funding and liquidity profile including the management of liquidity on a stand-alone basis with no implicit reliance on HSBC Group or central banks. Other measures include a depositor concentration limit, cumulative term funding concentration limits, an ILAAP, a minimum LCR requirement by currency, management and monitoring of intra-day liquidity, liquidity funds transfer pricing and forward-looking funding assessments.

The bank's LCR is summarized in the following table. For the quarter ended 31 December 2021, the bank's average LCR of 147% 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. During the year, the bank's liquidity levels continued to revert to pre-pandemic levels as excess liquidity raised during the initial stages of the pandemic continued to roll off. As a result of a decrease in liquid assets, compared to the previous year, the bank's average LCR decreased to 147% from 188%. Our liquid assets as at the end of 31 December 2021 decreased by $8.6bn from 31 December 2020 primarily due to an increase in customer loans and decrease in short term funding offset by an increase in customer deposits. The bank continues to closely monitor liquidity for changes in customers' needs as well as for any changes in the market driven by COVID-19.

OSFI liquidity coverage ratio[1]

	Average for the three months ended[1]	
	31 Dec 2021	31 Dec 2020
Total HQLA[2] ($m)	**30,999**	38,352
Total net cash outflows[2] ($m)	**21,126**	20,463
Liquidity coverage ratio (%)	**147**	188

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 the NSFR according to Basel Committee on Banking Supervision publication number 295, pending its implementation.

OSFI implemented the NSFR on 1 January 2020 for domestic systemically important banks ('D-SIBs') only. OSFI has announced for non D-SIBs, which include the bank, the NSFR implementation is effective in the second quarter of 2023. 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 Markets Treasury 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 Markets Treasury 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 Markets Treasury.

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. HQLA is substantially comprised of Level 1 assets such as cash, deposits with central banks and highly rated securities issued or guaranteed by governments, central banks and supranational entities.

Liquid assets[1]

	2021	2020
	$m	$m
Level 1	**28,182**	35,684
Level 2a	**1,949**	3,061
Level 2b	**50**	10
As at 31 Dec	**30,181**	38,755

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 (secured and unsecured) 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.

No reliance is placed on unsecured money market wholesale funding as a source of stable funding. Only wholesale funding with a residual term to maturity of one year or greater is counted towards the stable 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.

During the third quarter, the bank issued its first Euro denominated covered bond. The Euro issuance is listed on the London Stock Exchange and further diversifies the bank's sources of funding while also expanding the bank's investor base.

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 match 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 'Due not more than 1 month' 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.

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

	Footnote	Due not more than 1 month[2]	Due over 1 month but not more than 3 months[2]	Due over 3 months but not more than 1 year	Due over 1 year but not more than 5 years	Due over 5 years	Total
		$m	$m	$m	$m	$m	$m
Deposits by banks		**1,313**	**—**	**—**	**—**	**—**	**1,313**
Customer accounts		**62,721**	**2,206**	**7,820**	**923**	**—**	**73,670**
Repurchase agreements - non-trading		**7,706**	**—**	**341**	**—**	**—**	**8,047**
Trading liabilities		**3,598**	**—**	**—**	**—**	**—**	**3,598**
Derivatives		**2,827**	**63**	**5**	**1,190**	**—**	**4,085**
Debt securities in issue		**1,327**	**850**	**3,723**	**9,466**	**—**	**15,366**
Subordinated liabilities	1	**—**	**6**	**18**	**98**	**1,061**	**1,183**
Lease liabilities		**3**	**8**	**32**	**141**	**71**	**255**
Other financial liabilities		**3,784**	**1,478**	**686**	**1,451**	**—**	**7,399**
Total on-balance sheet financial liabilities		**83,279**	**4,611**	**12,625**	**13,269**	**1,132**	**114,916**
Loan and other credit-related commitments		**46,749**	**—**	**—**	**—**	**—**	**46,749**
Financial guarantees		**1,949**	**—**	**—**	**—**	**—**	**1,949**
At 31 Dec 2021		**131,977**	**4,611**	**12,625**	**13,269**	**1,132**	**163,614**
Proportion of cash flows payable in period		**81 %**	**3 %**	**7 %**	**8 %**	**1 %**	
Deposits by banks		1,139	—	—	—	—	1,139
Customer accounts		56,965	3,385	10,601	1,156	—	72,107
Repurchase agreements - non-trading		3,229	—	—	—	—	3,229
Trading liabilities		1,831	—	—	—	—	1,831
Derivatives		5,232	2	7	442	29	5,712
Debt securities in issue		1,910	1,837	4,059	10,295	36	18,137
Subordinated liabilities	1	—	6	18	96	1,084	1,204
Lease liabilities		4	7	33	128	61	233
Other financial liabilities		3,580	1,561	383	1,817	—	7,341
Total on-balance sheet financial liabilities		73,890	6,798	15,101	13,934	1,210	110,933
Loan and other credit-related commitments		44,442	—	—	—	—	44,442
Financial guarantees		1,985	—	—	—	—	1,985
At 31 Dec 2020		120,317	6,798	15,101	13,934	1,210	157,360
Proportion of cash flows payable in period		76 %	4 %	10 %	9 %	1 %	

1. *Excludes interest payable exceeding 15 years.*
2. *Maturity buckets have been changed in the current year and accordingly, prior year amounts have been reclassified to conform to the current year 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.

Capital risk in 2021

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

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 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 financial resource plan.

The bank remained within its required regulatory capital limits throughout 2021.

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 the 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%.

As part of the domestic implementation of the Basel III Reforms and subsequent to the public consultations in spring 2021, OSFI released the final capital, leverage and related disclosure guidelines for federally regulated deposit-taking institutions on 31 January 2022. The guidelines are for implementation in the second quarter of 2023, with the exception of market risk and credit valuation adjustment risk to be implemented in early 2024.

Regulatory capital

Total regulatory capital

		Year ended	
	Footnotes	**31 Dec 2021**	31 Dec 2020
		$m	$m
Gross common equity	1	**5,776**	5,782
Regulatory adjustments		**(186)**	(308)
Common equity tier 1 capital	2	**5,590**	5,474
Additional tier 1 eligible capital	3	**1,100**	1,100
Tier 1 capital		**6,690**	6,574
Tier 2 capital	2, 4	**1,014**	1,015
Total capital		**7,704**	7,589

1. *Includes common share capital, retained earnings and accumulated other comprehensive income.*
2. *As part of the new transitional arrangements, effective 31 March 2020, a portion of allowances that would otherwise be included in tier 2 capital has instead been included in common equity tier 1 ('CET 1') capital. The impact is $3m as at 31 December 2021.*
3. *Includes preferred shares.*
4. *Includes a capital instrument subject to phase out and allowances.*

Regulatory capital and leverage ratios

Risk-weighted assets, actual and minimum regulatory capital and leverage ratios

		At	
	Footnotes	**31 Dec 2021**	31 Dec 2020
		$m	$m
Risk-weighted assets ('RWA')	1, 2	**39,836**	40,014
		%	%
Actual regulatory capital ratios	3, 4		
– common equity tier 1 capital ratio		**14.0%**	13.7%
– tier 1 capital ratio		**16.8%**	16.4%
– total capital ratio		**19.3%**	19.0%
– leverage ratio	5, 6	**5.8%**	6.0%
Regulatory capital requirements	7		
– 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%
– minimum leverage ratio		**3.0%**	3.0%

1. *RWA represent the amounts by which assets are adjusted by risk-weight factors to reflect the riskiness of on and off-balance sheet exposures in accordance with the Capital Adequacy Requirements ('CAR') Guideline issued by OSFI. Certain assets are not risk-weighted, but deducted from capital.*
2. *In April 2020, OSFI announced certain regulatory flexibility measures to support COVID-19 efforts in light of the current evolving situation. Effective 31 March 2020, OSFI lowered the capital floor factor from 75% to 70%. The revised floor factor will be in place until the second quarter 2023.*
3. *Presented under a Basel III basis with non-qualifying capital instruments phased out over 10 years starting 1 January 2013.*
4. *The common equity tier 1, tier 1, and total capital ratios are calculated as the respective capital base divided by risk-weighted assets, in accordance with CAR Guideline issued by OSFI.*
5. *Leverage Ratio is calculated as tier 1 capital divided by leverage exposure measures, in accordance with Leverage Requirements ('LR') Guideline issued by OSFI. Leverage exposure measures represent the sum of on-balance sheet assets and specified off-balance sheet items.*
6. *Leverage ratio includes certain COVID-19 related relief measures announced by OSFI which allows the bank to exclude central bank reserves and sovereign-issued securities from their leverage ratio exposure measures until 31 December 2021. In August 2021, OSFI confirmed that the exclusion of sovereign-issued securities from the leverage ratio exposure measure will not be extended past 31 December 2021; however, central bank reserves will continue to be excluded from the leverage ratio exposure measure for the bank.*
7. *OSFI target capital ratios including mandated capital conservation buffer.*

Following OSFI's 4 November 2021 announcement of the lifting of restrictions on dividends and share repurchases, the bank has announced its intent to reduce the stated capital of the common shares of the bank by up to $600m prior to 30 June 2022.

Outstanding shares and dividends

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

		Year ended 31 December 2021			Year ended 31 December 2020			Year ended 31 December 2019		
	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, 2*	**0.79283**	**548,668**	**1,725**	0.32085	548,668	1,725	0.86230	498,668	1,225
Class 1 preferred shares	*3*									
– Series G	*4*	**—**	**—**	**—**	0.50000	—	—	1.00000	20,000	500
– Series H	*4*	**0.76505**	**20,000**	**500**	0.39471	20,000	500	—	—	—
– Series I		**1.15000**	**14,000**	**350**	1.15000	14,000	350	1.15000	14,000	350
– Series K	*5*	**1.36252**	**10,000**	**250**	1.36252	10,000	250	0.35560	10,000	250

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. *Common shares were issued on 30 March 2020.*
3. *Cash dividends on preferred shares are non-cumulative and are payable quarterly.*
4. *The holder of the preferred shares Series G exercised their option to convert the preferred shares Series G into preferred shares Series H on 30 June 2020 in accordance with their terms; initial dividends on the preferred shares Series H were declared during the third quarter of 2020 and paid in accordance with their terms in the usual manner on 30 September 2020 or the first business day thereafter.*
5. *Preferred shares - Class 1, Series K were issued on 27 September 2019; initial dividends were declared during the fourth quarter of 2019 and paid in accordance with their terms in the usual manner on 31 December 2019 or the first business day thereafter.*

Dividends declared in 2021

During the year, the bank declared and paid $45m in dividends on all series of HSBC Bank Canada Class 1 preferred shares, and $435m in dividends on HSBC Bank Canada common shares.

Dividends declared in 2022

On 17 February 2022, the bank declared regular quarterly dividends for the first quarter of 2022 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 2022 or the first business day thereafter to the shareholder of record on 15 March 2022.

On 17 February 2022, the bank also declared a final dividend of $200m on HSBC Bank Canada common shares in respect of the financial year ending 31 December 2021, which will be paid on or before 30 March 2022 to the shareholder of record on 17 February 2022.

As the quarterly dividends on preferred shares for the first quarter of 2022 and the final dividend on common shares for 2021 were declared after 31 December 2021, the amounts have not been included in the balance sheet of the bank as a liability.

Interest rate risk in the banking book in 2021

Interest rate risk in the banking book is the risk of an adverse impact to earnings or capital due to changes in market interest rates. It is generated by our non-traded assets and liabilities, specifically loans, deposits and financial instruments that are not held for trading intent.

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 product features which allow customers to alter cash flows, such as scheduled maturities or repricing dates.

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). The risk metrics incorporate the effect of interest rate behaviouralization, managed rate product pricing assumptions and customer behaviour, including prepayment of mortgages or customer migration from non-interest-bearing to interest-bearing deposit accounts under the specific interest rate scenarios. Non-maturity products are laddered out over an assumed maturity profile, based on historical behaviour.

A number of assumptions are used in modelling the risk metrics, derived using models or judgmental non-modelled approaches. Key assumptions employed include fixed-rate pipeline take up rates, early prepayment speeds on fixed-rate loans and managed rate pass-on assumptions. Treasury Risk Management actively review and challenge the justification of these assumptions.

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 31 December 2021, an immediate +100 basis points shock would have a negative impact to the bank's economic value of equity of $245m, down from $444m last year. An immediate -25 basis points shock at 31 December 2021 would have a negative impact to earnings of $63m, substantially unchanged from $60m last year.

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 2021		31 Dec 2020	
		Economic value of equity	**Earnings at risk**	Economic value of equity	Earnings at risk
	Footnote	**$m**	**$m**	$m	$m
100 basis point increase		**(245)**	**225**	(444)	212
25 basis point decrease	1	**58**	**(63)**	95	(60)

1. *Due to the low interest rate environment, starting in the second quarter of 2020, economic value of equity and earnings at risk sensitivity for a down shock scenario are measured using a 25 basis point decrease.*

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 acts as the second line of defence who oversees the market risk of the bank. The team 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, on an annual basis at minimum. 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. Market risk function enforces the controls around trading in permissible instruments approved for each site as well as changes that follow completion of the new product approval process. Market risk also restricts trading in the more complex derivative products to offices with appropriate levels of product expertise and robust control systems.

We use a range of risk metrics 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, and interest rates; and
- VaR is calculated to a 99% confidence level using a one-day holding period.

The models also incorporate the effect of option features on the underlying exposures. The nature of the VaR models means that an increase in observed market volatility will lead to an increase in VaR without any changes in the underlying positions.

Although a valuable guide to risk, VaR is used with awareness of its limitations. For example:

- The use of historical data as a proxy for estimating future events may not encompass all potential market events, particularly those that are extreme in nature.

- The use of a one-day holding period for risk management purposes of trading and non-trading books assumes that this short period is sufficient to hedge or liquidate all positions.
- The use of a 99% confidence level, by definition, does not take into account losses that might occur beyond this level of confidence.
- VaR is calculated on the basis of exposures outstanding at the close of business and therefore does not necessarily reflect intra-day exposures.

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 $23.3m at the year ended 31 December 2021 increased by $2.8m from the prior year, largely due to non-trading VaR that was impacted by increased market volatility in the fourth quarter of 2021. Over the same period, the average VaR of $19.2m increased by $4.9m.

We managed market risk appropriately and prudently in accordance with the bank's risk appetite. The average trading VaR remained relatively stable at $1.5m.

Total VaR*

	Year ended	
	31 Dec 2021	31 Dec 2020
	$m	$m
Year end	**23.3**	20.5
Average	**19.2**	14.3
Minimum	**13.3**	7.2
Maximum	**25.1**	22.9

Non-trading VaR*

	Year ended	
	31 Dec 2021	31 Dec 2020
	$m	$m
Year end	**24.8**	21.2
Average	**19.5**	14.5
Minimum	**14.1**	7.0
Maximum	**25.7**	22.2

Trading VaR (by risk type)*[1]

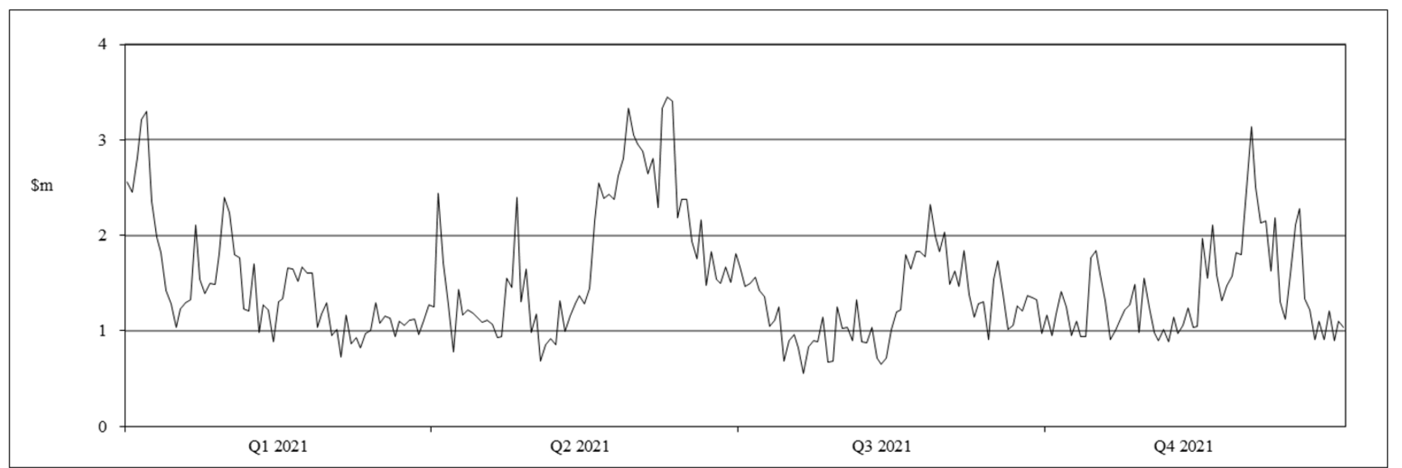
	Footnote	**Foreign exchange and commodity**	**Interest rate**	**Equity**	**Credit spread**	**Portfolio diversification[2]**	**Total[3]**
		$m	**$m**	**$m**	**$m**	**$m**	**$m**
January - December 2021							
At year-end		**—**	**0.8**	**—**	**1.4**	**(0.7)**	**1.5**
Average		**—**	**1.3**	**—**	**0.7**	**(0.5)**	**1.5**
Minimum		**—**	**0.5**	**—**	**0.2**		**0.6**
Maximum		**—**	**3.4**	**—**	**1.9**		**3.5**
January - December 2020							
At year-end		—	1.4	—	0.6	(0.7)	1.3
Average		—	1.3	—	0.7	(0.5)	1.5
Minimum		—	0.5	—	0.2		0.6
Maximum		0.3	2.6	—	2.1		3.3

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 - such as interest rate and foreign exchange - together in one portfolio. It is measured as the difference between the sum of the VaR by individual risk type and the combined total VaR. A negative number represents the benefit of portfolio diversification. As the maximum and minimum occur on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures.*
3. *The total VaR is non-additive across risk types due to diversification effects.*

Daily total VaR. 1 year history of daily figures[1]

1. *The total VaR increase in the fourth quarter of 2021 was largely due to market volatility. The total VaR decrease in the second quarter of 2021 was due to HSBC Bank Canada own bond issuance which reduced interest rate risk. The total VaR increase in the third quarter of 2021 was due to covered bond issuance which increased interest rate risk.*

Daily trading VaR. 1 year history of daily figures



Resilience risk

Overview

Resilience risk is the risk that we are unable to provide critical services to our customers, affiliates and counterparties, as a result of sustained and significant operational disruption. Resilience risk arises from failures or inadequacies in processes, people, systems or external events.

Resilience risk management

Key developments in 2021

The Operational and Resilience Risk sub-function provides robust non-financial risk steward oversight of the management of risk by the businesses and functions. It also provides effective and timely independent challenge. During the year we have carried out a number of initiatives to strengthen the management of non-financial risk:

- We developed a more robust understanding of the bank’s risk and control environment, by updating material risk taxonomy and control libraries and refreshed material risk and control assessments.
- We further strengthened our non-financial risk governance and senior leadership focus.
- We created a consolidated view of all risk issues across the bank enabling better senior management focus, read across on material control issues and intervention as required.
- We enabled better analysis and reporting of non-financial risks, with more of our risk practitioners now have access to a wider range of management information on their risks and controls.

We prioritize our efforts on material risks and areas undergoing strategic growth.

Governance and structure

The Operational and Resilience Risk target operating model provides a view across resilience risks, strengthening risk management oversight while operating effectively as part of a simplified non-financial risk structure.

We view resilience risk across seven risk types: third parties and supply chains; information, technology and cybersecurity; payments and manual processing; physical security; business interruption and contingency risk; building unavailability; and workplace safety.

The most senior management meeting for Operational and Resilience Risk governance is the RMM chaired by the Chief Risk Officer.

Key risk management processes

Operational resilience is our ability to anticipate, prevent, adapt, respond to, recover, and learn from internal or external disruption, protecting customers, the markets we operate in and economic stability. Resilience is determined by assessing whether we are able to continue to perform our most important services within an agreed level. We accept that we will not be able to prevent all disruption but prioritize investment to continuously improve the response and recovery strategies for our most important business services.

Business operations continuity

Business continuity, in response to the COVID-19 pandemic, remains in place. There have been no significant impacts to service delivery.

Regulatory compliance risk

Overview

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, which as a consequence incur fines and penalties and suffer damage to our business. Regulatory compliance risk arises from the risks associated with breaching our duty to our customers and inappropriate market conduct, as well as breaching regulatory licensing, permissions and rules.

Regulatory compliance risk management

Key developments in 2021

In 2021, we have continued to embed the structural changes made in the prior year. The integration of the Risk and Compliance Functions in May 2021 at a global level has driven common standards across the two.

In June 2021, we also announced to our employees, HSBC's new purpose-led approach to conduct. As part of this, we have taken the opportunity to align and simplify our approach, making Conduct easier to understand and showing how it fulfills our value: 'we take responsibility'.

Governance and structure

Regulatory Compliance reports to the Chief Compliance Officer and provides independent, objective oversight and challenge, and promotes a compliance-orientated culture that supports the business in delivering fair outcomes for customers, maintaining the integrity of financial markets and achieving our strategic objectives.

Regulatory Compliance escalates into the RMM chaired by the Chief Risk Officer and to the ARC.

Key risk management processes

Regulatory Compliance is responsible for ensuring adherence to global policies and then setting local policies, standards and risk appetite to guide the management of regulatory compliance. It also devises clear frameworks and support processes to protect against regulatory compliance risks. Policies and procedures require the prompt identification and escalation of any actual or potential regulatory breach. Relevant reportable events are escalated to the RMM and the ARC, as appropriate.

Conduct of business

Our new simplified Conduct Approach, which was launched in 2021, guides us to do the right thing and to recognize the real impact we have on our customers and the financial markets in which we operate. It complements our Purpose and Values, setting outcomes to be achieved for our customers and markets. It recognizes cultural and behavioural drivers of good Conduct Outcomes and applies across all risk disciplines, operational processes and technologies.

During 2021:

- We continued to champion a strong conduct and customer focused culture. We demonstrated this through providing support to our customers facing financial difficulties as a result of the prolonged impacts of the pandemic and the resulting uncertainty in trading conditions. We operated resiliently and securely to avoid harm to our customers and markets by continuing to embed good conduct within our business line processes and through our Non- Financial and Financial Risk Steward activities.
- We acted with integrity through areas such as commencing the integration of Climate Risk into our Risk Management approach to recognize the importance of strengthened controls and oversight for our related activities.
- We continued our focus on culture and behaviours as a driver of good Conduct Outcomes. To reinforce the importance of conduct for all colleagues, we delivered our annual global mandatory training course on conduct.
- We continued to emphasize - and worked to create - an environment in which employees are encouraged and feel safe to speak up. We placed a particular focus on the importance of well-being and collaborative working as we continued to adapt to changing working practices as the pace of change resulting from the pandemic varied across our markets.

The Board continues to maintain oversight of conduct matters through the ARC.

Financial crime risk

Overview

Financial crime risk is the risk of knowingly or unknowingly helping parties to commit or to further illegal activity through HSBC, including money laundering, terrorist and proliferation financing, tax evasion, bribery and corruption, sanctions, fraud and market abuse. Financial crime risk arises from day-to-day banking operations involving customers, third parties and employees.

Financial crime and fraud risk management

Key developments in 2021

We consistently review the effectiveness of our financial crime risk management framework, which includes consideration of geopolitical and wider economic factors, and 2021 was no exception. We continued to support the business in navigating the complex and dynamic nature of geopolitics as it relates to sanctions and export control risk and in alignment with our policy, which is to comply with all applicable sanctions regulations in the jurisdictions in which we operate. We also continued to progress several key financial crime risk management initiatives based on an increased use of technology to enhance our processes while minimizing the impact to the customer including:

- Globally, HSBC continues to advance our intelligence-led, dynamic risk assessment capabilities for customer account monitoring, rolling it out in one key global market, and pressing onward to deploy in other countries. Globally and in Canada we continue to enhance and adapt our traditional transaction monitoring systems.
- Continuing to leverage our data for proactive analytics detection of newly emerging financial crime detection and investigations.
- Adapting our technology and controls in line with Canada's most comprehensive changes to anti-money laundering legislation.
- Strengthening our anti-fraud capabilities, notably with respect to the early identification of first party lending fraud and the identification of new strategic detection tools.

- Ongoing developments in leading-edge surveillance technology and capabilities to identify potential market abuse.
- Implementing a market leading gifts and entertainment ('G&E') recording and approval system, which, in combination with an expenses reconciliation tool, allows HSBC to manage its G&E risk consistently and effectively.

Governance and structure

Financial Crime reports to the Chief Compliance Officer and provides independent, objective oversight and challenge, and promotes a compliance-orientated culture that supports the business in delivering fair outcomes for customers, maintaining the integrity of financial markets and achieving our strategic objectives. Financial Crime escalates into the RMM chaired by the Chief Risk Officer and to the ARC.

Key risk management processes

We assess the effectiveness of our financial crime risk management framework on an ongoing basis and invest in enhancing our operational control capabilities and technology solutions to deter and detect criminal activity. We have continued to simplify our end to end financial crime risk management framework, streamlining and de-duplicating policy requirements, while also strengthening our financial crime risk taxonomy and control libraries, our investigative and monitoring capabilities through technology deployments, as well as developing more targeted metrics. We have also enhanced governance and reporting. We are committed to working in partnership with the wider industry and the public sector in managing financial crime risk, protecting the integrity of the financial system and the communities we serve. We participate in numerous public-private partnerships and information-sharing initiatives. These align with our objectives of promoting a public policy and regulatory environment that embraces the sharing of information to safeguard the financial system.

Model Risk

Overview

Model risk is the potential for adverse consequences from business decisions informed by models, which can be exacerbated by errors in methodology, design or the way they are used. Model risk arises in both financial and non-financial contexts whenever business decision making includes reliance on models.

Key developments in 2021

In 2021, we continued to make improvements in our model risk management processes amid regulatory changes in model requirements.

Initiatives during the year included:

- Our model owners in businesses and functions fully embedded the requirements included in the model risk policy and standards introduced in 2020.
- The impact of COVID-19 on model inputs continued to impact the performance of the IFRS 9 models that are used to calculate expected credit losses. As a result, greater reliance has been placed on management underlays and overlays based on business judgement to derive expected credit losses.
- New IFRS 9 models for portfolios that required the largest model overlays during 2020 were redeveloped, validated and implemented. Limited new data was available for use in the recalibrations, therefore judgmental post-model adjustments were required to allow for the economic effects of the pandemic not captured by the models.

Governance and structure

During 2021 Model Risk Management was elevated to a function in its own right within the Risk structure. The Head of Model Risk Management reports to the Chief Risk Officer.

Key risk management processes

We use a variety of modelling approaches, including regression, simulation, sampling, machine learning and judgmental scorecards for a range of business applications, in activities such as customer selection, product pricing, financial crime transaction monitoring, creditworthiness evaluation and financial reporting. Responsibility for managing model risk is delegated from the RMM to the Model Risk Committee chaired by the Chief Risk Officer. The committee regularly reviews our model risk management policies and procedures and, and requires the first line of defence to demonstrate comprehensive and effective controls based on a library of model risk controls provided by Model Risk Management.

Model Risk Management also reports on model risk to senior management on a regular basis through the use of the risk map, risk appetite metrics and top and emerging risks.

We regularly review the effectiveness of these processes, including the model oversight committee structure, to help ensure appropriate understanding and ownership of model risk is embedded in the businesses and functions.

Factors that may affect future results

The 'Risk' 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 European Union ('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. Future changes to such policies will directly impact our earnings.

Changes in laws, regulations and approach to supervision

Regulators in Canada are actively considering legislation 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.

Cyber threat and unauthorized access to systems

We and other organizations continue to operate in an increasingly hostile cyber threat environment, which requires ongoing investment in business and technical controls to defend against these threats. Key threats include unauthorized access to online customer accounts, advanced malware attacks and attacks on third party suppliers and security vulnerabilities being exploited.

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.

Climate change risk

Climate change can have an impact across HSBC's risk taxonomy through both transition and physical channels. Transition risk can arise from the move to a low-carbon economy, including changes in policy, regulatory, technology and consumer behaviour. Physical risk can arise through increasing severity and/or frequency of severe weather events or other climatic events such as rising sea levels, wild fires and flooding.

These have the potential to cause both idiosyncratic and systemic risks, resulting in potential financial and non-financial impacts for HSBC. Financial impacts could materialize, for example, through higher risk-weighted assets over the longer term, greater transactional losses and increased capital requirements. Non-financial impacts could materialize, for example, if our own assets or operations are disrupted by extreme weather or chronic changes in weather patterns, or as a result of business decisions to achieve our climate ambition.

Our approach to climate risk reflects the two main channels of climate risk: physical risk and transition risk. We are integrating climate risk into the Risk Management Framework and developing quantitative risk appetite metrics to support our qualitative statement and enhancing data quality to better articulate the impact of climate change risks on the bank. Leveraging HSBC Group resources, we are building capabilities to identify and assess physical and transition risks and impacts in our retail and corporate portfolios and operations. For example, we are implementing climate scoring tools to improve our understanding of our exposure to the highest transition risk sectors. We continue to engage proactively with our customers to understand and support their low-carbon strategies, where applicable. We are enhancing our product management process and delivered targeted training to raise awareness of climate-related risks. We participated in HSBC Group's internal stress testing to explore vulnerabilities to climate change and transition risk impacts.

IBOR transition

Interbank offered rates ('IBORs') have historically been used extensively to set interest rates on hundreds of trillions of US dollars of different types of financial transactions and for valuation purposes, risk measurement and performance benchmarking.

Following the UK's Financial Conduct Authority ('FCA') announcement in July 2017 that it would no longer continue to persuade, or require panel banks to submit rates for the London interbank offered rate ('LIBOR') after 2021, we have been actively working to transition legacy contracts from IBORs and meet client needs for new near risk-free replacement rates ('RFR') or alternative reference rates. In March 2021, ICE Benchmark Administration Limited ('IBA') announced that it would cease publication of 26 of the 35 main LIBOR currency interest rate benchmark settings at the end of 2021, but that the most widely used US dollar LIBOR settings would cease from 30 June 2023. As a result, our focus during 2021 was on the transition of legacy contracts referencing the LIBOR settings that demised from the end of December 2021.

Additionally, the Bank of Canada's Canadian Alternative Reference Rate ('CARR') working group was tasked to analyze the current status of the Canadian Dollar Offered Rate ('CDOR') and to make recommendations. In December 2021, the CARR recommended the administrator of CDOR to cease the publication of CDOR after 30 June 2024. The final decision to cease CDOR remains solely with the administrator who on 31 January 2022 launched a four-week consultation with the publication of a document regarding the potential permanent cessation of CDOR. The potential replacement rate, the reformed Canadian Overnight Repo Rate Average ('CORRA'), began its daily publishing on 15 June 2020. In 2021, the bank expanded its CORRA-linked product offerings.

During 2021, we developed IT and RFR product capabilities, implemented supporting operational processes and engaged with our clients to discuss options for transitioning of their legacy contracts. The successful implementation of new processes and controls, and transition of contracts away from IBORs reduced the heightened financial and non-financial risks to which we are exposed. However, while all new LIBOR contract issuance ceased in 2021 we remain exposed to legacy contracts that reference US dollar LIBOR and CDOR.

Non-financial risks including financial reporting risks relating to potential misstatements continue to exist due to the application of accounting reliefs relating to amendment of legacy contracts.

Transition of legacy contracts

During 2021, we successfully transitioned legacy IBOR contracts in sterling, euro and Japanese yen LIBOR interest rates. Our approach to transition US dollar legacy LIBOR contracts and, if required as a consequence of further Canadian IBOR reform, to transition CDOR contracts, will continue to differ by product and business area, but will be based on the lessons learned from the successful transition of those contracts which referenced IBORs which demised at the end of 2021. We will continue to communicate with our clients and investors in a structured manner and be client led in the timing and nature of transition.

For derivatives, there were only US dollar LIBOR and CDOR reported exposures at 31 December 2021. For US dollar LIBOR exposures, we anticipate they will continue to reduce through 2022 following the cessation of new US dollar LIBOR issuance. We will continue to actively reduce our US dollar LIBOR exposure by transitioning trades

ahead of the demise date of 30 June 2023, by working with our clients to determine their needs and discuss legislative and specific approaches. Additionally, we are working with market participants, including clearing houses, to ensure we are able to transition contracts as the US dollar LIBOR cessation date approaches.

For the US dollar LIBOR exposures in our loan book, we implemented new products and processes and updated our systems in readiness for transition. Our Global Banking and Commercial Banking teams have begun to engage clients with upcoming contract maturities with a view to refinancing using an appropriate replacement rate. Further communication and client outreach for customers with US dollar LIBOR contracts will occur for the whole portfolio.

For both the CDOR-linked derivative and loan portfolios, we continue to monitor the potential plans for cessation and will implement a transition plan as needed.

The completion of an orderly transition from the US dollar LIBOR, continues to be our program's key objective through 2022 and 2023, with the aim of leveraging existing systems and processes, and adapting them where necessary to achieve this objective. We are also monitoring for potential future CDOR reform, as described earlier in this section.

Financial instruments impacted by IBOR reform*

Interest Rate Benchmark Reform Phase 2, the amendments to IFRSs issued in August 2020, represents the second phase of the IASB's project on the effects of interest rate benchmark reform. The amendments address issues affecting financial statements when changes are made to contractual cash flows and hedging relationships.

Under these amendments, changes made to a financial instrument measured at other than fair value through profit or loss that are economically equivalent and required by interest rate benchmark reform, do not result in the derecognition or a change in the carrying amount of the financial instrument. Instead they require the effective interest rate to be updated to reflect the change in the interest rate benchmark. In addition, hedge accounting will not be discontinued solely because of the replacement of the interest rate benchmark if the hedge meets other hedge accounting criteria.

During the fourth quarter of 2020, the bank adopted the amendments effective from 1 January 2020.

	Financial instruments yet to transition to alternative benchmarks, by main benchmark			
	CDOR[1]	USD LIBOR	GBP LIBOR[2]	EUR LIBOR[2]
At 31 Dec 2021	**$m**	**$m**	**$m**	**$m**
Non-derivative financial assets	**3,988**	**3,164**	**15**	**15**
Non-derivative financial liabilities	**1,675**	**—**	**—**	**—**
Derivative notional contract amount	**217,403**	**6,224**	**—**	**—**
At 31 Dec 2020				
Non-derivative financial assets	3,644	3,121	115	8
Non-derivative financial liabilities	1,591	—	—	—
Derivative notional contract amount	180,035	13,828	70	1,015

1. *CDOR currently co-exists with the new overnight risk-free rate, an enhanced version of the Canadian Overnight Repo Rate Average, however, it is possible that further CDOR reform will occur.*
2. *These amounts will transition to the applicable RFR on renewal.*

The amounts in the above table provide an indication of the extent of the bank's exposure to the IBOR benchmarks that are due to be replaced or will survive to co-exist with another risk-free rate.

In March 2021, the administrator of LIBOR, ICE Benchmark Administration, announced that the publication date of most US dollar LIBOR tenors has been extended from 31 December 2021 to 30 June 2023. Publication of one-week and two-month tenors have ceased on 31 December 2021. This change reduces the amounts presented at 31 December 2021 in the above table as some financial instruments included at 31 December 2020 will reach their contractual maturity date prior to the extended publication dates. Comparative data has not been re-presented.

Other risks

Other factors that may impact our results include 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; risk of fraud by employees or others; unauthorized transactions by employees and human error.

Our success in delivering our strategic priorities and proactively managing the regulatory environment depends on the development and retention of our leadership and high-performing employees. The ability to continue to attract, develop and retain competent individuals in an employment market impacted by the COVID-19 pandemic proves challenging. We are monitoring people risks with attention to employee mental health and well-being, particularly in the face of the pandemic.

Despite the contingency plans we have in place for resilience in the event of sustained and significant operational disruption, 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, pandemics, environmental disasters or terrorist acts.

The impact of COVID-19 is also described in more detail in the 'Impact of COVID-19 and our response' section on page 16 and the 'Credit risk' section on page 40 of the MD&A.

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 2021* 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, Risk and Conduct Review Committee, which is composed of Directors who are not officers or employees of the bank. The Audit, Risk and Conduct Review Committee reviews the bank's interim and annual consolidated financial statements and MD&A, and recommends for approval by the Board of Directors. Other key responsibilities of the Audit, Risk and Conduct Review Committee include monitoring the bank's system of internal control, monitoring its compliance with legal and regulatory requirements, considering the appointment of the bank's independent external auditors and reviewing the qualifications, independence and performance of the bank's independent external auditors and internal auditors.

As at 31 December 2021, 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 Issuers' Annual and Interim Filings).

The bank's independent external 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.

Linda Seymour
President and Chief Executive Officer
HSBC Bank Canada

Gerhardt Samwell
Chief Financial Officer
HSBC Bank Canada

Vancouver, Canada

17 February 2022

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, 2021 and 2020, 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, 2021 and 2020;
- the consolidated statements of comprehensive income for the years ended December 31, 2021 and 2020;
- the consolidated balance sheets as at December 31, 2021 and 2020;
- the consolidated statements of cash flows for the years ended December 31, 2021 and 2020;
- the consolidated statements of changes in equity for the years ended December 31, 2021 and 2020; and
- the notes to the consolidated financial statements, which include significant accounting policies and other explanatory information.

Certain required disclosures have been presented elsewhere in the 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 comprises the Management's Discussion and Analysis and the information, other than the consolidated financial statements and our auditor's report thereon, included in the annual report and accounts.

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 identified above 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, 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.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

The engagement partner on the audit resulting in this independent auditor's report is Lyne Dufresne.

PricewaterhouseCoopers LLP

Chartered Professional Accountants

Vancouver, Canada
18 February 2022

Consolidated Financial Statements

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Consolidated income statement

for the year ended 31 December

	Notes	2021 $m	2020 $m
Net interest income		**1,226**	1,086
– interest income		**1,813**	2,165
– interest expense		**(587)**	(1,079)
Net fee income	3	**794**	713
– fee income		**902**	796
– fee expense		**(108)**	(83)
Net income from financial instruments held for trading		**112**	132
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		**5**	—
Gains less losses from financial investments		**43**	50
Other operating income		**35**	43
Total operating income		**2,215**	2,024
Change in expected credit losses and other credit impairment charges - release/(charge)		**45**	(327)
Net operating income	4	**2,260**	1,697
Employee compensation and benefits	5, 6	**(604)**	(630)
General and administrative expenses		**(570)**	(545)
Depreciation and impairment of property, plant and equipment		**(81)**	(78)
Amortization and impairment of intangible assets		**(53)**	(40)
Total operating expenses		**(1,308)**	(1,293)
Profit before income tax expense		**952**	404
Income tax expense	7	**(235)**	(96)
Profit for the year		**717**	308
Attributable to:			
– the common shareholder		**672**	260
– the preferred shareholder		**45**	48
Profit for the year		**717**	308
Profit attributable to non-controlling interests			
Average number of common shares outstanding (000's)		**548,668**	536,510
Basic and diluted earnings per common share ($)		**$ 1.22**	$ 0.48

Certain sections within the Management's Discussion and Analysis, that are marked with an asterisk (*), and the accompanying notes form an integral part of these consolidated financial statements.

Consolidated statement of comprehensive income

for the year ended 31 December

	Notes	2021 $m	2020 $m
Profit for the year		**717**	308
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		**(131)**	74
– fair value (losses)/gains		**(135)**	151
– fair value gains transferred to the income statement on disposal		**(43)**	(50)
– expected credit losses recognized in the income statement		**(1)**	—
– income taxes		**48**	(27)
Cash flow hedges		**(142)**	138
– fair value (losses)/gains		**(146)**	324
– fair value gains reclassified to the income statement		**(47)**	(136)
– income taxes		**51**	(50)
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of defined benefit plans		**30**	(39)
– before income taxes	5	**41**	(53)
– income taxes	7	**(11)**	14
Equity instruments designated at fair value through other comprehensive income		**1**	(2)
– fair value gains/(losses)		**1**	(3)
– income taxes		**—**	1
Other comprehensive income for the year, net of tax		**(242)**	171
Total comprehensive income for the year		**475**	479
Attributable to:			
– the common shareholder		**430**	431
– the preferred shareholder		**45**	48
Total comprehensive income for the year		**475**	479

Certain sections within the Management's Discussion and Analysis, that are marked with an asterisk (*), and the accompanying notes form an integral part of these consolidated financial statements.

Consolidated balance sheet

at 31 December

	Notes	2021 $m	2020 $m
Assets			
Cash and balances at central banks		**13,955**	15,750
Items in the course of collection from other banks		**9**	13
Trading assets	11	**2,907**	1,719
Other financial assets mandatorily measured at fair value through profit or loss		**18**	9
Derivatives	12	**2,773**	5,447
Loans and advances to banks		**1,659**	1,270
Loans and advances to customers		**68,699**	61,002
Reverse repurchase agreements – non-trading		**9,058**	5,996
Financial investments	13	**14,969**	19,879
Other assets	17	**1,377**	1,430
Prepayments and accrued income		**186**	196
Customers' liability under acceptances		**3,548**	4,043
Current tax assets		**148**	28
Property, plant and equipment	14	**263**	277
Goodwill and intangible assets	18	**181**	167
Deferred tax assets	7	**103**	121
Total assets		**119,853**	117,347
Liabilities and equity			
Liabilities			
Deposits by banks		**1,313**	1,139
Customer accounts		**73,626**	71,950
Repurchase agreements – non-trading		**8,044**	3,227
Items in the course of transmission to other banks		**253**	181
Trading liabilities	19	**3,598**	1,831
Derivatives	12	**2,978**	5,647
Debt securities in issue	20	**14,339**	17,387
Other liabilities	21	**3,517**	3,097
Acceptances		**3,556**	4,062
Accruals and deferred income		**401**	523
Retirement benefit liabilities	5	**267**	310
Subordinated liabilities	22	**1,011**	1,011
Provisions		**74**	81
Current tax liabilities		**–**	19
Total liabilities		**112,977**	110,465
Equity			
Common shares	25	**1,725**	1,725
Preferred shares	25	**1,100**	1,100
Other reserves		**(23)**	249
Retained earnings		**4,074**	3,808
Total shareholder's equity		**6,876**	6,882
Total liabilities and equity		**119,853**	117,347

Certain sections within the Management's Discussion and Analysis, that are marked with an asterisk (*), and the accompanying notes form an integral part of these consolidated financial statements.

Approved on behalf of the Board of Directors:

Samuel Minzberg
Chairman
HSBC Bank Canada

Linda Seymour
President and Chief Executive Officer
HSBC Bank Canada

Consolidated statement of cash flows

for the year ended 31 December

	Footnote	2021 $m	2020 $m
Profit before income tax expense		**952**	404
Adjustments for non-cash items:			
Depreciation and amortization		**134**	118
Share-based payment expense		**5**	7
Change in expected credit losses		**(45)**	327
Charge for defined benefit pension plans		**13**	15
Changes in operating assets and liabilities			
Change in prepayment and accrued income		**10**	45
Change in net trading securities and net derivatives		**387**	2,346
Change in loans and advances to customers		**(7,677)**	643
Change in reverse repurchase agreements – non-trading		**905**	371
Change in other assets		**412**	(485)
Change in accruals and deferred income		**(122)**	(77)
Change in deposits by banks		**174**	103
Change in customer accounts		**1,676**	9,061
Change in repurchase agreements – non-trading		**4,817**	(3,871)
Change in debt securities in issue		**(3,048)**	2,793
Change in other liabilities		**52**	365
Tax paid		**(276)**	(264)
Net cash from operating activities		**(1,631)**	11,901
Purchase of financial investments		**(4,645)**	(8,565)
Proceeds from the sale and maturity of financial investments		**9,378**	12,429
Purchase of intangibles and property, plant and equipment		**(96)**	(62)
Net cash from investing activities		**4,637**	3,802
Issuance of common shares		**—**	500
Dividends paid to shareholder		**(480)**	(208)
Repurchase of subordinated debentures	1	**—**	(22)
Lease principal payments		**(46)**	(51)
Net cash from financing activities		**(526)**	219
Net increase in cash and cash equivalents		**2,480**	15,922
Cash and cash equivalents at 1 Jan		**17,279**	1,357
Cash and cash equivalents at 31 Dec		**19,759**	17,279
Cash and cash equivalents comprise:			
Cash and balances at central bank		**13,955**	15,750
Items in the course of collection from other banks and Items in the course of transmission to other banks		**(244)**	(168)
Loans and advances to banks of one month or less		**1,659**	1,270
Non-trading reverse repurchase agreements with banks of one month or less		**4,386**	420
T-Bills and certificates of deposits less than three months		**3**	7
Cash and cash equivalents at 31 Dec		**19,759**	17,279
Interest:			
Interest paid		**(734)**	(1,140)
Interest received		**1,836**	2,214

1. *Changes to subordinated liabilities during the year were nil (2020: $22m attributed to cash outflow from the repurchase of subordinated debentures). Non-cash changes during the year were nil (2020: nil).*

Certain sections within the Management's Discussion and Analysis, that are marked with an asterisk (*), and the accompanying notes form an integral part of these consolidated financial statements.

Consolidated statement of changes in equity

for the year ended 31 December

			Other reserves			
	Share capital[1]	**Retained earnings**	**Financial assets at FVOCI reserve**	**Cash flow hedging reserve**	**Total other reserves**	**Total equity**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**
At 1 Jan 2021	**2,825**	**3,808**	**108**	**141**	**249**	**6,882**
Profit for the year	**—**	**717**	**—**	**—**	**—**	**717**
Other comprehensive income/(loss), net of tax	**—**	**30**	**(130)**	**(142)**	**(272)**	**(242)**
– debt instruments at fair value through other comprehensive income	**—**	**—**	**(131)**	**—**	**(131)**	**(131)**
– equity instruments designated at fair value through other comprehensive income	**—**	**—**	**1**	**—**	**1**	**1**
– cash flow hedges	**—**	**—**	**—**	**(142)**	**(142)**	**(142)**
– remeasurement of defined benefit asset/liability	**—**	**30**	**—**	**—**	**—**	**30**
Total comprehensive income for the year	**—**	**747**	**(130)**	**(142)**	**(272)**	**475**
Dividends paid on common shares	**—**	**(435)**	**—**	**—**	**—**	**(435)**
Dividends paid on preferred shares	**—**	**(45)**	**—**	**—**	**—**	**(45)**
Shares issued under employee remuneration and share plan	**—**	**(1)**	**—**	**—**	**—**	**(1)**
At 31 Dec 2021	**2,825**	**4,074**	**(22)**	**(1)**	**(23)**	**6,876**

			Other reserves			
	Share capital[1]	Retained earnings	Financial assets at FVOCI reserve	Cash flow hedging reserve	Total other reserves	Total equity
	$m	$m	$m	$m	$m	$m
At 1 Jan 2020	2,325	3,745	36	3	39	6,109
Profit for the year	—	308	—	—	—	308
Other comprehensive income/(loss), net of tax	—	(39)	72	138	210	171
– debt instruments at fair value through other comprehensive income	—	—	74	—	74	74
– equity instruments designated at fair value through other comprehensive income	—	—	(2)	—	(2)	(2)
– cash flow hedges	—	—	—	138	138	138
– remeasurement of defined benefit asset/liability	—	(39)	—	—	—	(39)
Total comprehensive income for the year	—	269	72	138	210	479
Dividends paid on common shares	—	(160)	—	—	—	(160)
Dividends paid on preferred shares	—	(48)	—	—	—	(48)
Issuance of common shares	500	—	—	—	—	500
Shares issued under employee remuneration and share plan	—	2	—	—	—	2
At 31 Dec 2020	2,825	3,808	108	141	249	6,882

1. *Share capital is comprised of common shares $1,725m and preferred shares $1,100m.*

Certain sections within the Management's Discussion and Analysis, that are marked with an asterisk (*), and the accompanying notes 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 2021

There were no new accounting standards or interpretations that had a significant effect on the bank in 2021. Accounting policies have been consistently applied.

(c) Future accounting developments

Major new IFRSs

IFRS 17 'Insurance contracts'

The IASB issued IFRS 17 'Insurance contracts' in May 2017, with amendments to the standard issued in June 2020. The standard sets out the requirements that an entity should apply in accounting for insurance contracts it issues and reinsurance contracts it holds. Following the amendments, IFRS 17 is effective from 1 January 2023. The bank has assessed the impact of this standard and it is not expected to have a material impact to these financial statements.

Minor amendments to IFRSs

The IASB has published a number of minor amendments to IFRSs which are effective from 1 January 2022 and 1 January 2023. 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 sections within the accompanying Management's Discussion and Analysis, that are marked with an asterisk (*), form an integral part of these consolidated financial statements.

(f) 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 are 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;
- Valuation of financial instruments;
- Income taxes and deferred tax assets; and
- Defined benefit obligations.

(g) 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. Our reportable segments under IFRS 8 'Operating Segments' are Commercial Banking, Global Banking, Markets and Securities Services, and Wealth and Personal Banking. The bank made changes to the operating segments during the year, the details of which can be found in note 9.

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. Various estimate and allocation methodologies are used in the preparation of the segment financial information. We allocate expenses directly related to earning income to the segment that earned the related income. Expenses not directly related to earning income, such as overhead expenses, are allocated using appropriate methodologies. Segments' net interest income reflects internal funding charges and credits on the businesses' assets, liabilities and capital, at market rates, taking into account relevant terms.

(h) 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.

Business combinations of entities under common control

Business combinations between the bank and other entities under the common control of HSBC Holdings plc are accounted for using predecessor accounting. The assets and liabilities are transferred at their existing carrying amount and the difference between the carrying value of the net assets transferred and the consideration received is recorded directly in equity.

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 15), 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. 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, determine 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 recognized 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 variable consideration 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 'Revenue from contracts with customers' 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 held for trading 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.

(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 transaction costs. If the initial fair value is lower than the cash amount advanced, such as in the case of some leveraged finance and syndicated lending activities, the difference is deferred and 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.

Under the above criterion, there are no such financial instruments designated at fair value by the bank at 31 December 2021.

(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'.

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

As permitted by IFRS 9 'Financial instruments', the bank has exercised an accounting policy choice to remain with IAS 39 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'; and financial assets for which there is objective evidence of impairment so are considered to be in default or otherwise credit-impaired are in 'stage 3'.

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 of either principal or interest are past due for more than 90 days;
- there are other indications that the borrower is unlikely to pay, such as that a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition; and
- the loan is otherwise considered to be in default.

If such unlikeliness to pay is not identified at an earlier stage, it is deemed to occur when an exposure is 90 days past due, even where regulatory rules permit default to be defined based on 180 days past due. Therefore, the definitions of credit-impaired and default are aligned as far as possible so that stage 3 represents all loans which are considered defaulted or 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

In most circumstances, 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. In certain circumstances, modifications to loans are made that are not considered to be renegotiated or commercial restructuring. Such loans are not derecognized and will continue to be subject to the impairment policy. Changes made to these financial instruments that are economically equivalent and required by interest rate benchmark reform do not result in the derecognition or change in the carrying amount of the financial instrument, but instead require the effective interest rate to be updated to reflect the change of the interest rate benchmark.

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 ('PD') which encompasses a wide range of information including the obligor's customer risk rating ('CRR'), 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 CRR at origination. For these loans, the quantitative comparison is supplemented with additional CRR deterioration- based thresholds, as set out in the table below:

Origination CRR	Additional significance criteria - number of CRR grade notches deterioration required to identify as significant credit deterioration (stage 2) (> or equal to)
0.1	5 notches
1.1 - 4.2	4 notches
4.3 - 5.1	3 notches
5.2 - 7.1	2 notches
7.2 - 8.2	1 notch
8.3	0 notch

Further information about the 23-grade scale used for CRR can be found on page 41.

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 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 relationship manager'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 using up to four different scenarios are probability-weighted and, if applicable, include reference to the forward economic guidance applied more generally by the bank and the judgment of the relationship manager in relation to the likelihood of each scenario. 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' 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

Four forward-looking global economic scenarios have been used to capture the current economic environment and to articulate management's view of the range of potential outcomes. Three of these scenarios are drawn from consensus forecasts and distributional estimates. They represent a 'most likely' scenario (the Central scenario) and two, less likely, 'Outer' scenarios on either side of the Central,

referred to as the Consensus Upside and Consensus Downside scenario respectively. The fourth scenario, the Downside 2 scenario, reflects management's view of severe downside risk.

Management have assigned probability weights to the scenarios that reflect their view of the distribution of risks. The Central scenario has been assigned a weighting of 75%, the Consensus Upside and Consensus Downside scenarios have been assigned a weighting of 10% each, and the Downside 2 scenario has been assigned a weighting of 5%. 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 long-term consensus trend expectations. The Downside 2 scenario explores more extreme economic outcomes and the variables do not, by design, revert to long-term trend expectations. The economic factors include, but are not limited to, gross domestic product, unemployment, house price growth, and Brent oil prices.

(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. Pension plans in which the risks are shared by entities under common control are considered group pension plans. One of the pension plans is a group plan with employees of both the bank and HSBC Global Services (Canada) Limited ('ServCo'), a subsidiary of HSBC Holdings plc., participating in the plan. The pension plans are funded by contributions from the bank and ServCo and the employees of both entities. The bank and ServCo make contributions to the defined benefit plans in respect of their employees, based on actuarial valuation. The supplemental pension arrangements and post-employment benefits are not funded.

Payments to defined contribution plans are charged as an expense to the bank 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 bank and Servco are charged defined benefit pension costs for their respective employees.

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 debt instruments at fair value through other comprehensive income 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 at 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 where 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 convey the right to control the use of an identified asset for a period of time in exchange for consideration are classified as leases. As a lessee, the bank recognizes a right-of-use asset in 'Property, plant and equipment' and a corresponding liability in 'Other liabilities'. The asset will be amortized over the length of the lease, and the lease liability measured using a methodology similar to amortized cost. The lease liability is initially recognized as the net present value of the lease payments over the term of the lease. The lease term is considered to be the non-cancellable period of the lease together with the periods covered by an option to extend if the bank is reasonably certain to extend and periods covered by an option to terminate the lease if the bank is reasonably certain not to terminate early. In determining the lease term, the bank considers all relevant facts and circumstances that create an economic incentive for it to exercise an extension option or not to terminate early. The right-of-use asset is initially recognized at an amount equal to the lease liability adjusted by any lease incentives received.

The amortization charge of the right-of-use asset is included in 'Depreciation'. Interest on the lease liability is included in 'interest expense'. As permitted by IFRS 16, the bank has used the practical expedient of excluding lease payments for short-term leases and leases for which the underlying asset value is low when recognizing right-of-use assets and corresponding liabilities. These are recognized as an expense on a straight-line basis over the lease term.

As a lessor, leases which transfer substantially all the risks and rewards incidental to the ownership of assets, are classified as finance leases. Under finance leases, the bank presents the present value of the future finance lease payments receivable and residual value accruing to it in 'Loans and advances to banks' or 'Loans and advances to customers'. All other leases are classified as operating leases. 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. Finance income on finance leases is recognized in 'Net interest income' over the lease term so as to give a constant rate of return. Rentals receivable under operating leases are recognized on a straight-line basis over the lease term and are recognized 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 an unconditional 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', or a lesser period depending on the instrument, maturity from the date of acquisition, and include cash and cash balances at the central bank, items in the course of collection from or in transmission to other banks, loans and advances to banks, non-trading reverse repurchase agreements, and T-bills and certificates of deposit.

3 Net fee income

Net fee income by business segment

	2021						2020					
	Commercial Banking	**Global Banking[1]**	**Markets and Securities Services[1]**	**Wealth and Personal Banking**	**Corporate Centre**	**Total**	Commercial Banking	Global Banking[1]	Markets and Securities Services[1]	Wealth and Personal Banking	Corporate Centre	Total
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	$m	$m	$m	$m	$m	$m
Account services	**42**	**9**	**–**	**16**	**–**	**67**	40	7	–	15	–	62
Broking income	**–**	**–**	**–**	**17**	**–**	**17**	1	–	–	14	–	15
Cards	**20**	**1**	**–**	**53**	**–**	**74**	16	–	–	47	–	63
Credit facilities	**289**	**53**	**–**	**–**	**–**	**342**	261	57	–	–	–	318
Funds under management[2]	**–**	**–**	**–**	**224**	**–**	**224**	–	–	–	193	–	193
Imports/exports	**12**	**2**	**–**	**–**	**–**	**14**	9	–	–	–	–	9
Insurance agency commission	**–**	**–**	**–**	**5**	**–**	**5**	–	–	–	5	–	5
Guarantee and other	**30**	**12**	**–**	**6**	**–**	**48**	30	11	2	4	–	47
Remittances	**29**	**9**	**–**	**5**	**–**	**43**	27	8	–	4	–	39
Underwriting	**2**	**54**	**15**	**–**	**(3)**	**68**	1	27	17	–	–	45
Fee income	**424**	**140**	**15**	**326**	**(3)**	**902**	385	110	19	282	–	796
Less: fee expense	**(15)**	**(17)**	**(4)**	**(72)**	**–**	**(108)**	(14)	(4)	(5)	(60)	–	(83)
Net fee income	**409**	**123**	**11**	**254**	**(3)**	**794**	371	106	14	222	–	713

1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation. For further information, refer to note 9.*
2. *Fee earned from HSBC investment funds for 2021 and 2020 was 50% of the total fee each year.*

4 Operating profit

Operating profit is stated after the following items

	Footnote	2021 $m	2020 $m
Income			
Interest recognized on financial assets measured at amortized cost	1	**1,718**	1,918
Interest recognized on financial assets measured at FVOCI	1	**95**	247
Expense			
Interest on financial instruments, excluding interest on financial liabilities held for trading or otherwise mandatorily measured at fair value		**(579)**	(1,070)
Interest expense recognized on lease liabilities		**(8)**	(9)
Depreciation on the right-of-use assets		**(46)**	(47)

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

	2021 $m	2020 $m
Wages and salaries	**469**	484
Post-employment benefits	**59**	59
Other	**76**	87
Year ended 31 Dec	**604**	630

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

	2021 $m	2020 $m
Defined benefit plans	**20**	21
– pension plans	**14**	15
– non-pension plans	**6**	6
Defined contribution pension plans	**39**	38
Year ended 31 Dec	**59**	59

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 2021 and 2020 assumptions will also form and have formed the basis for measuring periodic costs under the plans in 2022 and 2021 respectively.

		Pension plans		Non-pension plans	
	Footnote	2021 %	2020 %	2021 %	2020 %
Discount rate		**3.00**	2.55	**3.00**	2.55
Rate of pay increase		**2.75**	2.75	**2.75**	2.75
Healthcare cost trend rates – Initial rate		**n/a**	n/a	**4.29**	7.00
Healthcare cost trend rates – Ultimate rate	1	**n/a**	n/a	**4.05**	5.00

1. *The non-pension 'Healthcare cost trend rates – Ultimate rate' is applied from 2040 (2020: Ultimate rate for prior year was 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 2021, the weighted average duration of the defined benefit obligation was 14.6 years (2020: 15.2 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	
	2021	2020
For a male currently aged 65	**24**	24
For a male currently aged 45	**25**	25
For a female currently aged 65	**26**	25
For a female currently aged 45	**27**	27

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

	2021	2020
	$m	$m
Discount rate		
Change in defined benefit obligation at year-end from a 25 bps increase	**(27)**	(29)
Change in defined benefit obligation at year-end from a 25 bps decrease	**28**	32
Rate of pay increase		
Change in defined benefit obligation at year-end from a 25 bps increase	**3**	3
Change in defined benefit obligation at year-end from a 25 bps decrease	**(3)**	(3)

Non-pension plans

	2021	2020
	$m	$m
Change in defined benefit obligation at year-end from a 25 bps increase in the discount rate	**(5)**	(5)
Change in defined benefit obligation at year-end from a 25 bps decrease in the discount rate	**5**	5

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

		Plans for the bank				Group plan[1]	
		Pension plans		Non-pension plans		Pension plan	
		2021	2020	**2021**	2020	**2021**	2020
	Footnote	**$m**	$m	**$m**	$m	**$m**	$m
Fair value of plan assets							
At 1 Jan		**691**	644	**—**	—	**48**	39
Interest on plan assets		**17**	20	**—**	—	**1**	1
Contributions by the employer		**17**	22	**6**	5	**3**	4
Actuarial (losses)/gains		**(39)**	40	**—**	—	**(3)**	4
Benefits paid		**(33)**	(34)	**(6)**	(5)	**(1)**	—
Non-investment expenses		**(1)**	(1)	**—**	—	**—**	—
At 31 Dec		**652**	691	**—**	—	**48**	48
Present value of defined benefit obligations							
At 1 Jan		**(800)**	(754)	**(145)**	(134)	**(59)**	(50)
Current service cost		**(9)**	(9)	**(3)**	(2)	**(2)**	(2)
Interest cost		**(20)**	(22)	**(4)**	(4)	**(1)**	(2)
Actuarial gains/(losses) arising from changes in:		**46**	(49)	**6**	(10)	**4**	(5)
– financial assumptions		**50**	(53)	**15**	(10)	**5**	(4)
– experience adjustments		**(4)**	4	**(9)**	—	**(1)**	(1)
Benefits paid		**33**	34	**6**	5	**1**	—
At 31 Dec		**(750)**	(800)	**(140)**	(145)	**(57)**	(59)
– funded		**(666)**	(716)	**—**	—	**(9)**	(11)
– unfunded		**(84)**	(84)	**(140)**	(145)	**—**	—
Other – effect of limit on plan surpluses		**(27)**	(54)	**—**	—	**(4)**	(3)
Net liability	2	**(125)**	(163)	**(140)**	(145)	**(13)**	(14)

1. *The pension plan in which both ServCo and the bank employees actively participate is considered a 'group plan' as the risks are shared by entities under common control. The group plan is funded by contributions from the bank and ServCo and the employees of both entities. The bank and ServCo determine their respective contributions to the defined benefit plan in regards to their employees, based on actuarial valuation.*
2. *At 31 December 2021, the bank's share of net liability in the group plan was $2m (2020: $2m).*

Pension plan assets[1]

	Plans for the bank		Group plan	
	2021	2020	**2021**	2020
	$m	$m	**$m**	$m
Investment funds	**645**	676	**48**	45
– Canadian equity funds	**—**	20	**—**	1
– Global equity funds	**66**	23	**5**	2
– Emerging markets equity funds	**—**	7	**—**	—
– Fixed income funds	**579**	626	**43**	42
Other	**7**	15	**—**	3
– Alternative investments	**—**	12	**—**	1
– Cash and cash equivalents and other	**7**	3	**—**	2
Total	**652**	691	**48**	48

1. *Comparatives have been aligned to conform to current year presentation.*

The actual return on plan assets for the year ended 31 December 2021 was a loss of $21m (2020: gain of $60m).

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 2020 and the most recent actuarial valuation of the non-pension arrangements was as at 31 December 2020. Based on the most recent valuations of the plans, the bank expects to make $17.1m of contributions to defined benefit pension plans during 2022.

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	
	2021	2020	**2021**	2020
	$m	$m	**$m**	$m
Actuarial (losses)/gains on assets	**(39)**	40	**—**	—
Actuarial gains/(losses) on liabilities	**46**	(49)	**6**	(10)
Actuarial gains/(losses) on maximum balance sheet item	**28**	(34)	**—**	—
Net charge to the consolidated statement of comprehensive income	**35**	(43)	**6**	(10)

6 Share-based payments

Share-based payments income statement charge

	2021	2020
	$m	$m
Restricted share awards	**6**	7
Year ended 31 Dec	**6**	7

During 2021, $6m was charged to the income statement in respect of share-based payment transactions (2020: $7m) 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 2021 was $7.30 per share (2020: $9.47 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 $6m as at 31 December 2021 (2020: $6m) to its parent, HSBC Holdings, for the funding of awards that will vest in the future.

7 Tax expense

Analysis of tax expense

	2021	2020
	$m	$m
Current taxation	**228**	141
– federal	**128**	79
– provincial	**100**	62
Deferred taxation	**7**	(45)
– origination and reversal of temporary differences	**7**	(45)
Year ended 31 Dec	**235**	96

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:

	2021	2020
	%	%
Combined federal and provincial income tax rate	**26.5**	26.6
Adjustments to the tax rate	**(1.8)**	(2.9)
Effective tax rate	**24.7**	23.7

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 $88m increase in equity (2020: $62m decrease in equity).

Deferred Taxation

Movement in deferred taxation during the year

	2021	2020
	$m	$m
At 1 Jan	**121**	62
Income statement credit/(charge)	**(18)**	45
Income statement credit - prior period	**11**	—
Other comprehensive income:	**(11)**	14
– actuarial gains and losses	**(11)**	14
At 31 Dec	**103**	121

Deferred taxation accounted for in the balance sheet

	2021	2020
	$m	$m
Net deferred tax assets	**103**	121
– retirement benefits	**72**	83
– expected credit losses	**67**	71
– property, plant and equipment	**(26)**	(28)
– assets leased to customers	**(45)**	(46)
– share-based payments	**2**	5
– other temporary differences	**33**	36

The amount of temporary differences for which no deferred tax asset is recognized in the balance sheet is $11.1m (2020: $11.1m). 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 $208m (2020: $218m).

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

	Footnotes	2021		2020	
		$ per share	**$m**	$ per share	$m
Common shares	1	**0.79283**	**435**	0.32085	160
Class 1 preferred shares:					
– Series G	2	**—**	**—**	0.50000	10
– Series H	2	**0.76505**	**15**	0.39471	8
– Series I		**1.15000**	**16**	1.15000	16
– Series K		**1.36252**	**14**	1.36252	14

1. *On 30 March 2020, the bank issued an additional 50,000,000 common shares to HSBC Overseas Holdings (UK) Limited.*
2. *The holder of preferred shares Series G exercised their option to convert the preferred shares Series G into preferred shares Series H on 30 June 2020 in accordance with their terms; initial dividends on the preferred shares Series H were declared during the third quarter of 2020 and paid in accordance with their terms in the usual manner on 30 September 2020 or the first business day thereafter.*

9 Segment analysis

Change in reportable segments

During the fourth quarter of 2021, we implemented a change to our internal management reporting to align with changes to the governance structure and how we assess business performance of our 'Global Banking and Markets' business, which is now being reported and managed as two separate operating segments: 'Global Banking' and 'Markets and Securities Services'. The new reporting structure does not change the HSBC Group's management of its Global Banking and Markets strategy. We have aligned our segment reporting to reflect this change for all periods presented.

Our business segments

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

Global Banking provides 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.

Markets and Securities Services

Markets and Securities Services enables our corporate and institutional clients to access financial markets and liquidity, unlock investment opportunities, manage risk and transact seamlessly. We bring together financing solutions, sales and trading, research, clearing and settlement, global and direct custody, and asset servicing.

Wealth and Personal Banking

Wealth and Personal Banking 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).

Profit/(loss) for the year

	2021					
	Commercial Banking	Global Banking[1]	Markets and Securities Services[1]	Wealth and Personal Banking	Corporate Centre[2]	Total
	$m	$m	$m	$m	$m	$m
Net interest income	581	92	24	523	6	1,226
Net fee income	409	123	11	254	(3)	794
Net income from financial instruments held for trading	37	—	52	31	(8)	112
Other income	14	5	3	35	26	83
Total operating income	**1,041**	**220**	**90**	**843**	**21**	**2,215**
Change in expected credit losses and other credit impairment charges	29	9	—	7	—	45
Net operating income	**1,070**	**229**	**90**	**850**	**21**	**2,260**
– external	1,073	192	91	881	23	2,260
– inter-segment	(3)	37	(1)	(31)	(2)	—
Total operating expenses	**(389)**	**(86)**	**(52)**	**(674)**	**(107)**	**(1,308)**
Profit/(loss) before income tax expense	**681**	**143**	**38**	**176**	**(86)**	**952**

1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation.*
2. *Corporate Centre is not an operating segment of the Bank. The numbers in this column provide a reconciliation between operating segments and the entity results.*

Profit/(loss) for the year

	2020					
	Commercial Banking	Global Banking[1]	Markets and Securities Services[1]	Wealth and Personal Banking	Corporate Centre[2]	Total
	$m	$m	$m	$m	$m	$m
Net interest income	525	98	26	486	(49)	1,086
Net fee income	371	106	14	222	—	713
Net income from financial instruments held for trading	36	3	57	38	(2)	132
Other income	17	13	5	31	27	93
Total operating income/(loss)	949	220	102	777	(24)	2,024
Change in expected credit losses and other credit impairment charges	(256)	(34)	—	(37)	—	(327)
Net operating income/(loss)	693	186	102	740	(24)	1,697
– external	782	157	108	648	2	1,697
– inter-segment	(89)	29	(6)	92	(26)	—
Total operating expenses	(396)	(99)	(54)	(670)	(74)	(1,293)
Profit/(loss) before income tax expense	297	87	48	70	(98)	404

1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation.*
2. *Corporate Centre is not an operating segment of the Bank. The numbers in this column provide a reconciliation between operating segments and the entity results.*

Balance sheet information

	Commercial Banking	Global Banking[1]	Markets and Securities Services[1]	Wealth and Personal Banking	Corporate Centre[2]	Total
	$m	$m	$m	$m	$m	$m
At 31 Dec 2021						
Loans and advances to customers	**29,203**	**3,580**	**—**	**35,916**	**—**	**68,699**
Customers' liability under acceptances	**2,610**	**926**	**—**	**12**	**—**	**3,548**
Total external assets	**42,613**	**8,577**	**16,147**	**51,841**	**675**	**119,853**
Customer accounts	**27,344**	**6,787**	**72**	**39,423**	**—**	**73,626**
Acceptances	**2,618**	**926**	**—**	**12**	**—**	**3,556**
Total external liabilities	**37,104**	**10,377**	**14,511**	**50,791**	**194**	**112,977**
At 31 Dec 2020						
Loans and advances to customers	25,642	3,794	—	31,566	—	61,002
Customers' liability under acceptances	2,687	1,344	—	12	—	4,043
Total external assets	41,213	14,752	14,357	46,704	321	117,347
Customer accounts	25,188	7,769	190	38,803	—	71,950
Acceptances	2,703	1,347	—	12	—	4,062
Total external liabilities	35,345	14,463	11,765	48,505	387	110,465

1. *Effective from the fourth quarter of 2021, we have separated the business segment previously named 'Global Banking and Markets' into 'Global Banking' and 'Markets and Securities Services' to reflect our new operating segments. All comparatives have been aligned to conform to current year presentation.*
2. *Corporate Centre is not an operating segment of the Bank. The numbers in this column provide a reconciliation between operating segments and the entity results.*

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:

		2021				
		Financial instruments measured at FVPL	**Debt instruments measured at FVOCI**	**Equity instruments measured at FVOCI**	**Financial instruments measured at amortized cost**	**Total**
	Footnote	**$m**	**$m**	**$m**	**$m**	**$m**
Financial assets						
Cash and balances at central bank		**—**	**—**	**—**	**13,955**	**13,955**
Items in the course of collection from other banks		**—**	**—**	**—**	**9**	**9**
Trading assets		**2,907**	**—**	**—**	**—**	**2,907**
Other financial assets mandatorily measured at fair value through profit or loss		**18**	**—**	**—**	**—**	**18**
Derivatives		**2,773**	**—**	**—**	**—**	**2,773**
Loans and advances to banks		**—**	**—**	**—**	**1,659**	**1,659**
Loans and advances to customers	*1*	**—**	**—**	**—**	**68,699**	**68,699**
Reverse repurchase agreements – non-trading		**—**	**—**	**—**	**9,058**	**9,058**
Financial investments		**—**	**14,958**	**11**	**—**	**14,969**
Customers' liability under acceptances		**—**	**—**	**—**	**3,548**	**3,548**
Total		**5,698**	**14,958**	**11**	**96,928**	**117,595**
Financial liabilities						
Deposits by banks		**—**	**—**	**—**	**1,313**	**1,313**
Customer accounts		**—**	**—**	**—**	**73,626**	**73,626**
Repurchase agreements – non-trading		**—**	**—**	**—**	**8,044**	**8,044**
Items in the course of transmission to other banks		**—**	**—**	**—**	**253**	**253**
Trading liabilities		**3,598**	**—**	**—**	**—**	**3,598**
Derivatives		**2,978**	**—**	**—**	**—**	**2,978**
Debt securities in issue		**—**	**—**	**—**	**14,339**	**14,339**
Acceptances		**—**	**—**	**—**	**3,556**	**3,556**
Subordinated liabilities		**—**	**—**	**—**	**1,011**	**1,011**
Total		**6,576**	**—**	**—**	**102,142**	**108,718**
		2020				
Financial assets						
Cash and balances at central bank		—	—	—	15,750	15,750
Items in the course of collection from other banks		—	—	—	13	13
Trading assets		1,719	—	—	—	1,719
Other financial assets mandatorily measured at fair value through profit or loss		9	—	—	—	9
Derivatives		5,447	—	—	—	5,447
Loans and advances to banks		—	—	—	1,270	1,270
Loans and advances to customers	*1*	—	—	—	61,002	61,002
Reverse repurchase agreements – non-trading		—	—	—	5,996	5,996
Financial investments		—	19,873	6	—	19,879
Customers' liability under acceptances		—	—	—	4,043	4,043
Total		7,175	19,873	6	88,074	115,128
Financial liabilities						
Deposits by banks		—	—	—	1,139	1,139
Customer accounts		—	—	—	71,950	71,950
Repurchase agreements – non-trading		—	—	—	3,227	3,227
Items in the course of transmission to other banks		—	—	—	181	181
Trading liabilities		1,831	—	—	—	1,831
Derivatives		5,647	—	—	—	5,647
Debt securities in issue		—	—	—	17,387	17,387
Acceptances		—	—	—	4,062	4,062
Subordinated liabilities		—	—	—	1,011	1,011
Total		7,478	—	—	98,957	106,435

1. *Includes finance lease receivables that are measured in accordance with IFRS 16. Refer note 27 for details.*

11 Trading assets

	Footnote	2021 $m	2020 $m
Debt securities			
– Canadian and Provincial Government bonds	1	**2,536**	1,486
– treasury and other eligible bills		**165**	121
– other debt securities		**206**	112
At 31 Dec		**2,907**	1,719
Trading assets		**2,907**	1,719
– not subject to repledge or resale by counterparties		**1,087**	1,012
– which may be repledged or resold by counterparties		**1,820**	707

1. *Including government guaranteed bonds.*

Term to maturity of debt securities

	2021 $m	2020 $m
Less than 1 year	**1,114**	273
1-5 years	**879**	412
5-10 years	**580**	386
Over 10 years	**334**	648
At 31 Dec	**2,907**	1,719

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	**1,199**	**1**	**1,200**	**1,213**	**36**	**1,249**
Interest rate	**1,452**	**121**	**1,573**	**1,612**	**117**	**1,729**
Commodity	**—**	**—**	**—**	**—**	**—**	**—**
At 31 Dec 2021	**2,651**	**122**	**2,773**	**2,825**	**153**	**2,978**
Foreign exchange	1,861	—	1,861	1,913	—	1,913
Interest rate	3,323	261	3,584	3,317	415	3,732
Commodity	2	—	2	2	—	2
At 31 Dec 2020	5,186	261	5,447	5,232	415	5,647

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	**127,005**	**75,378**	**35,735**	**238,118**	**3,764**	**13,650**	**—**	**17,414**	**255,532**
– futures	**21,843**	**2,611**	**60**	**24,514**	**—**	**—**	**—**	**—**	**24,514**
– swaps	**103,767**	**72,724**	**35,675**	**212,166**	**3,764**	**13,650**	**—**	**17,414**	**229,580**
– caps	**41**	**43**	**—**	**84**	**—**	**—**	**—**	**—**	**84**
– other interest rate	**1,354**	**—**	**—**	**1,354**	**—**	**—**	**—**	**—**	**1,354**
Foreign exchange contracts	**130,400**	**11,482**	**222**	**142,104**	**64**	**1,079**	**—**	**1,143**	**143,247**
– spot	**8,648**	**—**	**—**	**8,648**	**—**	**—**	**—**	**—**	**8,648**
– forward	**112,831**	**6,023**	**—**	**118,854**	**—**	**—**	**—**	**—**	**118,854**
– currency swaps and options	**8,921**	**5,459**	**222**	**14,602**	**64**	**1,079**	**—**	**1,143**	**15,745**
Other derivative contracts	**4**	**—**	**—**	**4**	**—**	**—**	**—**	**—**	**4**
– commodity	**4**	**—**	**—**	**4**	**—**	**—**	**—**	**—**	**4**
At 31 Dec 2021	**257,409**	**86,860**	**35,957**	**380,226**	**3,828**	**14,729**	**—**	**18,557**	**398,783**
Interest rate contracts	229,301	144,246	35,068	408,615	1,364	14,567	515	16,446	425,061
– futures	7,527	30,411	—	37,938	—	—	—	—	37,938
– swaps	221,278	113,785	35,068	370,131	1,364	14,567	515	16,446	386,577
– caps	134	50	—	184	—	—	—	—	184
– other interest rate	362	—	—	362	—	—	—	—	362
Foreign exchange contracts	129,923	14,199	227	144,349	—	64	—	64	144,413
– spot	7,854	—	—	7,854	—	—	—	—	7,854
– forward	107,612	5,735	—	113,347	—	—	—	—	113,347
– currency swaps and options	14,457	8,464	227	23,148	—	64	—	64	23,212
Other derivative contracts	428	—	—	428	—	—	—	—	428
– commodity	428	—	—	428	—	—	—	—	428
At 31 Dec 2020	359,652	158,445	35,295	553,392	1,364	14,631	515	16,510	569,902

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 23).

	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	**1,452**	**(1,612)**	**(160)**	**121**	**(117)**	**4**	**(156)**
– swaps	**1,442**	**(1,608)**	**(166)**	**121**	**(117)**	**4**	**(162)**
– caps	**—**	**—**	**—**	**—**	**—**	**—**	**—**
– other interest rate	**10**	**(4)**	**6**	**—**	**—**	**—**	**6**
Foreign exchange contracts	**1,199**	**(1,213)**	**(14)**	**1**	**(36)**	**(35)**	**(49)**
– spot	**30**	**(8)**	**22**	**—**	**—**	**—**	**22**
– forward	**840**	**(878)**	**(38)**	**—**	**—**	**—**	**(38)**
– currency swaps and options	**329**	**(327)**	**2**	**1**	**(36)**	**(35)**	**(33)**
Other derivative contracts	**—**	**—**	**—**	**—**	**—**	**—**	**—**
– commodity	**—**	**—**	**—**	**—**	**—**	**—**	**—**
At 31 Dec 2021	**2,651**	**(2,825)**	**(174)**	**122**	**(153)**	**(31)**	**(205)**
Interest rate contracts	3,323	(3,317)	6	261	(415)	(154)	(148)
– swaps	3,320	(3,313)	7	261	(415)	(154)	(147)
– caps	—	(1)	(1)	—	—	—	(1)
– other interest rate	3	(3)	—	—	—	—	—
Foreign exchange contracts	1,861	(1,913)	(52)	—	—	—	(52)
– spot	3	(4)	(1)	—	—	—	(1)
– forward	1,342	(1,397)	(55)	—	—	—	(55)
– currency swaps and options	516	(512)	4	—	—	—	4
Other derivative contracts	2	(2)	—	—	—	—	—
– commodity	2	(2)	—	—	—	—	—
At 31 Dec 2020	5,186	(5,232)	(46)	261	(415)	(154)	(200)

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

	2021				2020			
	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	**255,532**	**146**	**390**	**189**	425,061	278	640	487
– futures	**24,514**	**—**	**8**	**—**	37,938	—	11	—
– swaps	**229,580**	**136**	**357**	**188**	386,577	274	613	485
– caps	**84**	**—**	**1**	**—**	184	—	1	1
– other interest rate contracts	**1,354**	**10**	**24**	**1**	362	4	15	1
Foreign exchange contracts	**143,247**	**340**	**1,728**	**501**	144,413	511	2,220	679
– spot	**8,648**	**—**	**—**	**—**	7,854	—	—	—
– forward	**118,854**	**184**	**1,341**	**352**	113,347	282	1,708	418
– currency swaps and options	**15,745**	**156**	**387**	**149**	23,212	229	512	261
Other derivative contracts	**4**	**—**	**—**	**—**	428	—	—	—
– commodity	**4**	**—**	**—**	**—**	428	—	—	—
At 31 Dec	**398,783**	**486**	**2,118**	**690**	569,902	789	2,860	1,166

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	**8,704**	**42**	**62**	**Derivatives**	**198**
At 31 Dec 2021	**8,704**	**42**	**62**		**198**
Interest rate	10,772	42	415	Derivatives	(507)
At 31 Dec 2020	10,772	42	415		(507)

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	**6,574**	**—**	**20**	**—**	**Financial investments**	**(226)**	**—**	**Net income from financial instruments held for trading**
	—	**2,307**	**—**	**(7)**	**Debt securities in issue**	**28**		
At 31 Dec 2021	**6,574**	**2,307**	**20**	**(7)**		**(198)**	**—**	
Interest rate	8,905	—	390	—	Financial investments	554	4	Net income from financial instruments held for trading
	—	2,428	—	(35)	Debt securities in issue	(44)		
At 31 Dec 2020	8,905	2,428	390	(35)		510	4	

1. *Used in effectiveness assessment; comprising amount attributable to the designated hedged risk that can be a risk component.*

Sources of hedge ineffectiveness may arise from basis risk including but not limited to 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.

Timing of the notional amounts and average rates of the hedging instruments (excluding dynamic hedges)

	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	%
Interest rate						
– swaps	**1,264**	**1.32**	**1,038**	**2.44**	**—**	**—**
At 31 Dec 2021	**1,264**		**1,038**		**—**	
Interest rate						
– swaps	77	2.28	2,285	2.17	35	2.97
At 31 Dec 2020	77		2,285		35	

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	**1,143**	**1**	**36**	**Derivatives**	**(35)**	**35**	**—**	**Net income from financial instruments held for trading**
Interest rate	**8,710**	**79**	**55**	**Derivatives**	**(115)**	**111**	**(4)**	
At 31 Dec 2021	**9,853**	**80**	**91**		**(150)**	**146**	**(4)**	
Foreign currency	64	—	—	Derivatives	63	(63)	—	Net income from financial instruments held for trading
Interest rate	5,674	219	—	Derivatives	265	(262)	3	
At 31 Dec 2020	5,738	219	—		328	(325)	3	

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

	2021		2020	
	Interest rate	Foreign Currency	Interest rate	Foreign Currency
	$m	$m	$m	$m
Cash flow hedging reserve at 1 Jan	**141**	**—**	4	(1)
Fair value (losses)/gains	**(111)**	**(35)**	261	63
Fair value (gains)/losses reclassified from the cash flow hedge reserve to the income statement	**(92)**	**45**	(74)	(62)
Income taxes	**54**	**(3)**	(50)	—
Cash flow hedging reserve at 31 Dec	**(8)**	**7**	141	—

Interest Rate Benchmark Reform: Amendments to IFRS 9 and IAS 39 'Financial Instruments'

The bank has adopted both the first set of amendments ('Phase 1') and the second set of amendments ('Phase 2') to IFRS 9 and IAS 39 applicable to hedge accounting. The hedge accounting relationships that are affected by Phase 1 and Phase 2 amendments are presented in the balance sheet as 'Financial investments', 'Loans and advances to customers', 'Debt securities in issue' and 'Deposits by banks'. The notional value of the derivatives impacted by the IBORs reform, including those designated in hedge accounting relationships, is disclosed on page 68 in the section 'Financial instruments impacted by IBOR reform'. For further details of IBOR transition, see page 67.

During 2021, as part of risk management, the bank transitioned some US dollar LIBOR hedging instruments.

The Bank of Canada's Canadian Alternative Reference Rate ('CARR') working group was tasked to analyze the current status of the Canadian Dollar Offered Rate ('CDOR') and to make recommendations. In December 2021, the CARR recommended the administrator of CDOR to cease the publication of CDOR after 30 June 2024. The final decision to cease CDOR remains solely with the administrator. The bank will continue to monitor the situation closely and may be required to transition out of CDOR hedging derivatives as this is the most significant IBOR benchmark in which the bank continues to have hedging instruments. These potential transitions are not likely to necessitate new approaches compared with any of the mechanisms used so far for transition and it will not be necessary to change the transition risk management strategy.

In 2021, the bank expanded its CORRA-linked product offering and will implement a transition program of CDOR-linked products as needed.

The notional amounts of interest rate derivatives designated in hedge accounting relationships represent the extent of the risk exposure managed by the bank that is expected to be directly affected by market-wide IBORs reform and in scope of Phase 1 amendments are disclosed in the table below. The cross-currency swaps designated in hedge accounting relationships and affected by IBOR reform are not significant and have not been presented below.

Hedging instrument impacted by IBOR reform

	Hedging instrument					
	Impacted by IBOR Reform[1]					
	GBP	USD	CAD	Total	Not Impacted by IBOR Reform	Notional contract amount[2]
	$m	$m	$m	$m	$m	$m
Fair Value Hedges	**—**	**2,689**	**4,036**	**6,725**	**1,979**	**8,704**
Cash Flow Hedges	**—**	**—**	**8,710**	**8,710**	**1,143**	**9,853**
At 31 Dec 2021	**—**	**2,689**	**12,746**	**15,435**	**3,122**	**18,557**
Fair Value Hedges	69	5,382	5,282	10,733	39	10,772
Cash Flow Hedges	—	—	5,674	5,674	64	5,738
At 31 Dec 2020	69	5,382	10,956	16,407	103	16,510

1. *Certain contracts will mature prior to the LIBOR demise date.*
2. *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.*

13 Financial investments

Carrying amount of financial investments

	Footnote	2021	2020
		$m	$m
Debt securities		**14,958**	19,873
– Canadian and Provincial Government bonds	1	**9,760**	11,782
– international Government bonds	1	**2,375**	2,838
– other debt securities issued by banks and other financial institutions		**2,430**	3,502
– treasury and other eligible bills		**393**	1,751
Equity securities		**11**	6
At 31 Dec		**14,969**	19,879
Financial investments		**14,969**	19,879
– not subject to repledge or resale by counterparties		**13,637**	19,788
– which may be repledged or resold by counterparties		**1,332**	91

1. *Includes government guaranteed bonds.*

Term to maturity of financial investments

	2021	2020
	$m	$m
Less than 1 year	**1,882**	3,285
1-5 years	**13,001**	15,694
5-10 years	**75**	894
No specific maturity	**11**	6
At 31 Dec	**14,969**	19,879

14 Property, plant and equipment

	Leasehold improvements	Equipment, fixtures and fittings	Right-of-use assets[1]	Total
	$m	$m	$m	$m
Cost				
At 1 Jan 2021	**139**	**51**	**293**	**483**
Additions at cost	**15**	**14**	**45**	**74**
Disposals and write-offs	**(58)**	**(8)**	**(14)**	**(80)**
Net remeasurements	**—**	**—**	**(7)**	**(7)**
At 31 Dec 2021	**96**	**57**	**317**	**470**
Accumulated depreciation and impairment				
At 1 Jan 2021	**(91)**	**(31)**	**(84)**	**(206)**
Depreciation and impairment charge for the year	**(24)**	**(11)**	**(46)**	**(81)**
Disposals and write-offs	**58**	**8**	**14**	**80**
At 31 Dec 2021	**(57)**	**(34)**	**(116)**	**(207)**
Net carrying amount at 31 Dec 2021	**39**	**23**	**201**	**263**

1. *The recognized right-of-use assets relate to the lease of properties for our branches and offices.*

	Leasehold improvements	Equipment, fixtures and fittings	Right-of-use assets[1]	Total
	$m	$m	$m	$m
Cost				
At 1 Jan 2020	163	51	289	503
Additions at cost	7	4	13	24
Disposals and write-offs	(31)	(4)	(3)	(38)
Net remeasurements	—	—	(6)	(6)
At 31 Dec 2020	139	51	293	483
Accumulated depreciation and impairment				
At 1 Jan 2020	(99)	(25)	(40)	(164)
Depreciation and impairment charge for the year	(21)	(10)	(47)	(78)
Disposals and write-offs	29	4	3	36
At 31 Dec 2020	(91)	(31)	(84)	(206)
Net carrying amount at 31 Dec 2020	48	20	209	277

1. *The recognized right-of-use assets relate to the lease of properties for our branches and offices.*

15 Investments in subsidiaries

At 31 December 2021, HSBC Bank Canada wholly-owned the following principal subsidiaries:

Subsidiary	Place of incorporation	Carrying value of voting shares[1]
		$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 Investment Counsel (Canada) Inc.	Toronto, Ontario, Canada	14

1. *The carrying value of voting shares is the bank's equity in such investments.*

16 Structured entity and other arrangements

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 either the Canada Housing Trust or directly to the Canada Mortgage and Housing Corporation through the Government of Canada's Insured Mortgage Purchase Program. The Canada Housing Trust is 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 or the Canada Mortgage and Housing Corporation. The bank's only exposure to the Trust and the Corporation is derived from the contractual arrangements arising from the legal transfer of the mortgage backed securities and related collateral. Additional information can be found in note 24 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 24.

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 20 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 and 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.

17 Other assets

	2021	2020
	$m	$m
Accounts receivable	462	339
Settlement accounts	494	614
Cash collateral	413	470
Other	8	7
At 31 Dec	**1,377**	1,430

18 Goodwill and intangible assets

	2021	2020
	$m	$m
Goodwill	23	23
Computer software	158	144
At 31 Dec	**181**	167

Impairment testing

The bank's impairment test in respect of goodwill allocated to a cash-generating unit ('CGU') is performed annually in early January, unless there is an early indication of impairment. As at 31 December 2021, the net recoverable amount exceeds the carry value of the cash-generating unit including goodwill. Therefore, no goodwill impairment was recognized in 2021 (2020: nil).

Basis of the recoverable amount

The recoverable amount of CGU to which goodwill has been allocated is based on value in use ('VIU'). The VIU is calculated by discounting management's cash flow projections for the CGU.

19 Trading liabilities

	2021	2020
	$m	$m
Net short positions in securities	3,598	1,831
At 31 Dec	**3,598**	1,831

20 Debt securities in issue

	2021	2020
	$m	$m
Bonds and medium term notes	8,743	9,218
Covered bonds	3,614	3,883
Money market instruments	1,982	4,286
At 31 Dec	**14,339**	17,387

Term to maturity

	Footnote	2021	2020
		$m	$m
Less than 1 year	1	5,583	7,456
1-5 years	1	8,756	9,896
5-10 years		—	35
At 31 Dec		**14,339**	17,387

1. *Includes covered bonds.*

The Canadian registered covered bonds, which are debt securities in issue, are secured by a segregated pool of uninsured residential mortgages on properties in Canada that is held by a separate guarantor entity, 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 2021, the total amount of the mortgages transferred and outstanding was $9,359m (2020: $11,294m) and $3,614m of covered bonds were recorded as debt securities in issue on our consolidated balance sheet (2020: $3,883m).

21 Other liabilities

	2021	2020
	$m	$m
Mortgages sold with recourse	**2,163**	1,955
Lease liabilities	**225**	226
Accounts payable	**640**	282
Settlement accounts	**371**	354
Cash collateral	**67**	225
Other	**45**	49
Share based payment related liability	**6**	6
At 31 Dec	**3,517**	3,097

22 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:

		Year of Maturity	**Carrying amount**	
			2021	**2020**
	Footnote		**$m**	**$m**
Interest rate (%)				
Issued to HSBC 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	**11**	11
Debt and debentures at amortized cost			**1,011**	1,011

1. *The subordinated debt issued to HSBC Group 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.*

23 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, 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.

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 or the Risk Free Rate ('RFR') curve where available 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 or RFR.

Derivative products valued using valuation techniques with significant unobservable inputs comprise certain long-dated foreign exchange options.

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 2021				
Assets				
Trading assets	**2,750**	**157**	**—**	**2,907**
Other financial assets mandatorily measured at fair value through profit or loss	**—**	**18**	**—**	**18**
Derivatives	**—**	**2,773**	**—**	**2,773**
Financial investments	**14,958**	**11**	**—**	**14,969**
Liabilities				
Trading liabilities	**3,571**	**27**	**—**	**3,598**
Derivatives	**—**	**2,978**	**—**	**2,978**
At 31 Dec 2020				
Assets				
Trading assets	1,659	60	—	1,719
Other financial assets mandatorily measured at fair value through profit or loss	—	9	—	9
Derivatives	—	5,447	—	5,447
Financial investments	19,873	6	—	19,879
Liabilities				
Trading liabilities	1,776	55	—	1,831
Derivatives	—	5,647	—	5,647

Transfers between Level 1 and Level 2 fair values

	Assets		Liabilities
	Trading assets	Financial investments	Trading liabilities
	$m	$m	$m
At 31 Dec 2021			
Transfer from Level 1 to Level 2	**—**	**—**	**—**
Transfer from Level 2 to Level 1	**—**	**—**	**—**
At 31 Dec 2020			
Transfer from Level 1 to Level 2	14	—	25
Transfer from Level 2 to Level 1	—	12	—

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 changes in observability of valuation inputs and price transparency.

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

		2021					2020	
		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	**68,699**	**68,734**	**–**	**–**	**68,734**	61,002	61,309
Liabilities								
Customer accounts		**73,626**	**73,736**	**–**	**73,736**	**–**	71,950	72,234
Debt securities in issue		**14,339**	**14,466**	**–**	**14,466**	**–**	17,387	17,792
Subordinated liabilities		**1,011**	**1,074**	**–**	**1,074**	**–**	1,011	1,047

1. *Loans and advances to customers specifically relating to Canada: carrying amount $64,909m and fair value $64,942m.*

24 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.

	Footnotes	2021	2020
		$m	$m
Cash		413	470
Residential mortgages	1	9,103	8,984
Debt securities		3,387	1,060
At 31 Dec		**12,903**	10,514

1. *Includes the mortgages pledged for 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 rare circumstances are we 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 2021 or 2020. 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 $11,035m (2020: $6,513m). The fair value of financial assets accepted as collateral that have been sold or repledged is $9,938m (2020: $4,630m). 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. The assets pledged, as disclosed in the previous section, include transfers to third parties that do not qualify for derecognition.

Transferred financial assets not qualifying for full derecognition and associated financial liabilities

		Carrying amount of:		Fair value of:		
	Footnotes	Transferred assets $m	Associated liabilities $m	Transferred assets $m	Associated liabilities $m	Net position $m
At 31 Dec 2021						
– assets securitized		**2,685**	**2,646**	**2,680**	**2,696**	**(16)**
– mortgages sold with recourse		**2,163**	**2,163**	**2,172**	**2,172**	**–**
– repurchase agreements	1	**3,152**	**3,152**	**3,152**	**3,152**	**–**
At 31 Dec 2020						
– assets securitized		2,470	2,441	2,490	2,530	(40)
– mortgages sold with recourse		1,955	1,955	2,004	2,004	–
– repurchase agreements	1	797	797	797	797	–

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 $1,340m (2020: $821m) of securitized assets which are collateralized by certain of the bank's mortgage receivables which remain on the bank's balance sheet and are presented within loans and advances to customers. 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.

25 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

	Footnotes	2021 Number of shares	2021 Share capital $m	2020 Number of shares	2020 Share capital $m
Preferred shares Class 1	1	**44,000,000**	**1,100**	44,000,000	1,100
– Series G	2	**—**	**—**	—	—
– Series H	3	**20,000,000**	**500**	20,000,000	500
– Series I	4	**14,000,000**	**350**	14,000,000	350
– Series K	5	**10,000,000**	**250**	10,000,000	250
Common shares	6	**548,668,000**	**1,725**	548,668,000	1,725

1. *The Class 1 preferred shares include non-viability contingency capital ('NVCC') provisions, necessary for the preferred 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 preferred shares against equity.*
2. *The Series G shares are non-voting, non-cumulative and redeemable. Each share yields 4%, payable quarterly, as and when declared. On 30 June 2020 and every 5 years thereafter, the dividend rate will reset to be equal to the then current 5-year Government of Canada bond yield plus 2.94%. 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 holder of the Series G shares may, subject to certain conditions, on 30 June 2020 and every 5 years thereafter, convert a portion or all of the Series G shares into non-cumulative floating rate Series H preferred shares. The holder of the Series G shares exercised their option to convert the Series G shares into Series H shares on 30 June 2020.*
3. *The Series H shares are non-voting, non-cumulative and redeemable. Dividends are based on the three-month Government of Canada Treasury Bill yield plus 2.94%, payable quarterly, as and when declared. Subject to regulatory approval, the bank may (i) on 30 June 2025 and every 5 years thereafter, redeem a portion or all of the Series H shares at a cash redemption price of $25 per share or (ii) on any other date on or after 30 June 2020 redeem a portion or all of the Series H shares at a cash redemption price of $25.50. The holder of the Series H shares may on 30 June 2025 and every 5 years thereafter, convert a portion or all of the Series H shares into Series G shares.*
4. *The Series I 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. On 31 December 2022, and every 5 years thereafter, the dividend rate will reset to be equal to the then current 5-year Government of Canada bond yield plus 2.95%. 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 holder of the Series I shares may, subject to certain conditions, on 31 December 2022 and every 5 years thereafter, convert a portion or all of the Series I shares into non-cumulative floating rate Series J preferred shares. The Series J shares are non-voting, non-cumulative and redeemable. Dividends are based on the three-month Government of Canada Treasury Bill yield plus 2.95%, payable quarterly, as and when declared. Subject to regulatory approval, the bank may (i) on 31 December 2027 and every 5 years thereafter, redeem a portion or all of the Series J shares at a cash redemption price of $25 per share or (ii) on any other date on or after 31 December 2022 redeem a portion or all of the Series J shares at a cash redemption price of $25.50. The holder of the Series J shares may on 31 December 2027 and every 5 years thereafter, convert a portion or all of the Series J shares into Series I shares.*
5. *The Series K shares are non-voting, non-cumulative and redeemable. The initial dividend was fixed at $0.35560 per share and was paid on 31 December 2019. Thereafter, each share yields 5.45%, payable quarterly, as and when declared. On 30 September 2024 and every 5 years thereafter, the dividend rate will reset to be equal to the then current 5-year Government of Canada bond yield plus 4.011%. Subject to regulatory approval, the bank may on 30 September 2024 and every 5 years thereafter, redeem a portion or all of the Series K shares at a cash redemption price of $25 per share. The holder of the Series K shares may, subject to certain conditions, on 30 September 2024 and every 5 years thereafter, convert a portion or all of the Series K shares into non-cumulative floating rate Series L preferred shares. The Series L shares are non-voting, non-cumulative and redeemable. Dividends are based on the three-month Government of Canada Treasury Bill yield plus 4.011%, payable quarterly, as and when declared. Subject to regulatory approval, the bank may (i) on 30 September 2029 and every 5 years thereafter, redeem a portion or all of the Series L shares at a cash redemption price of $25 per share or (ii) on any other date on or after 30 September 2024 redeem a portion or all of the Series L shares at a cash redemption price of $25.50. The holder of the Series L shares may on 30 September 2029 and every 5 years thereafter, convert a portion or all of the Series L shares into Series K shares.*
6. *On 30 March 2020, the bank issued an additional 50,000,000 common shares to HSBC Overseas Holdings (UK) Limited.*

26 Contingent liabilities, contractual commitments and guarantees

	Footnote	2021 $m	2020 $m
Guarantees:			
– financial guarantees	1	**1,949**	1,985
– performance guarantees	2	**3,863**	3,812
At 31 Dec		**5,812**	5,797
Commitments:			
– standby facilities, credit lines and other commitments to lend		**45,959**	43,879
– documentary credits and short-term trade-related transactions		**790**	563
At 31 Dec		**46,749**	44,442

1. *Financial guarantees 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 preceding table discloses the nominal principal amounts of off-balance sheet liabilities and commitments for the bank, which represent the maximum amounts at risk should the contracts be fully drawn upon and the clients default. As a significant portion of guarantees and commitments are expected to expire without being drawn upon, the total of the nominal principal amounts is not indicative of future liquidity requirements.

The 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 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.

27 Finance lease receivables and lease commitments

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. This includes sale and lease-back arrangements. Rentals are calculated to recover the cost of assets less their residual value, and earn finance income.

	2021			2020		
	Total future minimum payments	**Unearned finance income**	**Present value**	Total future minimum payments	Unearned finance income	Present value
	$m	**$m**	**$m**	$m	$m	$m
Lease receivables:						
No later than one year	**592**	**(46)**	**546**	597	(54)	543
One to two years	**439**	**(30)**	**409**	502	(37)	465
Two to three years	**314**	**(19)**	**295**	352	(22)	330
Three to four years	**205**	**(11)**	**194**	233	(13)	220
Four to five years	**161**	**(5)**	**156**	128	(7)	121
Later than five years	**82**	**(3)**	**79**	135	(4)	131
At 31 Dec	**1,793**	**(114)**	**1,679**	1,947	(137)	1,810

Lease commitments

The amount of lease agreements with a commencement date after 31 December 2021 is $37m (2020: $97m).

28 Related party transactions

The immediate parent company of the bank is HSBC Overseas Holdings (UK) Limited and the ultimate parent company is HSBC Holdings. Both are incorporated in England. The bank's related parties include the immediate parent, ultimate 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

		2021	2020
	Footnote	**$m**	$m
Short-term employee benefits	*1*	**16**	13
Post-employment benefits		**1**	1
Share-based payments		**2**	2
Year ended 31 Dec		**19**	16

1. *Directors receive fees but do not receive salaries and other short-term employee benefits.*

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.

		2021		2020	
		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		**13.0**	**11.7**	8.2	4.8
– credit cards		**0.2**	**0.1**	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.

	2021		2020	
	Highest balance during the year	**Balance at 31 December**	Highest balance during the year	Balance at 31 December
	$m	**$m**	$m	$m
Assets				
Derivatives	**3,741**	**2,023**	5,838	4,217
Loans and advances to banks	**1,457**	**1,161**	1,196	1,004
Other assets	**1,609**	**414**	2,444	336
Liabilities				
Deposits by banks	**1,247**	**1,218**	1,195	971
Customer accounts	**81**	**55**	48	48
Repurchase agreements – non-trading	**491**	**205**	785	40
Derivatives	**3,936**	**2,153**	7,473	4,271
Other liabilities	**1,417**	**209**	1,958	282
Subordinated liabilities	**1,000**	**1,000**	1,000	1,000

	2021	2020
	$m	$m
Income Statement		
Interest income	**3**	—
Interest expense	**(8)**	(48)
Fee income	**28**	26
Fee expense	**(30)**	(16)
Other operating income	**22**	31
General and administrative expenses	**(345)**	(312)

29 Offsetting of financial assets and financial liabilities

Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements

		Amounts subject to enforceable netting arrangements						
					Amounts not set off in the balance sheet			
		Gross amounts	**Amounts offset**	**Net amounts in the balance sheet**	**Financial instruments**	**Non-cash collateral**	**Cash collateral**	**Net amount**
	Footnote	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
Financial assets								
Derivatives (note 12)	*1*	**2,773**	**—**	**2,773**	**(2,299)**	**(82)**	**(219)**	**173**
Reverse repurchase agreements:		**11,002**	**(1,944)**	**9,058**	**—**	**(9,058)**	**—**	**—**
– loan and advances to banks at amortized cost		**4,398**	**(12)**	**4,386**	**—**	**(4,386)**	**—**	**—**
– loan and advances to customers at amortized cost		**6,604**	**(1,932)**	**4,672**	**—**	**(4,672)**	**—**	**—**
Loans and advances to customers		**384**	**—**	**384**	**(246)**	**—**	**—**	**138**
At 31 Dec 2021		**14,159**	**(1,944)**	**12,215**	**(2,545)**	**(9,140)**	**(219)**	**311**
Derivatives (note 12)	*1*	5,447	—	5,447	(4,480)	(50)	(326)	591
Reverse repurchase agreements:		6,649	(653)	5,996	—	(5,996)	—	—
– loan and advances to banks at amortized cost		520	(100)	420	—	(420)	—	—
– loan and advances to customers at amortized cost		6,129	(553)	5,576	—	(5,576)	—	—
Loans and advances to customers		844	—	844	(748)	—	—	96
At 31 Dec 2020		12,940	(653)	12,287	(5,228)	(6,046)	(326)	687
Financial liabilities								
Derivatives (note 12)	*1*	**2,978**	**—**	**2,978**	**(2,299)**	**(33)**	**(561)**	**85**
Repurchase agreements		**9,988**	**(1,944)**	**8,044**	**—**	**(8,044)**	**—**	**—**
– deposits by banks at amortized cost		**764**	**(12)**	**752**	**—**	**(752)**	**—**	**—**
– customer accounts at amortized cost		**9,224**	**(1,932)**	**7,292**	**—**	**(7,292)**	**—**	**—**
Customer accounts excluding repos at amortized cost		**1,172**	**—**	**1,172**	**(246)**	**—**	**—**	**926**
At 31 Dec 2021		**14,138**	**(1,944)**	**12,194**	**(2,545)**	**(8,077)**	**(561)**	**1,011**
Derivatives (note 12)	*1*	5,647	—	5,647	(4,480)	(85)	(549)	533
Repurchase agreements		3,880	(653)	3,227	—	(3,227)	—	—
– deposits by banks at amortized cost		1,076	(100)	976	—	(976)	—	—
– customer accounts at amortized cost		2,804	(553)	2,251	—	(2,251)	—	—
Customer accounts excluding repos at amortized cost		1,584	—	1,584	(748)	—	—	836
At 31 Dec 2020		11,111	(653)	10,458	(5,228)	(3,312)	(549)	1,369

1. *Includes derivative amounts that are both subject to and not subject to enforceable master netting agreements and similar agreements.*

30 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.

31 Events after the reporting period

On 17 February 2022, the bank declared regular quarterly dividends for the first quarter of 2022 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 2022 or the first business day thereafter to the shareholder of record on 15 March 2022.

On 17 February 2022, the bank also declared a final dividend of $200m on HSBC Bank Canada common shares in respect of the financial year ending 31 December 2021, which will be paid on or before 30 March 2022 to the shareholder of record on 17 February 2022.

As the quarterly dividends on preferred shares for the first quarter of 2022 and the final dividend on common shares for 2021 were declared after 31 December 2021, the amounts have not been included in the balance sheet of the bank as a liability.

There have been no other material events after the reporting period which would require disclosure or adjustment to the 31 December 2021 consolidated financial statements.

These accounts were approved by the Board of Directors on 17 February 2022 and authorized for issue.

HSBC Group International Network[1]

Services are provided in 64 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	Oman
Isle of Man	New Zealand	Peru	Qatar
Italy	Philippines	United States of America	Saudi Arabia
Luxembourg	Singapore	Uruguay	South Africa
Malta	Sri Lanka		Turkey
Netherlands	Taiwan		United Arab Emirates
Poland	Thailand		
Russia	Vietnam		
Spain	Hong Kong Special Administrative Region		
Sweden	Macau Special Administrative Region		
Switzerland			
United Kingdom			

[1]As of 31 December 2021

Executive Committee[1]

Linda Seymour
Group General Manager, President and Chief Executive Officer
Toronto

Lisa Dalton
Chief of Staff, Office of the CEO
Vancouver

Georgia Stavridis
Executive Vice President and Chief Compliance Officer
Vancouver

Larry Tomei
Executive Vice President and Head of Wealth and Personal Banking
Toronto

Lilac Bosma
General Counsel
Vancouver

Kimberly Flood
Senior Vice President and Head of Communications
Toronto

Gerhardt Samwell
Chief Financial Officer
Vancouver

Sophia Tsui
Chief Risk Officer
Vancouver

Andrew Cherry
Head of Global Markets
Toronto

Kim Hallwood
Head of Corporate Sustainability
Vancouver

Kim Toews
Executive Vice President and Head of Human Resources
Vancouver

Alan Turner
Executive Vice President and Head of Commercial Banking
Toronto

Anna Camilleri
Senior Vice President and Chief Auditor
Vancouver

Scott Lampard
Executive Vice President and Managing Director, Head of Global Banking
Toronto

Caroline A Tose
Chief Operating Officer
Vancouver

Board of Directors[1]

Samuel Minzberg
Chair of the Board, HSBC Bank Canada and Of Counsel, Davies Ward Phillips & Vineberg LLP

Beth S. Horowitz
Corporate Director

Andrea Nicholls
Chief Financial Officer
Dentons' Canada Region

Linda Seymour
Group General Manager, President and Chief Executive Officer, HSBC Bank Canada

Judith J. Athaide
President and Chief Executive Officer, Cogent Group Inc.

Robert G. McFarlane
Chair of the Audit, Risk and Conduct Review Committee, HSBC Bank Canada and Corporate Director

Michael Roberts
Group Managing Director and Chief Executive Officer, HSBC US and Americas, HSBC Holdings plc
President and Chief Executive Officer, HSBC North America Holdings Inc.

Larry Tomei
Executive Vice President and Head of Wealth and Personal Banking, HSBC Bank Canada

Karen L. Gavan
Corporate Director

Fiona Macfarlane
Corporate Director

Mark S. Saunders
Corporate Director

[1] As of February 2022

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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

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