NATIONAL BANK

Annual Report 2020

At a Glance

Founded in 1859, National Bank of Canada offers financial services to individuals, businesses, institutional clients and governments across Canada. We are one of Canada's six systemically important banks and among the most profitable banks on a global basis by return on equity.

We operate through three business segments in Canada—Personal and Commercial Banking, Wealth Management and Financial Markets. A fourth segment—U.S. Specialty Finance and International—complements the growth of our domestic operations.

We are a leading bank in our core Quebec market and also hold leadership positions across the country in selected activities.

We strive to meet the highest standards of social responsibility while creating value for our shareholders. We are proud to be recognized as an employer of choice and for promoting diversity and inclusion.

We are headquartered in Montreal, and our securities are listed on the Toronto Stock Exchange (TSX: NA).

2.7 million Clients[(1)]

26,517 Employees[(2)]

483 Branches[(3)]

1,573 Banking Machines[(4)]

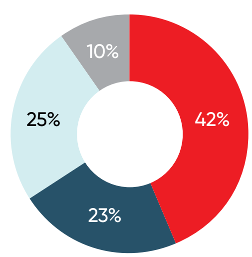
$597 B Assets Under Administration and Under Management

$332 B Total Assets

$7,927 M Total Revenues

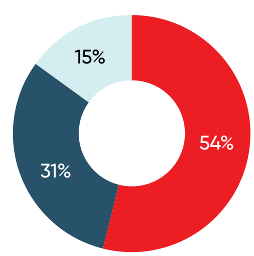
$2,083 M Net Income

$21.5 B Market Capitalization



2020 Total Revenues by Business Segment[(5)]

- Personal and Commercial
- Wealth Management
- Financial Markets
- U.S. Specialty Finance and International



2020 Total Revenues by Geographic Distribution[(5)]

- Province of Quebec
- Other Canadian provinces
- Outside of Canada

(1) Clients of the Personal and Commercial segment
(2) Worldwide
(3) 403 in Canada, 77 in Cambodia and 3 in the United States (Florida)
(4) 940 in Canada and 633 in Cambodia
(5) On a taxable equivalent basis and excluding the *Other* heading

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Investing in National Bank

Superior ROE[1]
2020

14.9%
15.8%[2]

Strong Growth in Income Before Provisions for Credit Losses and Income Taxes[3]
2019–2020

+8.0%

Solid Capital Position[4]
As at October 31, 2020

11.8%

- Canadian super-regional bank with leading franchise in Quebec
- Targeted growth strategy across Canada
- Focused international strategy delivering high returns
- Diversified business model and disciplined cost management
- Defensive credit positioning with sound geographic and product diversification
- Strong capital levels
- Superior ROE[1]
- Attractive dividend yield

Industry-Leading Total Shareholder Returns
(CAGR[5] for the periods ended October 31, 2020)

	Ranking[6]	National Bank	Canadian Peers[6]	TSX
1 year	#1	(2)%	(14)%	(2)%
3 years	#1	5%	(2)%	2%
5 years	#1	13%	6%	6%
10 years	#1	11%	8%	5%
20 years	#1	13%	9%	5%

(1) Based on Return on common shareholders' equity (ROE) as reported by Canadian peers, including Bank of Montreal, Canadian Imperial Bank of Commerce, Royal Bank of Canada, Bank of Nova Scotia and Toronto-Dominion Bank (together, the "Canadian Peers")
(2) Excluding specified items. See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(3) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(4) Common Equity Tier 1 (CET1) capital ratio
(5) Compound annual growth rate. Source: Nasdaq
(6) Among Canadian Peers, as defined above

Financial Overview

Medium-Term Objectives and Results

	Medium-term objectives	2020 Results	2019 Results
Growth in diluted earnings per share excluding specified items[1]	5–10%	**(4.7)%**	7.1%
ROE excluding specified items[1]	15–20%	**15.8%**	18.0%
Dividend payout ratio excluding specified items[1]	40–50%	**46.6%**	41.6%
CET1 capital ratio	> 10.75%	**11.8%**	11.7%
Leverage ratio	> 3.75%	**4.4%**	4.0%

Financial Highlights

As at October 31 or for the year ended October 31 (millions of Canadian dollars, except per share amounts)	**2020**	2019
Operating results		
Total revenues	**7,927**	7,432
Income before provisions for credit losses and income taxes[1]	**3,382**	3,131
Net income	**2,083**	2,322
Diluted earnings per share	**$ 5.70**	$ 6.34
Return on common shareholders' equity	**14.9 %**	18.0 %
Dividend payout ratio	**49.6 %**	41.6 %
Operating results on a taxable equivalent basis and excluding specified items[1]		
Total revenues on a taxable equivalent basis and excluding specified items	**8,216**	7,666
Income before provisions for credit losses and income taxes excluding specified items	**3,803**	3,488
Net income excluding specified items	**2,216**	2,328
Diluted earnings per share excluding specified items	**$ 6.06**	$ 6.36
Efficiency ratio on a taxable equivalent basis and excluding specified items	**53.7 %**	54.5 %
Dividends declared	**$ 2.84**	$ 2.66
Total assets	**331,625**	281,458

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Message From the President and Chief Executive Officer

People First

Over the last year, the world went through extremely challenging times, both from a health and financial perspective. From the onset of the COVID-19 pandemic, our focus was on the well-being of our employees, our clients and our communities. Our mission of putting People First guided us in all our decisions. I am proud of the way we adapted, which would not have been possible without the strong engagement of our employees and the profound transformation of the Bank over the past few years.

The evolution of our culture into a highly collaborative and agile organization has proven to be a true competitive advantage. This has played a key role in our ability to adapt and perform well through unprecedented circumstances. I wish to sincerely thank our people and our clients for navigating through this situation with us.

Well Positioned in a Challenging Environment

The Bank entered the crisis on a solid footing with a strong balance sheet, strong credit quality and a defensive positioning. Our businesses performed well in an unpredictable environment with revenue growth across all segments and income before provisions for credit losses and income taxes up 8% from last year. The Bank also delivered an industry-leading return on equity of 15%. Our performance in fiscal 2020 reflects the resilience of our franchise and the sound diversification of our earnings stream.

Over the course of the past year, we adopted a proactive and prudent approach to provisioning, in the context of an uncertain and evolving macroeconomic outlook. At the end of the fiscal year, our allowances for credit losses totalled over $1.3 billion, nearly double last year's level. While the economic recovery is underway, uncertainty remains. Based on the information available today and considering our defensive posture and the performance of our portfolios, we are comfortable with our level of reserves and are well positioned to continue supporting our clients.

Amidst all the market volatility in 2020, the Bank once again delivered industry-leading total returns to its shareholders in the one-, three-, five-, ten- and twenty-year periods.

The Right Strategic Choices

Our performance during the pandemic has confirmed that we made the right strategic choices in terms of capital allocation, business mix and risk management. With four strong pillars, we are well-positioned to pursue growth across our businesses in 2021.

In Personal and Commercial Banking, our digital and cultural transformation was key to our ability to offer our clients extraordinary support. The commitment and agility of our teams, the depth of our relationships and the quality of our advice were key differentiators in how we supported our customers. This translated into significant improvements in both client satisfaction scores and market shares in key product categories.

Our Wealth Management segment is the leading franchise in Quebec and firmly established across Canada with a differentiated positioning. Focused on distribution, our open-architecture model responds well to client needs in terms of choice and unbiased advice. Our business mix and client-facing strategy proved successful in 2020, supported by the strategic and technology choices we have made in the past. Transaction volumes were high through the beginning of the pandemic, more than offsetting market declines, and through the second half of the year, assets under administration and management returned to pre-crisis levels.

Our Financial Markets segment delivered strong results in 2020. Our Global Markets franchise was well-positioned going into the crisis and delivered particularly strong growth. Our Corporate and Investment Banking franchise also performed well, driven by solid momentum in M&A and government debt underwriting. As an established leader in selected niche markets, our Financial Markets business is an important pillar, providing the Bank with a diversified earnings stream. Looking forward, we will continue to place client support front and centre while maintaining a prudent risk profile.

Message From the President and Chief Executive Officer (cont.)

We are very satisfied with the performance and positioning of our international activities. Credigy in the United States and ABA Bank in Cambodia have consistently delivered superior returns. In 2020, ABA Bank grew at a faster pace than the market and surpassed the one million client threshold. Looking forward, both Credigy and ABA Bank continue to have strong momentum and are well positioned to deliver attractive earnings growth.

Our Commitment to ESG

We are putting the full strength of our organization behind our environmental, social and governance guiding principles, with the aim to develop a green economy, enrich our communities, and uphold the highest standards in corporate governance.

A year to the day after signing the UN Principles for Responsible Banking, we announced an ambitious target to reduce our own greenhouse gas emissions by 25% by 2025, compared to 2019 levels. We were proud to become a signatory of the UN Women's Empowerment Principles in 2020, further strengthening the Bank's commitment to women's equality. We also committed to the BlackNorth Initiative as well as to partnering with the Government of Canada to launch the country's first-ever Black Entrepreneurship Program. These are but a few initiatives we are taking to build a better future for all our stakeholders.

Our objective is for the Bank to further promote diversity and inclusion to ensure that we reflect the diversity of our clients and society. We have set measurable targets and will be transparent regarding our progress.

Looking Ahead with Cautious Optimism

Looking back at 2020, I am proud of the results achieved, and our proven ability to adapt in evolving circumstances. Although we remained in the grip of the pandemic at year-end, economic activity has recovered from its lows and we expect gradual improvement in 2021 in the context of continued public health measures and, eventually, the availability of a vaccine.

In this environment, I am confident in our overall strategic positioning. Our super-regional model with a leading franchise in Quebec, a pan-Canadian footprint in selected activities, and a focused international strategy has demonstrated its resilience. With a robust balance sheet, prudent approach to risk management, balanced capital deployment strategy and culture of agility, we are well-positioned to maintain a sustainable pace of growth in 2021.

In closing, I must recognize the sound advice of our Board of Directors, as well as each member of the Office of the President for their incredible leadership and grace under pressure over the past year. We have strong and experienced leaders across the Bank, all of whom have contributed to our digital and cultural transformation. In 2020, Julie Lévesque succeeded Dominique Fagnoule as Executive Vice-President of Technology, and Nathalie Généreux joined the Office of the President as Executive Vice-President of Operations. Both bring solid experience and deep expertise to these key roles within the Bank, and we are pleased to be able to count on their leadership and fresh perspectives.

On behalf of the members of the Office of the President, I wish to once again sincerely thank all of our employees for their everyday contributions and commitment to the success of the Bank. Everyone across our organization deserves recognition for their dedication and flexibility in this difficult and demanding environment.

I would also like to thank our clients and shareholders for their confidence in the Bank, as we continue to build an agile bank that is well-positioned to grow and create sustainable value, to the benefit of all our stakeholders.

Louis Vachon
President and Chief Executive Officer

Members of the Office of the President

Louis Vachon
President and
Chief Executive Officer

Stéphane Achard
Executive Vice-President,
Commercial Banking
and Insurance

Lucie Blanchet
Executive Vice-President,
Personal Banking and
Client Experience

William Bonnell
Executive Vice-President,
Risk Management

Laurent Ferreira
Executive Vice-President and
Co-Head, Financial Markets

Martin Gagnon
Executive Vice-President,
Wealth Management;
Co-President and Co-Chief
Executive Officer,
National Bank Financial

Nathalie Généreux
Executive Vice-President,
Operations

Denis Girouard
Executive Vice-President and
Co-Head, Financial Markets

Brigitte Hébert
Executive Vice-President,
Employee Experience

Julie Lévesque
Executive Vice-President,
Information Technology

Ghislain Parent
Chief Financial Officer
and Executive
Vice-President, Finance

Message From the Chairman of the Board

In 2020, the world faced an unprecedented public health crisis with significant social and economic repercussions directly impacting our employees, our clients and our communities. In taking stock of the actions taken by the Bank in this unusual context, my fellow directors and I feel great pride in the Bank's response, and the passion and human touch shown by our people.

The Bank put the well-being of our stakeholders ahead of all other priorities, and our people adapted with agility to serve and support our clients and communities. We also worked in close collaboration with all levels of government and the broader financial industry, resulting in a meaningful and coordinated response, and a show of true solidarity.

Driven by our four strong business segments, the Bank also delivered solid earnings and shareholder returns while maintaining strong capital levels and liquidity ratios. This achievement during a time of great uncertainty is a testament to the Bank's diversified business mix, flexibility, resilience and financial strength.

A Sustainable Approach

As a Canadian super-regional bank with a strong franchise in Quebec built on a diversified revenue base, a culture of agility, and a longstanding prudent approach to risk, the Bank was well-positioned at the onset of the pandemic.

As stewards of the Bank, the primary responsibility of the Board of Directors is to ensure the Bank's sustainability and ability to create long-term value for all stakeholders. To achieve this, we maintain strategic oversight over the Bank's growth objectives and business plans, and constantly balance the short-, medium- and long-term impacts of the decisions taken today.

We are also responsible for ensuring that senior management has the support and tools at its disposal to execute strategic objectives and operate efficiently.

The Board was very proactive in monitoring the impacts of the pandemic on the Bank and its clients, and staying abreast of a rapidly evolving situation. Our role in both supporting and challenging management, and our more frequent touchpoints in the circumstances, helped ensure a timely and well-executed response. I sincerely thank my fellow directors and the Bank's leadership for their agility and unwavering commitment throughout the crisis.

Clearly, the strategic decisions taken in the recent past have proven well-founded, and we will maintain our measured approach to managing risk and capturing opportunities in the face of continuing uncertainty.

An Ongoing Cultural and Digital Transformation

The Board is committed to fostering and further stimulating the Bank's culture of agility and entrepreneurship that has served us well during the current crisis. The skills and dedication of teams at all levels of our organization have demonstrated the Bank's ability to adapt to change -a key element of our strong corporate culture.

In the last several years, the Board has focused particular attention on the Bank's digital transformation and technology investments, including cybersecurity and data privacy, key issues for our stakeholders. We are pleased with the tangible benefits of the major investments made over the past several years and how they have facilitated our adaptability and strengthened our technological infrastructure. Investment in transformation -in both technology and culture- is ongoing to continuously improve our ability to meet evolving client needs efficiently while sustaining a strong financial performance.

Message From the Chairman of the Board (cont.)

Our culture of agility is also deeply imbedded in our leadership development and succession planning activities, which remain an ongoing Board priority. We have strong leadership across our business lines and strategic functions, as well as a strong bench, ensuring that we have the right talent in the right place as the Bank evolves.

An Unwavering Commitment to Good Governance

As a Board, we continuously adopt best governance practices to further our ability to exercise our stewardship. Board composition is an important element of governance and in this respect, we have a strong team of directors, well diversified in terms of gender, experience and geographical representation.

In 2020, Gillian Denham completed her term after nine years of loyal service; we sincerely thank her for her contributions to the Bank's success. We were pleased to welcome Manon Brouillette, former president and chief executive officer of Videotron, and Yvon Charest, former president and chief executive officer of Industrial Alliance Financial Group, as new directors. Both bring impressive credentials, relevant work experience, strong governance skills and a diversity of perspectives to the Board's deliberations.

An increasingly important area of Board oversight pertains to environment, social and governance (ESG) factors, highlighted by the adoption of our ESG principles in 2019, followed by the publication of our first report on ESG advances in 2020. In addition to enhanced ESG disclosure, ESG responsibilities are now imbedded in the mandates of all board committees and our board diversity policy was further strengthened in 2020.

In 2020, management set three-year diversity and inclusion objectives at the executive and employee level, including engagements regarding members from the black communities. From an environmental perspective, the Bank has also pledged to meet ambitious carbon footprint reduction targets by 2025. These are just a few concrete examples of our commitment to living our ESG principles, which are fundamental to our long-term sustainability.

A Strong Bank to the Benefit of all

While uncertainty remains around the future course of the pandemic, my fellow directors and I believe the Bank is well positioned for long-term success. Our solid performance in 2020 and proven ability to adapt in a shifting environment have given us conviction in our strategic direction and our approach to governance. Our objective is to ensure that the Bank adapts and thrives in a post-pandemic environment while balancing the needs of all stakeholders.

In closing, the Board recognizes the exceptional efforts of the Bank's senior leadership and employees, who continue to work to create a positive impact for clients, employees and the community while generating sustainable, long-term value for shareholders. We are proud to serve an institution that has been putting people first for over 160 years, a mission we share with the Bank's over 26,500 employees around the world.

Jean Houde
Chairman of the Board of Directors

For more information regarding the Bank's governance, please refer to the *Statement of Corporate Practices* available on the Bank's website at nbc.ca.

Members of the Board of Directors

Jean Houde
Montreal, Quebec, Canada
Chairman of the Board of Directors,
National Bank of Canada
and Corporate Director
Director since March 2011

Raymond Bachand
Montreal, Quebec, Canada
Strategic Advisor,
Norton Rose Fulbright Canada LLP
and Corporate Director
Director since October 2014

Maryse Bertrand
Westmount, Quebec, Canada
Corporate Director
Director since April 2012

Pierre Blouin
Montreal, Quebec, Canada
Corporate Director
Director since September 2016

Pierre Boivin
Montreal, Quebec, Canada
President and Chief Executive Officer,
Claridge inc.
Director since April 2013

Manon Brouillette
Montreal, Quebec, Canada
Corporate Director
Director since April 2020

Yvon Charest
Quebec, Quebec, Canada
Corporate Director
Director since April 2020

Patricia Curadeau-Grou
Montreal, Quebec, Canada
Corporate Director
Director since April 2019

Karen Kinsley
Ottawa, Ontario, Canada
Corporate Director
Director since December 2014

Rebecca McKillican
Oakville, Ontario, Canada
Chief Executive Officer,
McKesson Canada
Director since October 2017

Robert Paré
Westmount, Quebec, Canada
Strategic Advisor,
Fasken Martineau DuMoulin LLP
and Corporate Director
Director since April 2018

Lino Saputo Jr.
Montreal, Quebec, Canada
Chief Executive Officer and
Chairman of the Board of Directors,
Saputo Inc.
Director since April 2012

Andrée Savoie
Dieppe, New Brunswick, Canada
President and Chair of the Board of Directors,
Acadian Properties Ltd.
Director since April 2015

Pierre Thabet
St-Georges, Quebec, Canada
President, Boa-Franc inc.
Director since March 2011

Louis Vachon
Beaconsfield, Quebec, Canada
President and Chief Executive Officer,
National Bank of Canada
Director since August 2006

Board Committees

Audit Committee
Karen Kinsley *(Chair)*
Maryse Bertrand
Pierre Blouin
Manon Brouillette
Andrée Savoie
Pierre Thabet

Risk Management Committee
Pierre Thabet *(Chair)*
Raymond Bachand
Yvon Charest
Patricia Curadeau-Grou
Karen Kinsley
Lino Saputo Jr.

Technology Subcommittee
Pierre Blouin *(Chair)*
Manon Brouillette
Rebecca McKillican

Human Resources Committee
Pierre Boivin *(Chair)*
Maryse Bertrand
Pierre Blouin
Manon Brouillette
Yvon Charest
Rebecca McKillican

Conduct Review and Corporate Governance Committee
Lino Saputo Jr. *(Chair)*
Raymond Bachand
Patricia Curadeau-Grou
Jean Houde
Robert Paré
Andrée Savoie

OUR ONE MISSION

We exist to have a **POSITIVE IMPACT** in people's lives.

By building ***long-term relationships*** with our clients, employees and communities.

People first.

Integral to our One Mission is support for **sustainable development.**

We incorporate **environmental, social,** and **governance** matters into our business and operating decisions.

The Bank's Commitments

This past year, National Bank became a signatory to the United Nations (UN) Women's Empowerment Principles. It also continued its commitments to the following global initiatives:

- United Nations Principles for Responsible Banking
- United Nations Environment Programme Finance Initiative (UNEP FI)
- United Nations Principles for Responsible Investment (PRI)
- United Nations Global Standards of Conduct for Business on Tackling Discrimination Against Lesbian, Gay, Bi, Trans and Intersex People (LGBTI)

National Bank supports the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD). In 2020, it released an initial report outlining the various issues addressed by this group. The Bank is also working with industry partners to develop a relevant disclosure approach.

The Bank is committed to having a positive impact on people's lives. Our principles reflect the importance of striking a balance among society's stakeholders.

We are working to develop a green economy

1. We consider the fight against climate change in our economic and community actions
2. We guide and advise our clients in their energy transition
3. We manage and reduce our environmental footprint in all of our business segments

We enrich communities

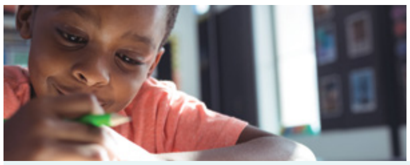
4. We maximize the potential of individuals and the community
5. We promote inclusion and diversity
6. We foster entrepreneurship, financial literacy, philanthropy, and support for health and education

We govern according to the highest standards

7. We promote a strong ethics culture, sound governance practices, and rigorous risk management
8. We manage according to responsible business practices
9. We ensure the long-term viability of the institution

Key United Nations Sustainable Development Goals covered by our principles

Our Accomplishments



Environmental

We are working to develop a green economy

- Target set to reduce our greenhouse gas (GHG) emissions by 25% by 2025 to contribute to the most ambitious objective of the Paris Agreement (reference year 2019)
- Partnership with Équiterre to support the implementation of specific solutions to promote energy transition and the adoption of daily eco-responsible choices
- National Bank Investments launched three sustainable exchanged-traded funds (ETFs)
- Renewable energy loan portfolio growing faster than the non-renewable energy portfolio in support of energy transition
- Adapting certain retail credit offers for clients who shop sustainably
- Multi-award-winning energy efficiency program
- New head office designed to meet the highest sustainable construction standards and occupant health and well-being (LEED v4 Gold certification)
- Assets under management governed by National Bank Investments' OP4+ process: 96.5% (↑) of our fund managers meet the UN Principles for Responsible Investment

For more information: [nbc.ca](nbc.ca)

Social

We enrich communities

Supporting our clients and employees in times of uncertainty

- Temporary relief measures for our individual and business clients during the COVID-19 pandemic
- Measures implemented to protect the health of our employees

Promoting diversity and inclusion

- Participation in several initiatives to address systemic racism and support the Black community, including the BlackNorth Initiative, the Black Entrepreneurship Loan Fund and the *Being Black in Canada* incubator program
- Signing of the UN Women's Empowerment Principles
- Active support for women, cultural communities, the LGBTQ community and Indigenous communities

Supporting the community

- More than $2.5 million given to the most vulnerable communities affected by the pandemic and mental health organizations
- Millions of dollars given back to the community through donations, sponsorships and fundraising events
- Hundreds of organizations supported across the country

Stimulating economic development

- New call centre opened in Sherbrooke: 200 jobs created and economic spin-offs of at least $10 million per year in the region
- National Bank SME Growth Fund created in equal partnership with the Quebec government to support economic recovery and the digital transformation of SMEs
- $67 million invested in our facilities
- $1.2 billion spent on goods and services

Governance

We govern according to the highest standards

- Disclosure of an initial report on Environmental, Social and Governance Advances
- Mandates of the Conduct Review and Corporate Governance Committee, the Audit Committee and the Risk Management Committee to include ESG-related responsibilities
- Succession planning for directors based on the Board's diversity policy (gender, age, designated groups, sexual orientation, ethno-cultural groups and geography)

Risk Disclosures

In 2012, the Financial Stability Board (FSB) formed a working group, the Enhanced Disclosure Task Force (EDTF), that was mandated to develop principles for enhancing the risk disclosures of major banks, to recommend improvements to current risk disclosures, and to identify risk disclosure best practices used by major financial institutions. The EDTF published a report entitled *Enhancing the Risk Disclosures of Banks*, which contains 32 recommendations. The Bank makes every effort to ensure overall compliance with those recommendations and is continuing to enhance its risk disclosures to meet the best practices on an ongoing basis. The risk disclosures required by the EDTF are provided in this Annual Report and in the document entitled *Supplementary Regulatory Capital and Pillar 3 Disclosure* available on the Bank's website at nbc.ca.

		Pages	
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(1) Fourth quarter 2020.
(2) These pages are included in the document entitled *Supplementary Financial Information – Fourth Quarter 2020.*

Management's Discussion and Analysis

December 1, 2020

The following Management's Discussion and Analysis (MD&A) presents the financial condition and operating results of National Bank of Canada (the Bank). This analysis was prepared in accordance with the requirements set out in *National Instrument 51-102*, *Continuous Disclosure Obligations*, released by the Canadian Securities Administrators (CSA). It is based on the audited annual consolidated financial statements for the year ended October 31, 2020 (the consolidated financial statements) and prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB), unless otherwise indicated. IFRS represent Canadian generally accepted accounting principles (GAAP). This MD&A should be read in conjunction with the consolidated financial statements and accompanying notes for the year ended October 31, 2020. All amounts are presented in Canadian dollars. Additional information about the Bank, including the *Annual Information Form*, can be obtained from the Bank's website at nbc.ca and SEDAR's website at sedar.com.

Caution Regarding Forward-Looking Statements

From time to time, the Bank makes written forward-looking statements such as those contained in this document, in other filings with Canadian securities regulators, and in other communications. In addition, representatives of the Bank may make forward-looking statements orally to analysts, investors, the media and others. All such statements are made in accordance with applicable securities legislation in Canada and the United States. Forward-looking statements in this document may include, but are not limited to, statements with respect to the economy—particularly the Canadian and U.S. economies—market changes, the Bank's objectives, outlook and priorities for fiscal year 2021 and beyond, its strategies or future actions for achieving them, expectations for the Bank's financial condition, the regulatory environment in which it operates, the potential impacts of — and the Bank's response to — the COVID-19 pandemic, and certain risks it faces. These forward-looking statements are typically identified by future or conditional verbs or words such as "outlook", "believe", "foresee", "forecast", "anticipate", "estimate", "project", "expect", "intend", "plan", and similar expressions of future or conditional verbs such as "will", "may", "should", "could" or "would". Such forward-looking statements are made for the purpose of assisting the holders of the Bank's securities in understanding the Bank's financial position and results of operations as at and for the periods ended on the dates presented, as well as the Bank's vision, strategic objectives and its financial performance targets, and may not be appropriate for other purposes.

By their very nature, these forward-looking statements require assumptions to be made and involve inherent risks and uncertainties, both general and specific. Assumptions about the performance of the Canadian and U.S. economies in 2021, including in the context of the COVID-19 pandemic, and how that will affect the Bank's business are among the main factors considered in setting the Bank's strategic priorities and objectives including provisions for credit losses. In determining its expectations for economic conditions, both broadly and in the financial services sector in particular, the Bank primarily considers historical economic data provided by the governments of Canada, the United States and certain other countries in which the Bank conducts business, as well as their agencies.

There is a strong possibility that the Bank's express or implied predictions, forecasts, projections, expectations or conclusions will not prove to be accurate, that its assumptions may not be confirmed and that its vision, strategic objectives and financial performance targets will not be achieved. The Bank recommends that readers not place undue reliance on forward-looking statements, as a number of factors, many of which are beyond the Bank's control, including the impacts of the COVID-19 pandemic, could cause actual results to differ significantly from the expectations, estimates or intentions expressed in these statements. These factors include credit risk, market risk, liquidity and funding risk, operational risk, regulatory compliance risk, reputation risk, strategic risk and environmental and social risk, all of which are described in more detail in the Risk Management section beginning on page 68 of this Annual Report, and more specifically, general economic environment and financial market conditions in Canada, the United States and certain other countries in which the Bank conducts business; regulatory changes affecting the Bank's business; geopolitical and sociopolitical uncertainty; important changes in consumer behaviour; the housing and household indebtedness situation and real estate market in Canada; changes in the Bank's customers' and counterparties' performance and creditworthiness; changes in the accounting policies the Bank uses to report its financial condition, including uncertainties associated with assumptions and critical accounting estimates; tax laws in the countries in which the Bank operates, primarily Canada and the United States; changes to capital and liquidity guidelines and to the manner in which they are to be presented and interpreted; changes to the credit ratings assigned to the Bank; potential disruption to key suppliers of goods and services to the Bank; potential disruptions to the Bank's information technology systems, including evolving cyberattack risk as well as identity theft and theft of personal information; and possible impacts of catastrophic events affecting local and global economies, including natural disasters and public health emergencies such as the COVID-19 pandemic. Statements about the expected impacts of the COVID-19 pandemic on the Bank's business, results of operations, reputation, financial position and liquidity, and on the global economy may be inaccurate and differ, possibly materially, from what is currently expected as they depend on future developments that are highly uncertain and cannot be predicted. The foregoing list of risk factors is not exhaustive. Additional information about these factors can be found in the Risk Management section and the COVID-19 Pandemic section of this Annual Report. Investors and others who rely on the Bank's forward-looking statements should carefully consider the above factors as well as the uncertainties they represent and the risk they entail. Except as required by law, the Bank does not undertake to update any forward-looking statements, whether written or oral, that may be made from time to time, by it or on its behalf.

COVID-19 Pandemic

COVID-19 emanates from an emerging infectious disease, namely, the coronavirus disease. The coronavirus strain was detected in November 2019 in the city of Wuhan in central China, and then spread throughout the world. In early January 2020, the Chinese government implemented strict lockdown procedures and forced several cities—and then an entire region—to remain under lockdown, closing many public sites and enforcing considerable sanitary measures. On January 13, 2020, a first case was reported outside mainland China, and on January 30, 2020, the World Health Organization (WHO) declared that the outbreak of the new coronavirus constituted an international public health emergency.

On March 11, 2020, the WHO declared that the COVID-19 outbreak constituted a pandemic, requiring important protective measures be taken to prevent overcrowding at intensive care units and to strengthen preventive hygiene. The global pandemic prompted many countries, including Canada, to implement lockdown and social distancing measures designed to slow the development of new contagion hotbeds. Those measures included the closing of borders in many countries and the cancellation of sporting and cultural events around the world, triggering a sudden and widespread drop in market capitalizations on all major stock exchanges around the world arising from the uncertainty and fears about the global economy.

In May 2020, after several weeks of lockdown, Canadian provinces and territories began loosening some of the restrictions imposed at the start of the COVID-19 pandemic. The plans to re-open the economy differed from one location to the next, depending on the local situation with the epidemic. Although the provinces and territories announced how the re-opening would work, authorities warned that the plans could be postponed or modified, depending how the situation developed. Almost all restrictions in Canada were lifted in July 2020, while other countries were delaying their reopening or were simply returning to lockdown. During the summer of 2020, there was a recovery in the stock markets and a decrease in the unemployment rate, but the later still remains high. Since the early fall of 2020, a second wave of COVID-19 has forced authorities in several countries, including Canada, to reintroduce some lockdown measures, effectively shutting down parts of the economy again.

In Canada, banking services are considered essential services and are therefore being maintained despite the lockdown and social distancing measures. Given the current economic and social conditions, the Bank is committed to supporting its employees, clients, and communities. The Bank has ensured the continuity of all its activities since the beginning of this unprecedented crisis. All of its experts have been mobilized to guide and support clients and answer their questions during this ongoing period of uncertainty.

Impact of the COVID-19 risk factor

The COVID-19 pandemic has had disruptive and adverse impacts in the countries where the Bank conducts business and, more broadly, on the global economy. Among other things, COVID-19 sent stock markets into sharp decline and rendered them more volatile, disrupted global supply chains, and provoked a rapid and sudden rise in unemployment and an economic slowdown. Governments, monetary authorities and regulators have intervened to support the economy and the financial system, including by adopting fiscal and monetary measures to increase liquidity and support incomes; they have also eased the capital and liquidity requirements imposed on financial institutions.

Governments, monetary authorities and regulators around the world, including in Canada, continue to implement strong measures to provide financial assistance to households and businesses, stabilize markets and support economic growth. No-one can be sure whether these measures will be sufficient to fully mitigate the negative impacts of the COVID-19 pandemic or reverse the recessionary situation in the markets and countries where the Bank conducts business. Because of the scale and severity of ongoing developments in the COVID-19 pandemic, if it continues, its impacts on the global economy could become more serious, leading to greater volatility in the financial markets, heightened risks of corporate insolvency and even more negative impacts on household wealth.

In addition to the impacts of the COVID-19 pandemic on the global economy and in the countries where the Bank conducts business, the pandemic has affected and may continue to affect the Bank, the way it conducts business, and its clients.

There remains a possibility that the financial stress experienced by the Bank's clients as a result of the COVID-19 pandemic may become more intense, and when this is combined with operational constraints caused by social distancing requirements, including continued closures of certain facilities or reduced business hours, lower sales or increased operating costs, the Bank's clients may be under even greater pressure. Since a significant portion of the Bank's business involves granting loans or providing liquidity in multiple ways to its clients—which include individuals, businesses in various industries and governments—the impacts of the COVID-19 pandemic on these clients could have a material adverse effect on the Bank's business, results of operations, financial position and reputation by, for example, causing more credit losses than the Bank expects.

In the context of the COVID-19 pandemic, the Bank has also been forced, and may again be forced, to review the way it conducts business, including by closing some branches or reducing their business hours, having employees continue to work from home for a long period of time, or implement the operational changes required as a result of greater volumes of client requests and the problems they cause for the Bank's main suppliers of products and services. These factors have had an adverse effect and may continue to adversely affect the Bank's business and the quality and continuity of the services it provides to clients. Until now, the Bank has taken proactive measures through business continuity plans, carefully planning for the return of certain employees to the workplace, and its crisis management teams are working even harder to ensure the well-being of the Bank's employees and maintain its ability to serve clients. In addition, in order to help clients experiencing financial difficulties, the Bank has implemented various assistance programs in addition to those offered by governments. See the Relief Measures for Clients section on pages 18 and 19 for additional information on these assistance programs.

Lastly, as a result of the measures taken to enable employees to work from home and the increased use by clients of the digital tools that have been made available to them, the Bank, its clients and its service providers may be exposed to an increased risk of cyber threats, attacks, breaches, fraudulent activities and other compromises, as well as operational risks. The Bank is closely monitoring its operations for any indications of increased phishing, fraud, privacy breaches and cyberattacks by raising awareness about information security threats among its clients, employees and service providers.

Given these circumstances, the COVID-19 pandemic has put into perspective and may continue to put into perspective many of the principal and emerging risks to which the Bank is exposed, i.e., credit risk, market risk, liquidity and funding risk, operational risk, regulatory compliance risk, reputational risk, strategic risk, information security and cybersecurity risk, and the risk of reliance on technology and third parties. These risks are described in more detail in the Risk Management section of this MD&A.

The Bank continues to closely monitor the effects and potential consequences of the COVID-19 pandemic. It is not possible to predict the full impacts that this pandemic will have on the global economy, financial markets and the Bank, including its business, results of operations, financial position, regulatory capital and liquidity ratios, reputation, and ability to satisfy regulatory requirements, as well as the full impact on clients. The actual impacts will depend on future events that are highly uncertain and cannot be predicted with any certainty, including the extent, severity and duration of the COVID-19 pandemic, as well as the effectiveness of actions and measures taken by governments, monetary authorities and regulators over the long term.

The Bank's perception of the risks to which it is exposed continues to evolve. So in accordance with its risk management framework, which is more fully described in the Risk Management section of this MD&A, the Bank continues to assess the risks associated with the COVID-19 pandemic in order to proactively manage them and to implement appropriate mitigation strategies.

The Bank's Financial Performance

In light of COVID-19 and its impact on global and local economies, Canadian banks are facing a difficult situation. This exceptional situation has led to significant changes in the overall market, such as business closures and temporary layoffs, low interest rates, declining and volatile stock markets, declining oil prices, and government measures implemented in response to COVID-19.

<u>Macroeconomic Factors</u>

Assumptions about the performance of the Canadian and U.S. economies in 2021, including in the context of the COVID-19 pandemic and how that will affect the Bank, are among the main factors considered in setting the Bank's strategic priorities and objectives, including provisions for credit losses. In determining its expectations for economic conditions, both broadly and in the financial services sector in particular, the Bank primarily considers historical economic data provided by the governments in Canada, the United States and certain other countries in which the Bank conducts business, as well as their agencies.

The main macroeconomic factors used when estimating allowances for credit losses on loans and other financial assets are as follows: gross domestic product (GDP), the unemployment rate, the housing price index, the rate spread on BBB bonds, the stock market (S&P/TSX), and the West Texas Intermediate (WTI) oil price. For each scenario, namely, the base scenario, upside scenario, and downside scenario, the average of the values over the next 12 months and the average of the values over the remaining forecast period for each macroeconomic factor are used to estimate the expected credit losses for the personal credit portfolio and for the business and government credit portfolio.

During the year ended October 31, 2020, certain macroeconomic factors were revised positively while others were revised negatively.

According to the base scenario, the Canadian economy will continue to recover next year, but the unemployment rate will be 8.6% at the end of 2021, significantly above its pre-recession level (5.7%). Given a difficult labour market and reduced immigration, housing prices will decline. The S&P/TSX will end 2021 at 16,200 points and the price of oil at US$48.

According to the upside scenario, the economy will rebound more strongly thanks to medical breakthroughs that will help fight COVID-19. Fiscal and monetary stimulus measures enabled limitation of the damage arising from destroyed production capacity. The unemployment rate at year-end 2021 will be more favourable than the base scenario (5 tenths lower). Housing prices will only decline slightly, the S&P/TSX will end 2021 at 17,500 points and the price of oil at US$58.

According to the downside scenario, delays in the discovery of an effective vaccine will cause increased stress in the financial markets. This will lead to an economic meltdown and a more significant destruction of capacity. The unemployment rate will therefore trend upward, reaching 10.6% at the end of 2021. Housing prices will decrease considerably. The S&P/TSX will end 2021 at 13,900 points and the price of oil at US$24.

Given uncertainty surrounding the key inputs used to measure credit losses, the Bank has applied expert credit judgment to adjust the modelled ECL results.

For additional information, see the Economic Review and Outlook section of this MD&A and Note 7 to these consolidated financial statements.

<u>Impact on Results</u>

The Bank's results for the year ended October 31, 2020 were marked by the repercussions of this unprecedented crisis. During the second quarter of 2020, major disruptions in the global environment in which the Bank operates affected its financial results, as there was a considerable increase in provisions for credit losses to reflect a significant deterioration in the macroeconomic conditions caused by COVID-19 and the expected impacts on clients. Despite an upturn in economic activity in the third quarter of 2020, several sectors are facing financial difficulties due to social distancing rules and fears among consumers, which are causing significant downward pressure on sales or even the closure of some businesses, while others have experienced sales growth. However, the net result for the fourth quarter of 2020 was relatively unchanged from the same quarter of 2019, as higher provisions for credit losses were offset by the strong performance of most business segments.

For additional information, refer to the "Financial Analysis" and "Business Segment Analysis" sections of this MD&A.

Relief Measures for Clients

In response to the economic and financial environment resulting from COVID-19, at the start of the pandemic, the Bank announced a series of support measures for the clients of its main business segments, and some of these measures have been extended. Some of the measures were introduced by the Canadian government and regulatory authorities, together with the Canadian banks and were implemented quickly to come to the assistance of individuals and businesses. These measures are designed to provide financial support to clients facing the economic consequences of COVID-19. The main relief measures are described below.

<u>Clients – Individuals</u>

**Mortgages
Personal loans**

- Payment deferrals of up to six months on mortgage loans (application date extended from June 30 to September 30, 2020).
- Deferral of minimum payment for up to three months on home equity lines of credit (All-In-One™) (application date extended from June 30 to September 30, 2020).
- Payment deferrals of up to three months on personal loans (ended September 30, 2020).

Credit cards

- Deferral of minimum monthly payment for a period of up to 90 days (ended September 30, 2020).
- Annual interest rate reduced to 10.9% on purchases and cash advances during the deferral period, depending on an analysis of the file (ended September 30, 2020).
- Permanent or temporary increase to credit card limit.

Transactions

- Temporary removal of certain transaction fees:
  - Interac e-Transfer service charge (ended September 30, 2020);
  - Charges for stop payment requests by cheque or preauthorized debit (ended September 30, 2020);
  - Interest charges on an overdraft (ended September 30, 2020).

During the year ended October 31, 2020, the Bank approved payment deferrals for loans with a gross carrying value of $10.9 billion for approximately 125,000 Personal Banking clients. The number of loans and the gross carrying value of loans subject to these deferrals are presented in the table below. In addition, through its insurance subsidiary, the Bank offered easing measures on home and auto insurance products, including discounts of 15% for a period of three months. Approximately 31,800 clients elected to avail themselves of these easing measures during the year ended October 31, 2020.

Clients – Businesses

Loans

- Canada Emergency Business Account (CEBA) for small- and medium-sized enterprises and non-profit organizations: A $40,000 interest-free loan up to December 31, 2022 (with certain eligibility conditions) supported by the Canadian government.
- Concerted Temporary Action Program for Businesses (CTAPB): Working capital loan of at least $71,500 supported by Investissement Québec (Eligibility: History of satisfactory profitability).
- Business Credit Availability Program (BCAP) for exporting or non-exporting businesses, supported by Export Development Canada: Operating credit and cash flow term loans of up to $6.25 million in Canadian dollars only.
- Financing program for medium-sized businesses with the Business Development Bank of Canada (BDC): subordinated loan in the amount of $12.5 million to $60 million for medium-sized businesses.
- Co-lending program with the BDC: loan amount varies based on sales, for a maximum amount of $12.5 million for a company or a group of borrowers and the possibility of a repayment moratorium.
- Principal payment deferrals of up to six months.

Credit cards

- Deferral of minimum monthly payment for a period of up to 90 days on certain Business cards (ended September 30, 2020).
- Reduction of the annual interest rate to 10.9% on purchases and cash advances during the deferral period, based on the file analysis (ended September 30, 2020).
- Contactless and mobile payments over $100 at participating merchants.

Transactions

- Increase to the weekly limit of incoming Interac e-transfers.
- Temporary removal of charges for stop payment requests.
- Access to the 10% wage subsidy using the Nethris platform.

As at October 31, 2020, the Bank had granted 30,722 loans under its CEBA program, 48 loans under CTAPB, 33 loans under BCAP and 1 co-loan with the BDC. In addition, the Bank addressed the specific needs of its Commercial Banking clients and Financial Markets clients to support them during this unprecedented crisis. During the year ended October 31, 2020, the Bank approved payment deferrals for loans with a gross carrying value of $5.4 billion for approximately 3,100 Commercial Banking and Financial Markets clients. The number of loans and gross carrying value of loans subject to these deferrals are presented in the following table.

Payments Deferrals

(millions of Canadian dollars)	As at October 31, 2020		As at July 31, 2020		As at April 30, 2020	
	Number of loans	Gross carrying value of loans	Number of loans	Gross carrying value of loans	Number of loans	Gross carrying value of loans
Residential mortgage	2,865	695	14,405	3,651	38,682	8,624
Personal	–	–	40,820	319	65,935	756
Credit card	–	–	2,700	15	9,316	67
Business and government	780	1,182	2,739	4,479	3,148	4,482
	3,645	1,877	60,664	8,464	117,081	13,929

Key Measures Introduced by the Regulatory Authorities

Like all Canadian financial institutions, the Bank is facing regulatory changes that are being implemented at an increasing rate. As described below, as part of a coordinated effort by Government of Canada agencies, Office of the Superintendent of Financial Institutions (Canada) (OSFI) and other regulatory authorities governing the Bank's activities have taken a number of actions to reinforce the resilience of Canadian banks and improve the stability of the Canadian financial system and economy in response to challenges posed by COVID-19 and current market conditions. Regulatory authorities are also stepping up their oversight activities and focusing on the effects of the pandemic on the activities, capital strength, and liquidity of regulated entities.

OSFI, market participants, and financial institutions all recognize the critical need for strong capital and liquidity and effective risk management. OSFI has strengthened its requirements and its supervisory efforts in all of these areas since the 2008 global financial crisis. These measures have improved the resilience of Canadian banks in periods of stress.

OSFI continues to actively monitor the evolving COVID-19 situation and has been in frequent contact with banks to assess their operational capacity and actions to address the current environment. As a result of these discussions and the measures announced at the start of the pandemic, OSFI announced a continuance of the regulatory flexibility measures to support COVID-19-related efforts while promoting financial resilience and stability. The main key measures are described on the following pages.

<u>Capital Management</u>

One of the requirements imposed by OSFI after the 2008 financial crisis was the creation of the Domestic Stability Buffer (the buffer) requirement applicable to Canadian domestic systemically important banks (D-SIBs). The buffer's countercyclical design enables D-SIBs to use the capital they have built up during good times when it may be needed most. On March 13, 2020, OSFI lowered the buffer from 2.25% of risk-weighted assets to 1.0%, effective immediately, and on June 23, 2020, it confirmed that the buffer requirement would remain at 1.0% until December 2020. This action is being taken in order to support D-SIBs' ability to supply credit to the economy during an expected period of disruption related to COVID-19 and market conditions. OSFI will continue to analyze the buffer level and could reduce it more as needed. OSFI also stated its commitment that any increases to the buffer will not take effect for at least 18 months from March 13, 2020 in addition to its expectation for all banks to interrupt any dividend increases and share buybacks for the time being.

On March 27, 2020, OSFI announced a series of additional measures for banks in response to the difficulties caused by the spread of COVID-19, including:

- Treatment of regulatory capital for expected credit loss (ECL) accounting purposes: As other regulatory agencies are doing, OSFI has introduced transitional arrangements applicable to the ECL provisioning method set out in the Basel framework. This will result in a portion of allowances that would otherwise be included in Tier 2 capital to be included in CET1 capital. Although the Basel Committee on Banking Supervision (BCBS) is allowing jurisdictions the option of applying a 100% add-back of allowances to CET1 capital, OSFI believes that a maximum add-back of 70% is appropriate. This increased amount is adjusted for tax effects and multiplied by a scaling factor that decreases over time. The scaling factor will be set at 70% in fiscal 2020, 50% in fiscal 2021, and 25% in fiscal 2022. The three-year transition will help banks to phase-in the impact of increased ECL allowances in CET1 capital while also acknowledging that these provisions are being taken.
- Deferral of loan payments: The bank loans subject to payment deferrals, such as mortgage loans, personal loans, and small business loans, continue to be treated as performing loans under the *Capital Adequacy Requirement* guideline until the end of the deferral and for a maximum period of six months. In this way, banks can help their clients deal with the problems created by the crisis. However, on July 31, 2020, OSFI announced that: (i) loans granted payment deferrals before August 31, 2020 will continue to be treated as performing loans for the duration of the deferral, up to a maximum of six months from the effective date of the deferral; (ii) loans granted new payment deferrals after August 30, 2020 and on or before September 30, 2020 will be treated as performing loans for the duration of the deferral, up to a maximum of three months from the approval date of the deferral; and (iii) loans granted payment deferrals with approval dates after September 30, 2020 will not be eligible for the special treatment.
- Reduction of stressed Value-at-Risk (VaR) multipliers under market risk: On a temporary basis, banks subject to market risk capital requirements and using the AIRB approach may reduce the stressed VaR multiplier that was being applied at the end of first quarter of 2020 by two. This reduction can be applied retrospectively to the beginning of the second quarter of 2020.
- Removal of funding valuation adjustment (FVA) hedges in market risk: Banks must remove hedges of FVA from the calculation of market risk capital. Doing so addresses an asymmetry in the current rule where these hedges of FVA are included in the calculation while the underlying exposures to FVA are not. This treatment should be back-dated to the beginning of the second quarter of 2020.

- Capital floor: OSFI is lowering the floor factor from 75% to 70%. The 70% floor factor is expected to stay in place until the domestic implementation of the Basel III capital floor in the first quarter of 2023. The 70% factor ensures that the floor continues to protect against model risk while maintaining the risk sensitivity of the capital framework for banks subject to the Advanced Internal Rating-Based approach.
- Leverage ratio: Banks can temporarily exclude the following exposures from the leverage ratio exposure measure: (1) Central bank reserves; (2) Sovereign-issued securities by borrowers that qualify as high-quality liquid assets (HQLA) under the *Liquidity Adequacy Requirements* guideline. On November 5, 2020, OSFI announced that this treatment will remain in place until December 31, 2021. Capital freed up through this measure should not be distributed (e.g., as dividends or bonus payments) and should rather be used to support lending and financial intermediation activities.
- Margin required for non-centrally cleared derivatives: In line with a decision by the BCBS and International Organization of Securities Commissions, OSFI is extending the deadline for the implementation of the final two phases of the initial margin requirements for non-centrally cleared derivatives outlined in OSFI's E-22 guideline by one year. With this extension, the final implementation phase will take place on September 1, 2022, at which point covered entities with an aggregate average notional amount (AANA) of non-centrally cleared derivatives greater than $12 billion will be subject to the requirements. As an intermediate step, from September 1, 2021, covered entities with an AANA of non-centrally cleared derivatives greater than $75 billion will be subject to the requirements.
- Delaying implementation of the Basel III reforms: The Group of Central Bank Governors and Heads of Supervision (GHOS), which oversees the BCBS, announced a postponement to the implementation of the reforms of the Basel III capital international standard published in December 2017. OSFI has therefore postponed until the first quarter of 2023 the implementation dates applicable to the revisions to the Standardized Approach and AIRB Approach to credit risk, the operational risk framework, and the leverage ratio framework, as well as the introduction of a more risk-sensitive capital floor. Implementation of the Pillar 3 financial disclosure requirements finalized by the BCBS in December 2018 has also been delayed until at least the first quarter of 2023. Lastly, implementation of the final set of revisions to the new market risk framework entitled *Fundamental Review of the Trading Book* published in January 2019 as well as the revised credit valuation adjustment (CVA) risk framework is being delayed to the first quarter of 2024.

For additional information, refer to the Capital Management section of this MD&A.

Liquidity Management

To help Canadians through this difficult period caused by the COVID-19 crisis, the Bank of Canada has taken policy actions designed to restore financial market functioning, to ensure that financial institutions have adequate liquidity, and to provide households and businesses with access to the credit they need. To ensure banks have sufficient liquidity to support clients and to alleviate impaired market liquidity in Canada, the central bank has implemented liquidity facilities and asset purchase programs. The liquidity facilities include the existing term repo facility where the terms of the loans have been extended and the list of eligible collateral has been expanded. Also, a new standing term liquidity facility (STLF) has been introduced to complement the existing liquidity tools and to further strengthen the resilience of the Canadian financial system. Asset purchase programs implemented by the Bank of Canada and the Canada Mortgage and Housing Corporation (CMHC) cover a wide range of securities (treasury bills, bankers' acceptances, bonds, and mortgage-backed securities) and issuers (government and corporate). All of these programs have stabilized the funding markets and supported the flow of credit to households and businesses.

The Bank of Canada has also used monetary policy to respond to the COVID-19 crisis. It has lowered its target for the overnight rate by 150 basis points to 0.25%. Longer-term interest rates have also gone down significantly, and the interest rates of the Government of Canada curve are now mostly below 1%. Also, the limit for covered bonds has been temporarily increased to provide better access to Bank of Canada facilities, and banks are allowed to draw on their HQLA assets, thereby falling below the 100% threshold required by the *Liquidity Adequacy Requirements* guideline for the liquidity coverage ratio (LCR).

The Bank entered the crisis with a strong liquidity position, and it has maintained sound and prudent liquidity management throughout fiscal 2020. During the quarter ended April 30, 2020, the Bank participated in certain Bank of Canada programs designed to provide credit to its clients and to substitute some short-term funding. Given the sustained growth in deposits and improvements in capital markets, the Bank did not participate in the term repurchase program during the quarters ended July 31, 2020 and October 31, 2020. In light of the government liquidity facilities and household and business needs, the Bank is maintaining a liquidity buffer that will enable it to further support its clients.

For additional information, refer to the Risk Management – Liquidity and Funding Risk section of the MD&A.

Financial Reporting Method

As stated in Note 1 to the consolidated financial statements, the Bank adopted IFRS 16 on November 1, 2019. As permitted by the IFRS 16 transitional provisions, the Bank elected to apply IFRS 16 using the modified retrospective basis, with no restatement of comparative periods. Note 1 to these consolidated financial statements presents the impacts of IFRS 16 adoption on the Bank's Consolidated Balance Sheet as at November 1, 2019 and additional information about the adoption of IFRS 16.

Reconciliation of Non-GAAP Financial Measures

Year ended October 31 (millions of Canadian dollars)						2020	2019[1]
	Personal and Commercial	Wealth Management	Financial Markets	USSF&I	Other		
Net interest income	2,445	442	744	807	(183)	4,255	3,596
Taxable equivalent	–	–	202	–	6	208	195
Net interest income on a taxable equivalent basis	2,445	442	946	807	(177)	4,463	3,791
Non-interest income	1,018	1,413	1,051	13	177	3,672	3,836
Taxable equivalent	–	–	57	–	–	57	135
Foreign currency translation loss on disposal of subsidiaries[2]	–	–	–	–	24	24	–
Gain on disposal of Fiera Capital shares[3]	–	–	–	–	–	–	(79)
Gain on disposal of premises and equipment[4]	–	–	–	–	–	–	(50)
Remeasurement at fair value of an investment[5]	–	–	–	–	–	–	33
Non-interest income on a taxable equivalent basis and excluding specified items	1,018	1,413	1,108	13	201	3,753	3,875
Total revenues on a taxable equivalent basis and excluding specified items	3,463	1,855	2,054	820	24	8,216	7,666
Non-interest expenses	1,849	1,115	809	319	453	4,545	4,301
Impairment losses on premises and equipment and on intangible assets[6]	–	–	–	–	(71)	(71)	(57)
Severance pay[7]	–	–	–	–	(48)	(48)	(10)
Charge related to Maple[8]	–	–	–	–	(13)	(13)	(11)
Provisions for onerous contracts[9]	–	–	–	–	–	–	(45)
Non-interest expenses excluding specified items	1,849	1,115	809	319	321	4,413	4,178
Income before provisions for credit losses and income taxes on a taxable equivalent basis and excluding specified items	1,614	740	1,245	501	(297)	3,803	3,488
Provisions for credit losses	517	7	239	80	3	846	347
Income before income taxes on a taxable equivalent basis and excluding specified items	1,097	733	1,006	421	(300)	2,957	3,141
Income taxes	290	194	7	69	(107)	453	462
Taxable equivalent	–	–	259	–	6	265	330
Income taxes on foreign currency translation loss on disposal of subsidiaries[2]	–	–	–	–	(12)	(12)	–
Income taxes on the gain on disposal of Fiera Capital shares[3]	–	–	–	–	–	–	(11)
Income taxes on the gain on disposal of premises and equipment[4]	–	–	–	–	–	–	(7)
Income taxes on the remeasurement at fair value of an investment[5]	–	–	–	–	–	–	6
Income taxes related to impairment losses on premises and equipment and on intangible assets[6]	–	–	–	–	19	19	15
Income taxes on severance pay[7]	–	–	–	–	13	13	3
Income taxes on the charge related to Maple[8]	–	–	–	–	3	3	3
Income taxes on provisions for onerous contracts[9]	–	–	–	–	–	–	12
Income taxes on a taxable equivalent basis and excluding specified items	290	194	266	69	(78)	741	813
Net income excluding specified items	807	539	740	352	(222)	2,216	2,328
Specified items after income taxes	–	–	–	–	(133)	(133)	(6)
Net income	807	539	740	352	(355)	2,083	2,322
Non-controlling interests	–	–	–	34	8	42	66
Non-controlling interests on the foreign currency translation loss on disposal of subsidiaries[2]	–	–	–	–	10	10	–
Non-controlling interests excluding specified items	–	–	–	34	18	52	66
Net income attributable to the Bank's shareholders and holders of other equity instruments	807	539	740	318	(363)	2,041	2,256
Net income attributable to the Bank's shareholders and holders of other equity instruments excluding specified items	807	539	740	318	(240)	2,164	2,262

(1) For the year ended October 31, 2019, certain amounts have been reclassified.
(2) During the year ended October 31, 2020, the Bank, through its subsidiary Credigy Ltd. (Credigy), recorded a foreign currency translation loss of $24 million ($36 million taking into account income taxes and $26 million taking into account income taxes and non-controlling interests) in investments in foreign operations following the disposal of two subsidiaries in Brazil.
(3) During the year ended October 31, 2019, following the Bank's disposal of a portion of its investment in Fiera Capital Corporation (Fiera Capital) the Bank recorded a gain on disposal of $79 million ($68 million net of income taxes), including a gain of $31 million ($27 million net of income taxes) upon remeasurement at fair value of the retained interest.
(4) During the year ended October 31, 2019, the Bank completed the sale of its head office land and building located at 600 De La Gauchetière Street West, Montreal, Quebec, Canada, for gross proceeds of $187 million, and a gain on disposal of premises and equipment of $50 million ($43 million net of income taxes) was recorded.
(5) During the year ended October 31, 2019, the Bank remeasured at fair value its investment in NSIA Participations (NSIA) and recorded a loss of $33 million ($27 million net of income taxes).
(6) During the year ended October 31, 2020, the Bank recorded $71 million ($52 million net of income taxes) in impairment losses on premises and equipment and on intangible assets related to computer equipment and technology developments (2019: $57 million, $42 million net of income taxes).
(7) During the year ended October 31, 2020, following an optimization of certain organizational structures, the Bank recorded $48 million ($35 million net of income taxes) in severance pay (2019: $10 million, $7 million net of income taxes).
(8) During the year ended October 31, 2020, the Bank recorded a charge of $13 million ($10 million net of income taxes) related to the company Maple Financial Group Inc. (Maple) following the event that occurred in December 2019, as described in the Contingent Liabilities section on page 111 of this MD&A (2019: $11 million, $8 million net of income taxes).
(9) During the year ended October 31, 2019, the Bank reviewed all of its corporate building leases and had recorded provisions for onerous contracts of $45 million ($33 million net of income taxes).

Non-GAAP Financial Measures

The Bank uses a number of financial measures when assessing its results and measuring overall performance. Some of these financial measures are not calculated in accordance with GAAP, which are based on IFRS. Presenting non-GAAP financial measures helps readers to better understand how management analyzes results, shows the impacts of specified items on the results of the reported periods, and allows readers to assess results without the specified items if they consider such items not to be reflective of the underlying performance of the Bank's operations. The Bank cautions readers that it uses non-GAAP financial measures that do not have standardized meanings under GAAP and therefore may not be comparable to similar measures used by other companies.

Like many other financial institutions, the Bank uses the taxable equivalent basis to calculate net interest income, non-interest income and income taxes. This calculation method consists of grossing up certain tax-exempt income (particularly dividends) by the income tax that would have been otherwise payable. An equivalent amount is added to income taxes. This adjustment is necessary in order to perform a uniform comparison of the return on different assets regardless of their tax treatment.

Fiscal 2020 was marked by the effects of the COVID-19 pandemic on macroeconomic factors, which resulted in a significant increase in the Bank's provisions for credit losses. Given the materiality of the provisions for credit losses recorded in accordance with IFRS, the Bank believes it is useful to show income before provisions for credit losses and income taxes, income before provisions for credit losses and income taxes on a taxable equivalent basis as well as income before provisions for credit losses and income taxes on a taxable equivalent basis and excluding specified items (as presented in the Consolidated Results table on page 29, in the Results by Segment tables on pages 32 to 52 and in the Quarterly Financial Information table on page 53 of this MD&A), thereby providing readers with additional information to help them better understand the main components of the financial results of the Bank and its business segments.

Financial Disclosure

Disclosure Controls and Procedures

The Bank's financial information is prepared with the support of a set of disclosure controls and procedures (DC&P) that are implemented by the President and Chief Executive Officer (CEO) and by the Chief Financial Officer and Executive Vice-President, Finance (CFO). During the year ended October 31, 2020, in accordance with *Regulation 52-109 Respecting Certification of Disclosure in Issuers' Annual and Interim Filings* (Regulation 52-109), released by the CSA, the design and operation of these controls and procedures were evaluated to determine their effectiveness.

As at October 31, 2020, the CEO and the CFO confirmed the effectiveness of the DC&P. These controls are designed to provide reasonable assurance that the information disclosed in annual and interim filings and in other reports filed or submitted under securities legislation is recorded, processed, summarized and reported within the time periods specified by that legislation. These controls and procedures are also designed to ensure that such information is accumulated and communicated to the Bank's management, including its signing officers, as appropriate, to allow for timely decisions regarding disclosure.

This Annual Report was reviewed by the Disclosure Committee, the Audit Committee, and the Bank's Board of Directors (the Board), which approved it prior to publication.

Internal Controls Over Financial Reporting

The internal controls over financial reporting (ICFR) are designed to provide reasonable assurance that the financial information presented is reliable and that the consolidated financial statements were prepared in accordance with GAAP, which are based on IFRS, unless indicated otherwise as explained on pages 22 and 23 of this MD&A. Due to inherent limitations, the ICFR may not prevent or detect all misstatements in a timely manner.

The CEO and the CFO oversaw the evaluation work performed on the design and operation of the Bank's ICFR in accordance with Regulation 52-109. These controls were evaluated in accordance with the control framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO — 2013) for financial controls and in accordance with the control framework of the Control Objectives for Information and Related Technologies (COBIT) for general information technology controls.

Based on the evaluation results, the CEO and CFO concluded, as at October 31, 2020, that there are no material weaknesses, that the ICFR are effective and provide reasonable assurance that the financial reporting is reliable, and that the Bank's consolidated financial statements were prepared in accordance with GAAP.

Changes to Internal Controls Over Financial Reporting

The CEO and CFO also undertook work whereby they were able to conclude that, during the year ended October 31, 2020, no changes were made to the ICFR that have materially affected, or are reasonably likely to materially affect, the design or operation of the ICFR.

Disclosure Committee

The Disclosure Committee assists the CEO and CFO by ensuring that disclosure controls and procedures and internal control procedures for financial reporting are implemented and operational. In so doing, the committee ensures that the Bank is meeting its disclosure obligations under current regulations and that the CEO and CFO are producing the requisite certifications.

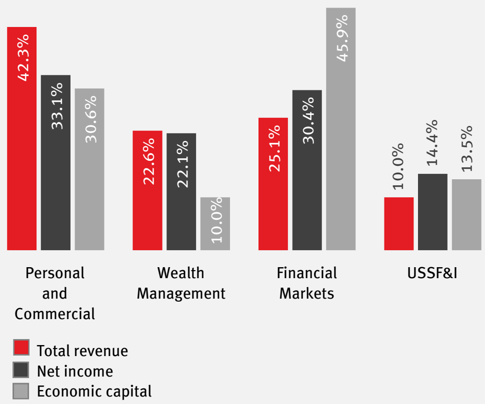
Overview

Highlights

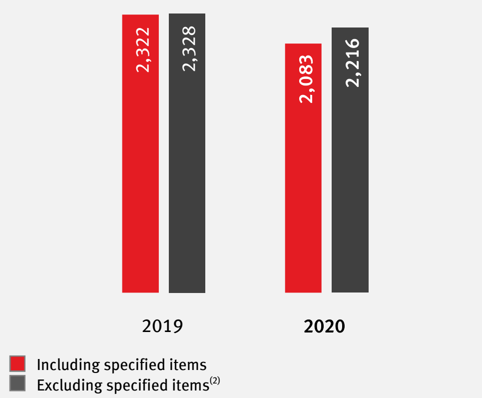
As at October 31 or for the year ended October 31 (millions of Canadian dollars, except per share amounts)	2020	2019	% change
Operating results			
Total revenues	7,927	7,432	7
Income before provisions for credit losses and income taxes[1]	3,382	3,131	8
Net income	2,083	2,322	(10)
Net income attributable to the Bank's shareholders and holders of other equity instruments	2,041	2,256	(10)
Return on common shareholders' equity	14.9 %	18.0 %	
Dividend payout ratio	49.6 %	41.6 %	
Earnings per share			
Basic	$ 5.73	$ 6.39	(10)
Diluted	5.70	6.34	(10)
Operating results on a taxable equivalent basis and excluding specified items[1]			
Total revenues on a taxable equivalent basis and excluding specified items	8,216	7,666	7
Income before provisions for credit losses and income taxes on a taxable equivalent basis and excluding specified items	3,803	3,488	9
Net income excluding specified items	2,216	2,328	(5)
Return on common shareholders' equity excluding specified items	15.8 %	18.0 %	
Dividend payout ratio excluding specified items	46.6 %	41.6 %	
Efficiency ratio on a taxable equivalent basis and excluding specified items	53.7 %	54.5 %	
Earnings per share excluding specified items[1]			
Basic	$ 6.10	$ 6.40	(5)
Diluted	6.06	6.36	(5)
Common share information			
Dividends declared	$ 2.84	$ 2.66	7
Book value	39.97	36.89	
Share price			
High	74.79	68.02	
Low	38.73	54.97	
Close	63.94	68.02	
Number of common shares *(thousands)*	335,998	334,172	
Market capitalization	21,484	22,730	
Balance sheet and off-balance-sheet			
Total assets	331,625	281,458	18
Loans and acceptances, net of allowances	164,740	153,251	7
Deposits	215,878	189,566	14
Equity attributable to common shareholders	13,430	12,328	9
Assets under administration and under management	596,656	565,396	6
Regulatory ratios under Basel III[2]			
Capital ratios			
Common Equity Tier 1 (CET1)	11.8 %	11.7 %	
Tier 1	14.9 %	15.0 %	
Total	16.0 %	16.1 %	
Leverage ratio	4.4 %	4.0 %	
Liquidity coverage ratio (LCR)	161 %	146 %	
Regulatory ratios under Basel III (adjusted)[3]			
Capital ratios			
CET1	11.5 %		
Tier 1	14.6 %		
Total	16.0 %		
Leverage ratio	4.3 %		
Other Information			
Number of employees – Worldwide	26,517	25,487	4
Number of branches in Canada	403	422	(5)
Number of banking machines in Canada	940	939	–

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(2) The ratios as at October 31, 2020 include the transitional measures granted by OSFI. For additional information, see the section entitled COVID-19 Pandemic – Key Measures Introduced by the Regulatory Authorities on pages 20 and 21 of this MD&A.
(3) The adjusted ratios as at October 31, 2020 do not include the transitional measure applicable to expected credit loss provisioning. For additional information, see the section entitled COVID-19 Pandemic – Key Measures Introduced by the Regulatory Authorities on pages 20 and 21 of this MD&A.

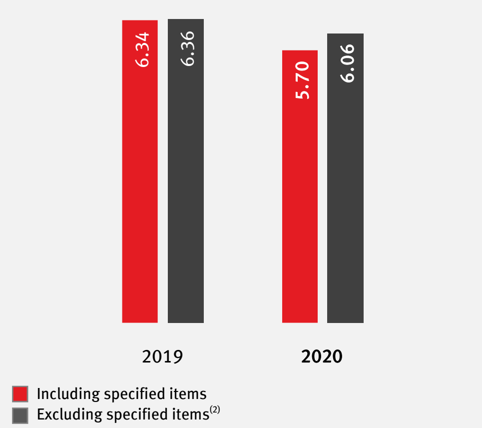
Business Mix[1]
Year ended October 31, 2020
(taxable equivalent basis)[2]



Net income
Year ended October 31
(millions of Canadian dollars)



Diluted earnings per share
Year ended October 31
(Canadian dollars)



(1) Excluding the *Other* heading.
(2) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

About National Bank

The Bank carries out its activities in four business segments: Personal and Commercial, Wealth Management, Financial Markets, and U.S. Specialty Finance and International. For presentation purposes, other operating activities, certain specified items, and treasury activities are grouped in the *Other* heading of segment results. Each reportable segment is distinguished by services offered, type of clientele, and marketing strategy. Additional information is provided in the Business Segment Analysis section of this MD&A.

Objectives and 2020 Results

When setting its objectives, the Bank aims for a realistic challenge in the current business environment and factors in the predictable evolution in banking industry financial results as well as the Bank's business development plan. When the Bank sets its medium-term objectives, it does not take specified items[1] into consideration, as they are inherently unpredictable. Management therefore excludes specified items when assessing the Bank's performance against its objectives.

In fiscal 2020, the Bank recorded $2,083 million in net income compared to $2,322 million in fiscal 2019. Its 2020 diluted earnings per share stood at $5.70 versus $6.34 in fiscal 2019, and its 2020 return on common shareholders' equity (ROE) was 14.9% versus 18.0% in 2019. Net income excluding specified items[1] totalled $2,216 million in fiscal 2020, and diluted earnings per share excluding specified items[1] stood at $6.06, down 5% from $6.36 in 2019. Furthermore, ROE excluding specified items[1] was 15.8% in 2020 versus 18.0% in 2019.

The following table compares the Bank's medium-term objectives with its 2020 results.

Medium-Term Objectives and 2020 Results

	Medium-term objectives (%)	2020 results (%)
Growth in diluted earnings per share excluding specified items[1]	5-10	(5)
ROE excluding specified items[1]	15-20	15.8
Dividend payout ratio excluding specified items[1]	40-50	46.6
CET1 capital ratio	› 10.75	11.8
Leverage ratio	› 3.75	4.4

The Bank's financial results met all of the medium-term objectives, except for growth in diluted earnings per share. In fact, despite the growth in revenues from all operating segments, diluted earnings per share excluding specified items[1] was down 5% compared to the previous year. This target was not met primarily due to the significant increase in provision for credit losses during the year following the significant deterioration in the macroeconomic outlook caused by COVID-19 and the expected impact on clients. In addition, the ROE excluding specified items[1] is in line with the target set and the dividend payment ratio excluding specified items[1] is in the middle of the target range. The CET1 capital ratio and the leverage ratio, at 11.8% and 4.4% respectively, are also above the set targets.

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Dividends

For fiscal 2020, the Bank declared $953 million in dividends to common shareholders (2019: $892 million), representing 50% of net income attributable to common shareholders (2019: 42%).

Regulatory Capital Ratios

As at October 31, 2020, the Bank's CET1, Tier 1, and Total capital ratios were, respectively, 11.8%, 14.9% and 16.0%, i.e., above the regulatory requirements, compared to ratios of, respectively, 11.7%, 15.0% and 16.1% as at October 31, 2019. The increase in the CET1 capital ratio since October 31, 2019 was essentially due to net income net of dividends, transitional measures applicable to ECL provisioning, common share issuances under the Stock Option Plan, and remeasurements of pension plans and other post-employment benefit plans. The growth in risk-weighted assets, the expiry of transitional arrangements for specific wrong-way risk and for the revised securitization framework as well as the adoption of IFRS 16 contributed to offset this increase. The decreases in the Tier 1 capital ratio and the Total capital ratio were essentially due to growth in risk-weighted assets as well as to a redemption of trust units issued by NBC Asset Trust; however, the decrease was partly offset by the issuance of Limited Recourse Capital Notes (LRCN) – Series 1. As at October 31, 2020, the leverage ratio was 4.4% compared to 4.0% as at October 31, 2019. The increase in the leverage ratio is explained by the growth in Tier 1 capital, due to the same factors as described above, and by modest growth in total exposure, mainly from temporary measures announced by OSFI with respect to the exclusion of exposures from central bank reserves and sovereign-issued securities that qualify as HQLA securities under the *Liquidity Adequacy Requirements* guideline.

High-Quality Loan Portfolio

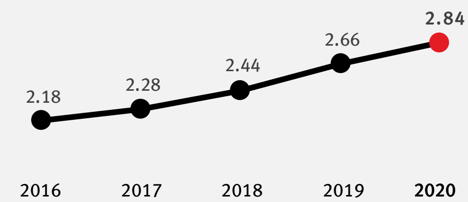
Loans and acceptances, net of allowances, account for 50% of the Bank's total asset and amount to $164.7 billion as at October 31, 2020. For fiscal 2020, the Bank recorded $846 million in provisions for credit losses, $499 million more than those recorded in fiscal 2019. This considerable increase mainly reflects a significant deterioration in the macroeconomic outlook (in particular GDP growth, the unemployment rate, and oil prices) caused by COVID-19 in fiscal 2020 and the expected impacts of the pandemic on the Bank's clients. The higher year-over-year provisions stem mainly from impaired loans in the Commercial Banking and Financial Markets segment. These increases were offset by lower provisions for credit losses on impaired loans from Personal Banking (including credit card receivables) as well as from lower provisions for credit losses in the USSF&I segment, related to the Credigy subsidiary. The 2020 provisions for credit losses represented 0.23% of average loans and acceptances, compared to 0.21% from fiscal 2019.

Risk Profile

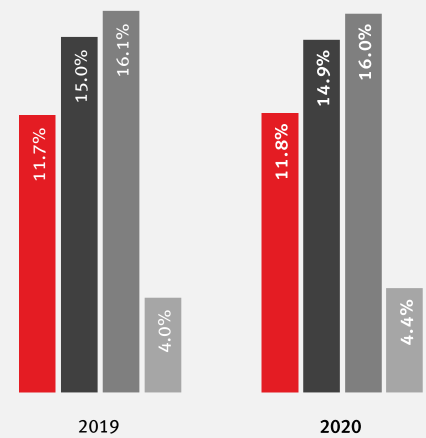
As at October 31 or for the year ended October 31 (millions of Canadian dollars)	2020		2019	
Provisions for credit losses	846		347	
Provisions for credit losses as a % of average loans and acceptances	0.53	%	0.23	%
Provisions for credit losses on impaired loans as a % of average loans and acceptances	0.23	%	0.21	%
Net write-offs as a % of average loans and acceptances	0.16	%	0.20	%
Gross impaired loans(1)	817		684	
Net impaired loans(2)	465		450	

(1) All loans classified in Stage 3 of the expected credit loss model are impaired loans. The impaired loans presented in this table exclude purchased or originated credit-impaired (POCI) loans.
(2) Net impaired loans are presented net of allowances for credit losses on Stage 3 loan amounts drawn. The net impaired loans presented in this table exclude POCI loans.

Annual Dividend per Common Share
Year ended October 31
(Canadian dollars)

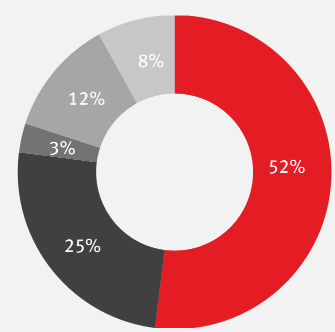


Evolution of Regulatory Ratios under Basel III
As at October 31



CET1
Tier 1
Total
Leverage ratio

Breakdown of the Average Loan and Acceptance Portfolio(1)
As at October 31, 2020



Personal Banking (2019: 53%)
Commercial Banking (2019: 25%)
Wealth Management (2019: 4%)
Financial Markets – Corporate Banking (2019: 12%)
U.S. Specialty Finance and International (2019: 6%)

(1) Excluding loans and acceptances in the *Other* heading

Economic Review and Outlook

Global economy

As expected, the global economy bounced back vigorously in the third quarter as several countries managed to flatten the coronavirus contagion curve and relax their social distancing rules. A strong rebound was expected as activities resumed in some sectors of the economy, especially since latent demand had accumulated during the lockdown period. The recovery was also driven by considerable assistance from public administrations in support of businesses and household income. But the situation is still far from normal. In the eurozone, GDP in the third quarter was still 4.3% below pre-crisis levels. In the United States the gap was 3.7%, similar to the shortfall logged at the height of the 2008-2009 recession. There is strong demand for goods whereas services are suffering due to physical distancing measures, and this is completely atypical in a recession that is benefiting manufacturing countries such as China, whose economy is performing better. We still have a long road ahead, and the global economy is expected to grow at a slower pace over the next few months, with several countries confronting a marked upsurge in the number of new COVID-19 infections. We expect the global economy to shrink 3.9%[(1)] in 2020, the sharpest contraction since the International Monetary Fund (IMF) began compiling the data in 1981. A 5.2%[(1)] rebound is expected next year, but this assumes that an effective vaccine will reach the general population in the second half of the year.

Two major factors will determine the performance of the U.S. economy over the next few months: developments in the pandemic and the size of Washington's next budget assistance program. In epidemiological terms, the situation has deteriorated rapidly in recent weeks. However, there does not appear to be any plans at this time to reinstate the kind of strict lockdowns now being implemented in several European countries. This does not mean that a resurgence of the coronavirus will have no impact on the economy. Looking ahead to next year, the strength of the economic recovery will depend largely on decisions taken in Washington. A larger fiscal stimulus package may have been possible had the Democrats swept to power in the presidential election with a decisive victory, since they have recently shown a greater willingness to loosen the purse strings. But it appears that the Republicans will likely maintain control of the Senate, which limits the size of any potential stimulus package. We expect the economy to bounce back 3.2%[(1)] in 2021, on the heels of a 3.6%[(1)] contraction in 2020.

Canadian economy

In 2020, Canadian governments intervened in the economy with exceptional force, representing the strongest approach taken by an advanced country. As a result of this extraordinary support for workers who had lost their jobs and for businesses in difficulty, the economy has staged a surprisingly strong rally. In October, employment was only 3.3% short of its February highs, and the economy had recouped no less than 79% of the jobs that had been lost. But the employment figures do not fully reflect the damage done to the labour market. A significant share of the labour force is being underutilized, as evidenced by the 6.1% shortfall in hours worked compared to February's peak figure. It is important to note that in September, no fewer than 2.1 million workers (11% of the pre-pandemic workforce) were still indirectly receiving the emergency wage subsidy paid out by the federal government. This illustrates the large number of jobs that are still dependent on government interventions. While the ongoing spread of coronavirus is much more encouraging in Canada than in the other advanced countries, we are not immune to a sharp upturn. Despite the slump that is likely over the next few months due to physical distancing, we project the economy to grow 4.3%[(1)] in 2021 following a 5.5%[(1)] contraction in 2020. The light at the end of the tunnel (an effective vaccine) should support both business and consumer confidence.

Quebec economy

In order to limit the spread of COVID-19 infections, which has been accelerating, Quebec has kept bars, restaurants dining rooms, theatres and gyms closed in several affected regions since the beginning of October. As a result, over 50,000 jobs were lost in October in the information/culture/leisure and accommodations/food services sectors. A net total of 13,000 jobs were lost during the month as other sectors picked up some of the slack. Despite this decline, employment was 2.9% below February levels, which compares favourably with the national average of 3.3%. We remain optimistic that the economy will continue to recover, given the Quebec government's fiscal flexibility and the fact that Quebec households are in better financial condition than those elsewhere in the country. Following a 6.1%[(1)] contraction in 2020, the Quebec economy could stage a 4.5%[(1)] rebound next year. Even though the recovery is expected to continue, the labour market is expected to have unused capacity for some time, while certain sectors where physical distancing remains an issue may continue to stand idle, pending the deployment of an effective vaccine.

(1) GDP growth forecasts, Economy and Strategy group, National Bank Financial

Financial Analysis

Consolidated Results

Year ended October 31 (millions of Canadian dollars)	2020	2019	% change
Operating results			
Net interest income	4,255	3,596	18
Non-interest income	3,672	3,836	(4)
Total revenues	7,927	7,432	7
Non-interest expenses	4,545	4,301	6
Income before provisions for credit losses and income taxes(1)	3,382	3,131	8
Provisions for credit losses	846	347	144
Income before income taxes	2,536	2,784	(9)
Income taxes	453	462	(2)
Net income	2,083	2,322	(10)
Non-controlling interests	42	66	(36)
Net income attributable to the Bank's shareholders and holders of other equity instruments	2,041	2,256	(10)
Diluted earnings per share *(dollars)*	5.70	6.34	(10)
Taxable equivalent basis(1)			
Net interest income	208	195	
Non-interest income	57	135	
Income taxes	265	330	
Impact of taxable equivalent basis on net income	–	–	
Specified items(1)			
Foreign currency translation loss on disposal of subsidiaries	(24)	–	
Impairment losses on premises and equipment and on intangible assets	(71)	(57)	
Severance pay	(48)	(10)	
Charge related to Maple	(13)	(11)	
Gain on disposal of Fiera Capital shares	–	79	
Gain on disposal of premises and equipment	–	50	
Provisions for onerous contracts	–	(45)	
Remeasurement at fair value of an investment	–	(33)	
Specified items before income taxes	(156)	(27)	
Income taxes on specified items	(23)	(21)	
Specified items after income taxes	(133)	(6)	
Non-controlling interests on specified items	(10)	–	
Specified items after income taxes and non-controlling interests	(123)	(6)	
Operating results on a taxable equivalent basis and excluding specified items(1)			
Net interest income on a taxable equivalent basis	4,463	3,791	18
Non-interest income on a taxable equivalent basis and excluding specified items	3,753	3,875	(3)
Total revenues on a taxable equivalent basis and excluding specified items	8,216	7,666	7
Non-interest expenses excluding specified items	4,413	4,178	6
Income before provisions for credit losses and income taxes on a taxable equivalent basis and excluding specified items	3,803	3,488	9
Provisions for credit losses	846	347	144
Income before income taxes on a taxable equivalent basis and excluding specified items	2,957	3,141	(6)
Income taxes on a taxable equivalent basis and excluding specified items	741	813	(9)
Net income excluding specified items	2,216	2,328	(5)
Non-controlling interests excluding specified items	52	66	(21)
Net income attributable to the Bank's shareholders and holders of other equity instruments excluding specified items	2,164	2,262	(4)
Diluted earnings per share excluding specified items *(dollars)*	6.06	6.36	(5)
Average assets	318,199	286,162	11
Average loans and acceptances	159,275	148,765	7
Average deposits	207,381	184,460	12
Efficiency ratio on a taxable equivalent basis and excluding specified items(1)	53.7 %	54.5 %	

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Analysis of Consolidated Results

Financial Results

For fiscal 2020, the Bank's net income totalled $2,083 million compared to $2,322 million in fiscal 2019, a 10% decline. This decline was due to the considerable increase in provisions for credit losses during the fiscal year as a result of the significant deterioration in the macroeconomic outlook caused by COVID-19 and its expected impact on our clients. Income before provisions for credit losses and income taxes[(1)] stood at $3,382 million for fiscal 2020, up 8% year over year, driven by revenue growth across all the Bank's business segments. Specified items, net of income taxes, had a $133 million unfavourable impact on net income in 2020 compared to a $6 million unfavourable impact one year earlier. The fiscal 2020 specified items, net of income taxes, consist of a $36 million foreign currency loss on disposals of subsidiaries, $52 million in impairment losses on premises and equipment and on intangible assets, $35 million in severance pay and a $10 million charge related to Maple. Specified items in fiscal 2019, net of income taxes, consisted of a $68 million gain on disposal of Fiera Capital shares, a $43 million gain on disposal of premises and equipment, a $27 million loss on the remeasurement at fair value of the Bank's investment in NSIA, $42 million in impairment losses on premises and equipment and on intangible assets, $7 million in severance pay, an $8 million charge related to Maple and $33 million in provisions for onerous contracts. For fiscal 2020, the Bank's net income excluding specified items[(1)] totalled $2,216 million, down 5% from $2,328 million in fiscal 2019. Income before credit losses and income taxes on a taxable equivalent basis and excluding specified items[(1)] was $3,803 million for fiscal 2020, up 9% year over year.

Total Revenues

For fiscal 2020, the Bank's total revenues amounted to $7,927 million, up $495 million or 7% from $7,432 million in fiscal 2019. The increase in total revenues was driven by revenue growth across all of the Bank's business segments. The fiscal 2020 total revenues include a $24 million loss on disposals of subsidiaries, while fiscal 2019 total revenues included a $79 million gain on disposal of Fiera Capital shares, a $50 million gain on disposal of premises and equipment, and a $33 million loss arising from the remeasurement at fair value of the Bank's investment in NSIA. The 2020 total revenues on a taxable equivalent basis and excluding specified items[(1)] were up $550 million or 7% year over year. For additional information about total revenues on a taxable equivalent basis[(1)], see Table 2 on page 116.

Net Interest Income

For fiscal 2020, the Bank's net interest income totalled $4,255 million, rising $659 million or 18% from $3,596 million in fiscal 2019. The 2020 net interest income on a taxable equivalent basis[(1)] was $4,463 million compared to $3,791 million in fiscal 2019 (Table 3, page 116).

In the Personal and Commercial (P&C) segment, the fiscal 2020 net interest income totalled $2,445 million, a $61 million or 3% year-over-year increase driven mainly by growth in loan volumes and in deposit volumes, which rose 4% and 8%, respectively, year over year. The growth in loans was primarily due to mortgage and commercial lending activity, while the growth in deposits was partly due to support measures granted by governments in the context of the COVID-19 pandemic. The increase in P&C's net interest income was tempered by a narrowing of the net interest margin, which was 2.19% in fiscal 2020 versus 2.23% in fiscal 2019, largely due to the decrease in deposit margins. In the Wealth Management segment, net interest income for fiscal 2020 was $442 million, a 3% year-over-year decrease owing to lower interest rates, which more than offset the increase in deposit volumes.

As for the Financial Markets segment, its fiscal 2020 net interest income on a taxable equivalent basis[(1)] was up $472 million year over year, mainly due to trading activities, and should be examined together with the other items of trading activity revenues. In the USSF&I segment, for fiscal 2020 net interest income was up $151 million, or 23% year over year, owing to growth in loan and deposit volumes at the Advanced Bank of Asia Limited (ABA Bank) subsidiary in fiscal 2020 and the increase in net interest income at the Credigy subsidiary related to the volume growth in loan portfolios.

Non-Interest Income

For fiscal 2020, non-interest income totalled $3,672 million versus $3,836 million in fiscal 2019. The 2020 non-interest income includes a $24 million foreign currency translation loss on disposal of subsidiaries, while non-interest income in fiscal 2019 included a $79 million gain on disposal of Fiera Capital shares, a $50 million gain on disposal of premises and equipment, and a $33 million loss arising from the remeasurement at fair value of the Bank's investment in NSIA. Non-interest income on a taxable equivalent basis and excluding specified items[(1)] amounted to $3,753 million in fiscal 2020 compared to $3,875 million in fiscal 2019. For additional information on non-interest income on a taxable equivalent basis[(1)], see Table 4 on page 117.

The fiscal 2020 revenues from underwriting and advisory fees were up 26% year over year, in particular due to merger and acquisition activities in the Financial Markets segment. Revenues from securities brokerage commissions rose 10%. Mutual fund revenues and trust service revenues totalled $1,152 million in fiscal 2020, a $94 million year-over-year increase owing to growth in assets under administration and under management as a result of net inflows into various solutions and from stronger stock market performance in fiscal 2020.

Revenues from credit fees and revenues from acceptances and letters of credit and guarantee increased $50 million from fiscal 2019, due to higher volumes of credit activity in Commercial Banking and the Financial Markets segment. In addition, card revenues and revenues from deposit and payment service charges were down 21% and 3%, respectively, in fiscal 2020 due to a sharp drop in the number of transactions as a result of the impacts of the pandemic, including the temporary closure of businesses and non-essential services and the lockdowns imposed by governments.

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

The trading revenues recorded in non-interest income amounted to $604 million in fiscal 2020 compared to $829 million in fiscal 2019. Trading revenues on a taxable equivalent basis[1] recorded in non-interest income totalled $661 million, down from $964 million in 2019. Including the portion recorded in net interest income, trading activity revenues on a taxable equivalent basis[1] amounted to $1,466 million in 2020, a $274 million year-over-year increase (Table 5, page 117) attributable to revenues from equity securities and from fixed-income securities, as well as revenues from commodities and foreign exchange activities of the Financial Markets segment. The trading revenues of other segments also increased.

In fiscal 2020, gains on non-trading securities and foreign exchange revenues were up $16 million and $8 million, respectively, compared to fiscal 2019. Insurance revenues decreased $8 million year over year and the Bank's share in the net income of associates and joint ventures was also down $6 million. Lastly, other revenues amounted to $104 million in fiscal 2020, a $147 million year-over-year decrease owing mainly to specified items recorded in fiscal 2020 and 2019, i.e. a foreign currency translation loss on disposal of subsidiaries in fiscal 2020 and, in fiscal 2019, a gain on disposal of Fiera Capital shares and a gain on disposal of premises and equipment, tempered by a loss arising from a fair value remeasurement of the Bank's investment in NSIA. These items had a $120 million unfavourable impact on growth in other revenues.

Non-Interest Expenses

Non-interest expenses stood at $4,545 million in fiscal 2020, up $244 million from fiscal 2019 (Table 6, page 118). The 2020 non-interest expenses included $71 million in impairment losses on premises and equipment and on intangible assets, $48 million in severance pay and a $13 million charge related to Maple. The 2019 non-interest expenses include $57 million in impairment losses on premises and equipment and on intangible assets, $10 million in severance pay, an $11 million charge related to Maple and $45 million in provisions for onerous contracts. Non-interest expenses excluding specified items[1] stood at $4,413 million, up $235 million or 6% year over year.

Compensation and employee benefits stood at $2,713 million in fiscal 2020, a 7% year-over-year increase that was essentially due to the annual increase in salaries, an increase in the number of employees, expenses incurred by the Bank to deploy pandemic-related measures, and higher severance pay in fiscal 2020. The decrease in occupancy expenses is attributable to provisions for onerous contracts recorded in fiscal 2019, tempered somewhat by the expansion of ABA Bank's banking network on these expenses in 2020. The increase in the technology expenses, including amortization, were related to technology investments made by the Bank for its transformation plan and for business development purposes, as well as higher impairment losses on premises and equipment and on intangible assets in fiscal 2020. The decrease in travel and business development expenses in 2020 stems from the lockdown and social distancing measures imposed by governments in the context of the pandemic.

Provisions for Credit Losses

For fiscal 2020, the Bank recorded $846 million in provisions for credit losses, compared to $347 million in provisions recorded in fiscal 2019 (Table 7, page 119). This considerable increase came from provisions for credit losses on non-impaired loans mainly due to a significant deterioration in the macroeconomic conditions caused by COVID-19 in fiscal 2020, including the GDP growth rate, the unemployment rate and oil prices, as well as the expected impact of the pandemic on the Bank's clients. This was also due to provisions for credit losses on impaired loans in Commercial Banking and in the Financial Markets segment, which increased $75 million and $47 million, respectively, in fiscal 2020. These increases were offset by provisions for credit losses on impaired loans that were $19 million lower in Personal Banking (including credit card receivables) and $48 million in the USSF&I segment, attributable to the Credigy subsidiary related to repayments and maturities of certain loan portfolios. At $372 million, the fiscal 2020 provisions for credit losses on impaired loans represent 0.23% of average loans and acceptances, up from 0.21% in fiscal 2019.

Income Taxes

Detailed information about the Bank's income taxes is provided in Note 24 to the consolidated financial statements. For fiscal 2020, income taxes stood at $453 million, representing an effective tax rate of 18% compared to $462 million and an effective tax rate of 17% in fiscal 2019. This change in effective tax rate stems from the tax impact of the disposal of the subsidiaries in Brazil, from a decrease in the income tax rate applicable to the ABA subsidiary, as the Cambodian government has granted tax incentive measures, as well as the realization of capital gains that were taxed at a lower rate in fiscal 2019.

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Business Segment Analysis

The Bank carries out its activities in four business segments, which are defined below. For presentation purposes, other activities are grouped in the *Other* heading. Each reportable segment is distinguished by services offered, type of clientele and marketing strategy.

National Bank of Canada

Business Segments	Personal and Commercial	Wealth Management	Financial Markets	U.S. Specialty Finance and International
Major Activities	• Banking services • Credit services • Financing • Investment solutions • Insurance	• Full-service brokerage • Private banking • Direct brokerage • Investment solutions • Administrative and trade execution services • Transaction products for advisors • Trust and estate services	• Equities, fixed-income, commodities and foreign exchange • Corporate banking • Investment banking	• U.S. Specialty Finance – Credigy • International – ABA Bank (Cambodia) – Minority interests in emerging markets

Other: Treasury activities, liquidity management, Bank funding, asset/liability management, corporate units

Results by Business Segment

Year ended October 31[1]
(millions of Canadian dollars)

	Personal and Commercial		Wealth Management		Financial Markets		USSF&I		Other		Total	
	2020	2019	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	2019
Net interest income[2]	**2,445**	2,384	**442**	455	**946**	474	**807**	656	**(385)**	(373)	**4,255**	3,596
Non-interest income[2]	**1,018**	1,067	**1,413**	1,288	**1,108**	1,277	**13**	59	**120**	145	**3,672**	3,836
Total revenues	**3,463**	3,451	**1,855**	1,743	**2,054**	1,751	**820**	715	**(265)**	(228)	**7,927**	7,432
Non-interest expenses	**1,849**	1,837	**1,115**	1,073	**809**	756	**319**	285	**453**	350	**4,545**	4,301
Income before provisions for credit losses and income taxes[3]	**1,614**	1,614	**740**	670	**1,245**	995	**501**	430	**(718)**	(578)	**3,382**	3,131
Provisions for credit losses	**517**	237	**7**	–	**239**	30	**80**	80	**3**	–	**846**	347
Income before income taxes (recovery)	**1,097**	1,377	**733**	670	**1,006**	965	**421**	350	**(721)**	(578)	**2,536**	2,784
Income taxes (recovery)[2]	**290**	366	**194**	176	**266**	257	**69**	71	**(366)**	(408)	**453**	462
Net income	**807**	1,011	**539**	494	**740**	708	**352**	279	**(355)**	(170)	**2,083**	2,322
Non-controlling interests	**–**	–	**–**	–	**–**	–	**34**	40	**8**	26	**42**	66
Net income attributable to the Bank's shareholders and holders of other equity instruments	**807**	1,011	**539**	494	**740**	708	**318**	239	**(363)**	(196)	**2,041**	2,256
Average assets	**117,338**	112,798	**5,917**	6,219	**123,943**	112,493	**14,336**	10,985	**56,665**	43,667	**318,199**	286,162

(1) For the year ended October 31, 2019, certain amounts have been reclassified.
(2) The *Net interest income*, *Non-interest income* and *Income taxes (recovery)* items of the business segments are presented on a taxable equivalent basis. See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(3) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Business Segment Analysis | Personal and Commercial

The Personal and Commercial segment meets the financial needs of close to 2.6 million individuals and over 138,000 businesses across Canada. These clients entrust the Bank to manage, invest, and safeguard their assets and to finance their projects. Clients turn to the Bank's experienced advisors who take the time to understand their specific needs and help them reach their financial goals. And thanks to the Bank's convenient self-banking channels, 403 branches and 940 banking machines across Canada, clients can do their daily banking whenever and wherever they wish.

Personal Banking

Personal Banking provides a complete range of financing and investment products and services, mainly in Quebec, to help clients reach their financial goals throughout every stage in their lives. It offers everyday transaction solutions, mortgage loans and home equity lines of credit, consumer loans, payment solutions, savings and investment solutions as well as a range of insurance products.

Commercial Banking

Commercial Banking serves the financial needs of small and medium-sized enterprises and large corporations, helping them to achieve growth. It offers a full line of financial products and services, including credit, deposit and investment solutions, international trade, foreign exchange transactions, payroll, cash management, insurance, electronic transactions and complementary services. With deep roots in the business community for over 160 years, Commercial Banking is Quebec's leading provider of the core banking products for businesses and is also known across Canada for its expertise in targeted specialized industries such as health, agriculture and agri-food, technology, creative industries, real estate, and energy.

Economic and Market Review

The closure of non-essential services in March and April 2020 in Canada to limit the spread of COVID-19 could have had disastrous consequences for households and businesses. Fortunately, the federal government put in place generous programs to support them during the pandemic. Workers who have lost their jobs are benefiting from new income support programs that are much more generous than usual. Among other things, the government has helped businesses maintain an employment relationship with many employees despite their financial difficulties with the implementation of the wage subsidy. The budget measures implemented led to an impressive rebound in retail sales and real estate activity, which have also been stimulated by lower interest rates. Although Quebec was the epicentre of the pandemic and the government was forced to impose strict physical distancing measures, the most recent labour market data shows that job recovery is proceeding well and compares favourably with the rest of the country. We remain optimistic that the recovery will continue given the fiscal flexibility of the Quebec government and the fact that households are in a better financial position than elsewhere in the country because real estate remains more affordable. As for business investments, they should continue to rebound, especially since there is now a light at the end of the tunnel with the hope of an effective vaccine.

The economic environment in 2020 and the outlook for 2021 are discussed in more detail in the Economic Review and Outlook section on page 28.

Key Success Factors

- Strong penetration in our core Quebec market thanks to a full range of personal and commercial services.
- Well-established and enduring client relationships grounded in an ability to provide both advice and a full range of solutions tailored to specific client needs.
- The largest sales force in Quebec, consisting of both generalists and specialists, positioning us to offer the best advice to clients.
- Unmatched closeness to Quebec entrepreneurs, with leading expertise in business lending and risk management solutions.
- Recognized expertise across Canada in specialized industries.
- Ability to meet all the needs facing businesses and entrepreneurs in collaboration with other Bank segments.

Objectives and Strategies

The Personal and Commercial segment is targeting growth by becoming a more simple, efficient bank focused on constantly improving the client experience. In fact, the COVID-19 pandemic resulted in increased client satisfaction due to the mobilization of all employees to ensure that our advice and services would be accessible. The Bank significantly increased external communications (Facebook Live with various Bank experts and economic news capsules) to answer clients' questions during this period of uncertainty.

Strategic Priorities	2020 Achievements and Highlights
Maintain volume growth and accelerate net client acquisition	> As a result of COVID-19, deployed relief measures and implemented a distinctive and proactive advisory approach in order to offer solutions that could respond to each client's personal situation. > As a result of COVID-19, deployed support measures for the elderly, including a dedicated telephone line in our Customer Service Centres used to handle calls on a priority basis. > Continued efforts to grow our client base through expanded geographic coverage, the use of online origination solutions, and our various campaigns that focus on advice tailored to each stage of life. > Personalized our advisory services to target strategic clients such as newcomers, millennials, professionals, people aged 50 to 64, and small and medium-sized enterprises (SMEs). > Enhanced the product offering by improving our financial programs for our professional clients and launched a US$ high yield account for businesses. > Created the National Bank SME Growth Fund, L.P. in partnership with the Quebec government, to support businesses in their digital transformation and growth projects. > Performance superior to the previous fiscal year in residential financing supporting a very active real estate market in this context of pandemic.
Improve the client experience	> Enhanced the capabilities of the transactional platform and the mobile app to deliver a simpler, safer, and more intuitive digital experience. > Improved the experience for personal banking clients by providing a consolidated view of all their investments and allowing them to do their banking simply and independently. > Optimized the client onboarding process to enhance use levels of our banking solutions. > Transformed the experience in more than 40 branches in Quebec to assist clients in their switch to self-service, by being proactive with the advisory offering. > Opened a new Customer Contact Centre in Sherbrooke to diversify our call intake pool and support client accessibility.
Accelerate the digital transformation	> As a result of COVID-19, quickly deployed new digital functionalities, including new forms for payment deferral requests (mortgages, personal loans and credit cards) and online registration for Canada Revenue Agency (CRA) direct deposit. > As a result of COVID-19, implemented processes that enable clients to conduct business remotely with their advisor (electronic signature, virtual meeting). > Enhanced online origination processes (Personal and Commercial account opening and instant credit card approvals). > Added self-service functionalities. > Launched a virtual assistant and online tutorials to help clients use our digital solutions. > Deployed an online international money transfer solution for personal banking clients that will allow them to transfer money from Canada to foreign bank accounts (19 countries in the eurozone). > Deployed a digital financing platform for our sales forces, improving the speed of our offers of financing to businesses.
Improve efficiency	> Continued to simplify and automate client processes, both for retail clients (account openings, payments, residential financing and investing) and for business clients (account openings, financing and cash management).

Priorities and Outlook for 2021

Maintain volume growth and accelerate net client acquisition

- Keep consulting at the core of our strategy by continuing to focus on client engagement and by:
    - equipping our employees to continuously improve the proactivity and relevance of their advice;
    - redefining our distribution network in order to foster proactive consulting, risk management and improved client accessibility.
- Continue our efforts to acquire key clients with high growth potential, particularly among Gen Z, millennials, newcomers to Canada already in the country, professionals, people aged 50 to 64 and SMEs, with our online origination capabilities and our competitive offer while enhancing the Bank's presence among these clients.
- Accelerate acquisitions and sales initiated on our digital channels.
- Continue to tailor our offering to market particularities, the competition, geographic location and micromarkets.

Optimize the client experience

- Provide clients with a simple, unified experience characterized by an integrated approach across all products and distribution channels.
- Enhance our mobile application and expand self-service options on our digital channels.
- Make the most of client data and place it at the heart of our transformation.
- Help business clients grow by giving them access to the Bank's network of entrepreneurs.

Improve efficiency

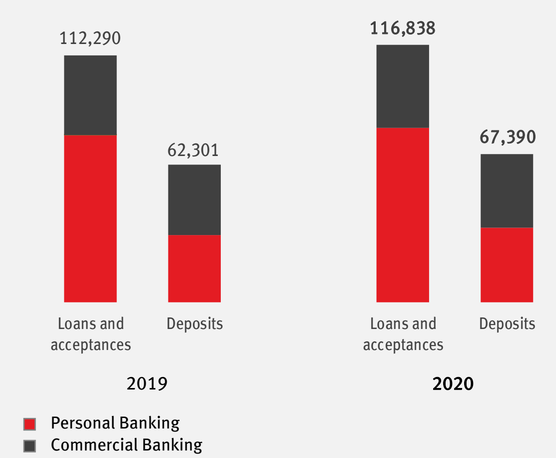
- Continue simplifying and automating certain targeted processes (transactional solutions, investments, payments, and commercial financing).
- Develop our product offering for our clients (transactional solutions, cards, payments, cash management).

Segment Results – Personal and Commercial

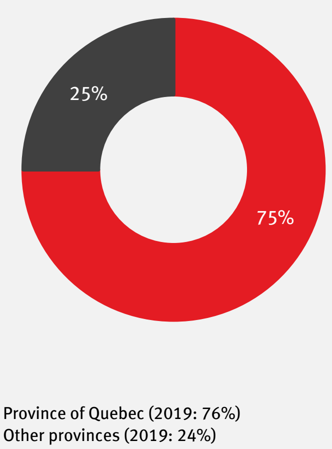
Year ended October 31 (millions of Canadian dollars)	2020		2019[1]		% change
Net interest income	2,445		2,384		3
Non-interest income	1,018		1,067		(5)
Total revenues	3,463		3,451		–
Non-interest expenses	1,849		1,837		1
Income before provisions for credit losses and income taxes[2]	1,614		1,614		–
Provisions for credit losses	517		237		
Income before income taxes	1,097		1,377		(20)
Income taxes	290		366		(21)
Net income	807		1,011		(20)
Net interest margin[3]	2.19	%	2.23	%	
Average interest-bearing assets	111,488		106,995		4
Average assets	117,338		112,798		4
Average loans and acceptances	116,838		112,290		4
Net impaired loans[4]	412		409		1
Net impaired loans[4] as a % of average loans and acceptances	0.4	%	0.4	%	
Average deposits	67,390		62,301		8
Efficiency ratio	53.4	%	53.2	%	

(1) For the year ended October 31, 2019, certain amounts have been reclassified.
(2) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(3) Net interest margin is calculated by dividing net interest income by average interest-bearing assets.
(4) Net impaired loans are presented net of allowances for credit losses on Stage 3 loan amounts drawn.

Average Loans and Acceptances and Deposits
Year ended October 31
(millions of Canadian dollars)



Total Revenues by Geographic Distribution
Year ended October 31, 2020



Financial Results

In the Personal and Commercial segment, net income totalled $807 million in fiscal 2020, down 20% from $1,011 million in fiscal 2019, essentially due to the impacts of the COVID-19 pandemic, including a large increase in provisions for credit losses. The segment's total revenues rose $12 million, as the $61 million growth in net interest income was offset by a $49 million decrease in non-interest income. The increase in net interest income was driven mostly by higher personal and commercial loan and deposit volumes. This growth was offset by a narrowing of the net interest margin, which was 2.19% in fiscal 2020 versus 2.23% in fiscal 2019, a decrease resulting mainly from deposit margins and, to a lesser extent, loan margins.

The segment's non-interest expenses stood at $1,849 million in fiscal 2020, a 1% year-over-year increase attributable mainly to increases in compensation and employee benefits related to the annual increase in salaries and higher charges related to the segment's strategic initiatives. These increases were partly offset by the decline in certain variable expenses, including business development expenses, due to social distancing and lockdown measures imposed by governments. Given these results, the segment's fiscal 2019 income before provisions for credit losses and income taxes[(1)] was relatively unchanged year over year. And, at 53.4% for fiscal 2020, the segment's efficiency ratio was comparable to the ratio of 53.2% recorded in 2019.

For fiscal 2020, the segment recorded $517 million in provisions for credit losses, compared to $237 million in fiscal 2019, an increase of $280 million. This increase came mainly from an increase in the provisions for credit losses on non-impaired loans in Personal Banking and Commercial Banking, as well as non-impaired credit card receivables, due to the significant deterioration in the macroeconomic outlook caused by COVID-19 and the pandemic's expected impact on the segment's clients. Provisions for credit losses on Commercial Banking's impaired loans also rose sharply when compared to fiscal 2019.

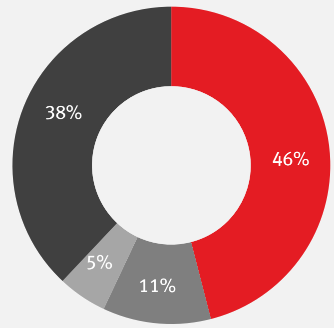
Personal Banking

For fiscal 2020, Personal Banking's total revenues amounted to $2,154 million, compared to $2,163 million in fiscal 2019. A 4% increase in loan volumes and 10% growth in deposit volumes were tempered by a narrowing of the net interest margin on loans and deposits. In addition, the $50 million decrease in non-interest income was essentially due to lower credit card revenues and revenues from deposit and payment service charges, as the number of transactions dropped due to the impacts of the pandemic, including the temporary closing of businesses and non-essential services and the lockdowns imposed by governments. Non-interest expenses increased $6 million in fiscal 2020, owing mainly to higher technology investment expenses as well as higher compensation and employee benefits.

Commercial Banking

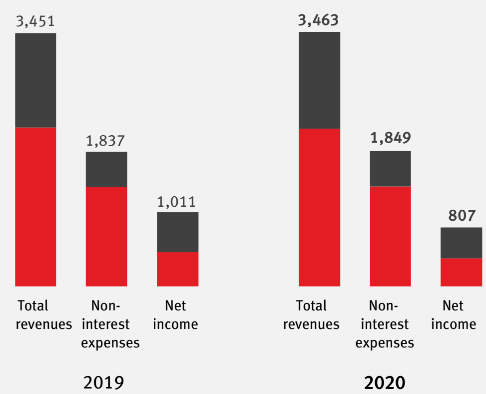
For fiscal 2020, Commercial Banking's total revenues amounted to $1,309 million, rising 2% from $1,288 million in fiscal 2019. Its net interest income was up, essentially due to growth in loan volumes and deposit volumes, which rose 4% and 6%, respectively, tempered by a narrowing of the net interest margin on loans and deposits. Non-interest income was relatively stable year over year. The increase in revenues from bankers' acceptances was offset by lower revenues from deposit and payment service charges, a result of the context around the pandemic, as well as the decrease in revenues from foreign exchange activities. Commercial Banking's non-interest expenses rose $6 million in fiscal 2020, mainly due to higher compensation and employee benefits.

Total Revenues by Category
Year ended October 31, 2020



- Retail (2019: 45%)
- Payment Solutions (2019: 13%)
- Insurance (2019: 5%)
- Commercial Banking (2019: 37%)

Operating Results
Year ended October 31
(millions of Canadian dollars)



- Personal Banking
- Commercial Banking

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Business Segment Analysis | Wealth Management

As a leader in Quebec and firmly established across Canada, the Wealth Management segment serves all market segments by emphasizing advisory services and close client relationships. It delivers a full range of wealth management products and solutions through a multi-channel distribution network and a differentiated business model. The Wealth Management segment also proposes investment solutions to independent advisors as well as solutions to institutional clients.

Business Units

Full-Service Brokerage
Drawing on the largest network of investment advisors in Quebec, National Bank Financial – Wealth Management (NBFWM) provides wealth management advisory services with more than 800 advisors at close to 100 service points across Canada. Its advisors serve over 400,000 retail clients, proposing portfolio management services, financial and succession planning services, and insurance services while working in close collaboration with other segments of the Bank.

Private Banking
Private Banking 1859 (PB1859) offers highly personalized wealth management services and advice across Canada, helping affluent clients to benefit from comprehensive management of their personal and family fortunes. As a true market leader in Quebec, PB1859 continues to expand its operations across Canada with its extensive range of financial solutions and strategies covering the protection, growth, and transition of wealth.

Direct Brokerage
National Bank Direct Brokerage (NBDB) offers a multitude of financial products and investment tools to self-directed investors across Canada through its online investment solution. NBDB helps customers who want to manage their own investments to do so through a trading platform and an optimized mobile trading platform or by speaking directly to a representative on the phone.

Investment Solutions
National Bank Investments Inc. (NBI) manufactures and offers mutual funds, investment solutions, and services to consumers and institutional investors through the Bank's extended network. With its open architecture model, NBI is Canada's largest investment fund manager to entrust the management of its investments exclusively to external portfolio managers.

Administrative and Trade Execution Services
National Bank Independent Network (NBIN) is a Canadian leader in providing administrative services such as trade execution, custodial services, and brokerage solutions to many independent financial services firms across Canada, in particular to introducing brokers, portfolio managers, and investment fund managers.

Transaction Products
The Wealth Management segment provides independent advisors across Canada with an extensive range of investment products, including guaranteed investment certificates (GICs), mutual funds, notes, structured products, and monetization, helping to support their own business needs and client relationships.

Trust and Estate Services
Through National Bank Trust Inc. (NBT), the Wealth Management segment provides retail and institutional clients with turnkey services and solutions. Its team of experts offers a full range of high value-added services designed to consolidate, protect, and transfer its customers' wealth and give them peace of mind. NBT also offers integrated trustee and depository services as well as securities custody services.

Economic and Market Review

Policymakers have taken extraordinary measures in 2020 to limit the negative impact of social distancing measures to counter COVID-19. Governments in North America have aggressively supported households and businesses in difficulty. The central banks lowered interest rates to near zero and launched quantitative easing programs to provide affordable financing to governments and other borrowers. As a result of these unprecedented interventions, the stress in financial markets eased considerably after rising sharply in March 2020. The major financial asset classes have benefited, and at the time of this report, households are no longer experiencing a negative wealth effect in 2020, an atypical situation in a recession. In short, policymakers have put in place favourable conditions for an economic recovery that should continue in 2021.

The economic environment in 2020 and the outlook for 2021 are discussed in more detail in the Economic Review and Outlook section on page 28.

Key Success Factors

- Leadership position in Quebec in terms of market share and brand recognition.
- Largest manager of managers in Canada (open architecture); clients benefit from objective advice.
- Leadership position in Canada in securities custody and brokerage services for independent wealth management firms.
- Firmly rooted across Canada in full-service brokerage services.
- Ability to forge solid, lasting client relationships built on personalized advice and solutions provided at every life stage.
- High level of client satisfaction with private management, full-brokerage and direct brokerage services.
- Proven track record and excellent reputation as a business partner among non-bank financial institutions.
- Ability to work closely with the Personal and Commercial segment and to leverage its distribution platform.

Objectives and Strategies

The Wealth Management segment will capitalize on the strength of the Bank's brand by generating sustained growth in income, improving client satisfaction and maintaining high employee engagement. The Wealth Management segment distinguishes itself from its competition by offering an exceptional experience in terms of advice, offering innovative solutions and impeccable service thanks to agile and aligned multifunctional teams. The segment seeks to increase market penetration across Canada through organic growth as well as targeted actions and partnerships.

Strategic Priorities	2020 Achievements and Highlights
Transform the partnership with clients	> Produced digital content to support clients during the COVID-19 crisis. > Deployed a strategy that centres on goals and life stages. > Provided best market pricing on online brokerage platform. > Launched the Philantra Foundation, which gives our clients easier access to philanthropic services.
Invest in high-growth markets	> Launched NB exchange-traded funds (ETFs). > Improved cross-selling strategy in partnership with other Bank segments. > Opened a new private management location in downtown Toronto. > Actively recruited investment advisors to increase our market share. > Experienced strong growth in our services to independent firms.
Continue transforming Wealth Management's culture	> Promoted a joint mission and an integrated client approach. > Focused on collaboration between employees of the Wealth Management segment and other segments of the Bank. > Implemented concrete measures to promote innovation and accelerate transformation. > Exceptional adaptation of our ways of working and communicating during the pandemic due to accelerated implementation and adoption of tools needed to work from home.

Priorities and Outlook for 2021

Transform the way we serve clients

- Improve online brokerage services.
- Increase use of data and full view of client information to provide better advice.
- Increase the usability of the new Mutual Fund Dealers Association of Canada (MFDA) platform, which is designed to replace certain existing asset management platforms.
- Markedly increase our digital capabilities in full-service brokerage services.
- Gradually implement tools allowing our advisors to apply the "Lifetime Advice" approach.

Concentrate on fast-growing markets

- Launch new types of investment products.
- Develop a new administrative services platform for institutional clients.
- Continue to develop markets outside Quebec.
- Increase in our market portfolio shares by focusing on synergies with the Personal and Commercial and Financial Markets segments.

Continue transforming Wealth Management's culture

- Deploy activities promoting collaboration between employees.
- Focus on leadership and cross-cutting initiatives.

Segment Results – Wealth Management

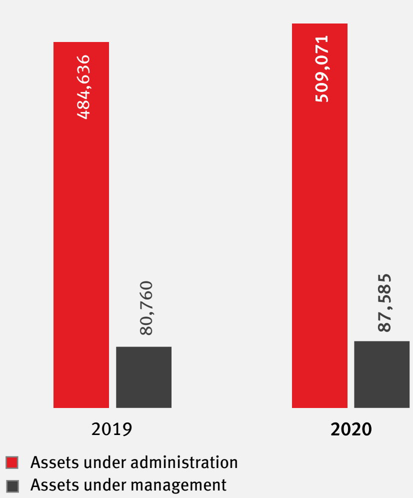
Year ended October 31 (millions of Canadian dollars)	2020	2019[1]	% change
Net interest income	442	455	(3)
Fee-based revenues	1,087	1,013	7
Transaction and other revenues	326	275	19
Total revenues	1,855	1,743	6
Non-interest expenses	1,115	1,073	4
Income before provisions for credit losses and income taxes[2]	740	670	10
Provisions for credit losses	7	–	
Income before income taxes	733	670	9
Income taxes	194	176	10
Net income	539	494	9
Average assets	5,917	6,219	(5)
Average loans and acceptances	4,776	4,855	(2)
Net impaired loans[3]	2	3	(33)
Average deposits	34,507	32,321	7
Efficiency ratio	60.1 %	61.6 %	

(1) For the year ended October 31, 2019, certain amounts have been reclassified.
(2) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(3) Net impaired loans are presented net of allowances for credit losses on Stage 3 loan amounts drawn.

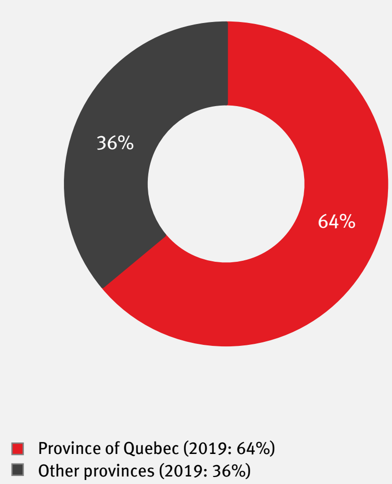
Assets Under Administration and Under Management – Wealth Management

As at October 31 (millions of Canadian dollars)	2020	2019	% change
Assets under administration	509,071	484,636	5
Assets under management			
Individual	48,140	43,941	10
Mutual funds	39,445	36,819	7
	87,585	80,760	8
Assets under administration and under management	596,656	565,396	6

Assets Under Administration and Under Management
Year ended October 31
(millions of Canadian dollars)



Total Revenues by Geographic Distribution
Year ended October 31, 2020



Financial Results

In the Wealth Management segment, net income totalled $539 million in fiscal 2020, up 9% from $494 million in fiscal 2019. The segment's total revenues amounted to $1,855 million in fiscal 2020, up 6% from $1,743 million in fiscal 2019. This increase stems partly from a 7% increase in fee-based revenues, owing to growth in the segment's assets under administration and under management generated by net inflows into various solutions and due to stronger stock market performance in fiscal 2020. Transaction-based and other revenues also rose 19% due to higher transaction volumes in fiscal 2020 as a result of stock market volatility. In addition, the decline in net interest income was attributable to a narrower margin on deposits, related to lower interest rates and partly offset by the increase in deposit volumes.

The segment's non-interest expenses stood at $1,115 million in fiscal 2020 compared to $1,073 million for fiscal 2019, an increase attributable to higher compensation and employee benefits, including variable compensation tied to higher revenues and higher operations support charges related to the segment's initiatives. The 2020 efficiency ratio was 60.1% in fiscal 2020, an improvement from 61.6% in fiscal 2019.

The segment's provisions for credit losses increased $7 million year over year, both as a result of provisions for credit losses on non-impaired loans, in connection with the significant deterioration in the macroeconomic outlook caused by COVID-19, and due to higher provisions on credit losses on impaired loans.

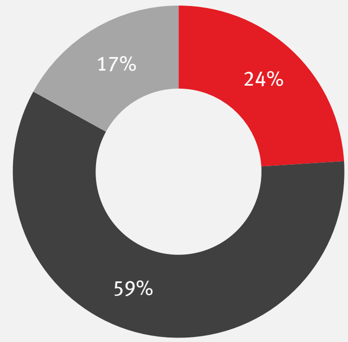
Assets Under Administration and Under Management

As at October 31, 2020, assets under administration and under management totalled $596.7 billion, rising $31.3 billion or 6% from October 31, 2019 due to net inflows into various solutions and to stronger stock market performance in fiscal 2020.

Assets under administration totalled $509.1 billion as at October 31, 2020, up $24.4 billion compared to October 31, 2019. This increase came from net inflows into various solutions and stronger stock market performance in fiscal 2020.

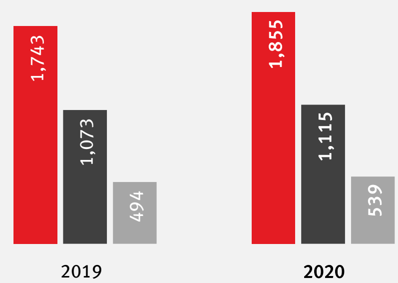
In the individuals category, assets under management amounted to $48.1 billion as at October 31, 2020 compared to $43.9 billion as at October 31, 2019. The mutual funds category totalled $39.4 billion as at October 31, 2020 for a 7% increase year over year.

Total Revenues by Category
Year ended October 31, 2020



- Net interest income (2019: 26%)
- Fee-based services (2019: 58%)
- Transaction-based and other revenues (2019: 16%)

Operating Results
Year ended October 31, 2020
(millions of Canadian dollars)



- Total revenues
- Non-interest expenses
- Net income

Business Segment Analysis | Financial Markets

The Financial Markets segment offers a complete suite of products and services to corporations, institutional clients, and public-sector entities. Whether providing comprehensive advisory services and research or capital markets products and services, its focus is on client relationships and their growth. Over 800 professionals serve client needs through offices in North America, Europe, the U.K. and Asia.

Business Units

The Financial Markets segment operates two main business units: Global Markets and Corporate and Investment Banking.

Global Markets
Financial Markets is a Canadian leader in risk management solutions and structured products and is the largest market-maker in exchange-traded funds (ETFs) in Canada by volume. The segment offers solutions covering fixed income securities, currencies, equities and commodities in order to mitigate the financial and business risks of clients. It also provides new product development expertise to asset managers and fund companies and supports their success by providing liquidity, research, and counterparty services. Financial Markets also provides tailored investment products across all asset classes to institutional and retail distribution channels.

Corporate and Investment Banking
Financial Markets provides services in corporate banking, advisory and capital markets. It offers loan origination and syndication to corporations for project financing, merger and acquisition transactions, and corporate financing solutions. The segment is also an investment banking leader in Quebec and across Canada. Its comprehensive services include strategic advisory for financing and mergers and acquisitions as well as for debt and equity underwriting. It is the Canadian leader in government and corporate high-yield debt underwriting. Dominant in Quebec, it is the leader in debt underwriting for provincial and municipal governments across Canada while growing its national position in infrastructure and project financing. Financial Markets is active in securitization financing, mainly Government-of-Canada-insured mortgages and mortgage-backed securities.

Economic and Market Review

By declaring the closure of non-essential services to combat the pandemic, the government had to take strong measures to support households and businesses. For its part, the central bank had to act quickly to reassure investors and improve financial conditions, which had deteriorated sharply in March 2020. The result was an economic recovery that surprised many when the economy reopened. Although the road travelled since April has been positive, the recovery is far from complete. The upsurge in cases in recent weeks indicates that until an effective vaccine is available to the general population, a return to normalcy is difficult to imagine. The expectation of a vaccine in 2021 is welcome because companies now see a light at the end of the tunnel that could positively influence workforce management and investment plans. In the meantime, the federal government has committed to continue supporting the economy by extending enhanced support for the unemployed at least until March 2021 and the wage subsidy until June 2021. In such a context, conditions are favourable for continued economic recovery in 2021.

The economic environment in 2020 and the outlook for 2021 are discussed in more detail in the Economic Review and Outlook section on page 28.

Key Success Factors

- Pan-Canadian franchise with established leadership in government debt underwriting, ETF market-making, and securities lending and recognized capabilities in risk management solutions, structured products and equity derivatives.
- Focused on client relationships and diversified client activity and revenue mix.
- Sound risk management.
- Flexible approach to capital allocation and proven ability to adapt to evolving capital market conditions and deliver consistent financial performance.
- Entrepreneurial culture: Integrated approach, teamwork, and alignment among all groups.

Objectives and Strategies

Strategic Priorities	2020 Achievements and Highlights
Maintain leadership in Canadian debt underwriting	Ranked first in government debt underwriting, sustaining our first place ranking for the last six years: > Lead and joint lead on Canada Mortgage Bond issuances aggregating $30.5 billion > Joint lead on the Province of Quebec's largest ever USD offering (US$3.25 billion 5-year offering) > Inaugural joint lead for NBF on a European Investment Bank's $600 million 4-year offering > Joint lead on the City of Toronto's first ever $100 million 10-year social bond offering > Inaugural joint lead on OMERS Finance Trust's $1.25 billion 7-year offering > Inaugural joint lead on PSP Capital's $750 million 10-year offering > Lead on First Nations Finance Authority's $240 million 10-year offering Lead in corporate debt underwriting: > Joint bookrunner on a $700 million hybrid note offering for Inter Pipeline Ltd. > Joint bookrunner on a $175 million limited recourse capital notes offering and sole advisor on a $125 million private placement of non-viability contingent capital (NVCC) subordinated debentures for Canadian Western Bank > Joint bookrunner on a cross-border offering of high yield notes for Cascades Inc., raising $175 million and US$650 million > Joint bookrunner on a $200 million inaugural 30-year senior unsecured debenture offering for Liberty Utilities (Canada) LP > Joint bookrunner on a $250 million inaugural 5-year senior unsecured debenture offering for Summit Industrial Income REIT > Lead advisor to Bombardier on its 3-year $1.0 billion senior secured term loan facility with HPS Investment Partners, LLC, Apollo Capital Management, LP and Special Opportunities and Direct Lending funds managed by Ares Management LLC
Maintain leadership in investment products	Leading Canada in quality and innovation: > Awarded SRP's "Best Product Performance in Canada" award for our notes and market-linked GICs. The SRP Awards are based on an analysis of the largest structured product database and winners are selected based on the measurable performance of their products > Launched, in partnership with an independent asset management client, the first 3 mutual funds in Canada dedicated to strategies currently offered via structured notes, raising over $1 billion over the year > Bookrunner in the biggest closed-end fund initial public offering (IPO) of the past 5 years, raising $370 million using an innovative structure that introduced a voluntary cash contribution by the manager Building our international issuance network: > Over $1.5 billion of notes were issued outside of Canada, with an increasingly diversified universe of investors Strengthening our ETF leadership position by deploying the next generation of trading systems: > Deployed the latest trading infrastructure and software to support our market making functions for over 900 ETFs in Canada > Close to 1 in 2 ETFs launched by independent asset managers in Canada in 2020 trusted NBF as the lead market maker for their funds

Strategic Priorities	2020 Achievements and Highlights
Expand our client coverage to increase our presence in advisory services	Involved in significant mandates including: > Co-financial advisor on Cirque du Soleil Inc.'s (CDS) *Companies' Creditors Arrangement Act* (CCAA) restructuring process under which a group of its secured creditors acquired the business for a total transaction value of US$1.6 billion. As part of its mandate, NBF conducted a comprehensive global outreach as part of a court supervised Sale and Investment Solicitation Process. NBF also helped source and negotiate interim financing for CDS to ensure the business could sustain itself from the shutdown of its operations due to the COVID-19 pandemic through to the resolution of the CCAA process > Acted as exclusive financial advisor to SSR Mining Inc. on its $5.6 billion merger with Alacer Gold Corp. > Acted as financial advisor to Public Sector Pension Investment Board and Alberta Teachers' Retirement Fund Board on their acquisition of Altagas Canada Inc. for a total consideration of $1.7 billion. Altagas Canada Inc. (renamed TriSummit Utilities Inc.) is a TSX-listed entity owning a diversified portfolio of high-quality regulated natural gas utilities and long-dated contracted renewable power assets
Leverage leadership in equity distribution to increase lead and co-lead positions	> Joint Bookrunner on WSP Global Inc.'s $502 million bought deal public offering of common shares. This was the fifth consecutive WSP equity financing in which NBF participated, raising aggregate gross process of $1.7 billion > Joint Bookrunner on Lightspeed POS Inc.'s $288 million follow-on offering of subordinate voting shares. This was the third consecutive deal for Lightspeed, including its IPO, where the Bank acted as a Joint Bookrunner > Co-lead and joint bookrunner on Boyd Group Services Inc.'s $231.5 million bought deal equity financing. This was the company's largest equity offering in its history, and we were happy to have lead the execution of such a successful transaction which garnered significant investor demand during the midst of market uncertainty due to COVID-19. We look forward to continuing our longstanding relationship with the company > Sole bookrunner on Boralex Inc.'s $201 million bought deal of common shares. Net proceeds were used to repay amounts drawn under its revolving credit facility to provide financial flexibility for future working capital and general corporate needs as well as funding its ongoing development pipeline and potential future acquisitions

Priorities and Outlook for 2021

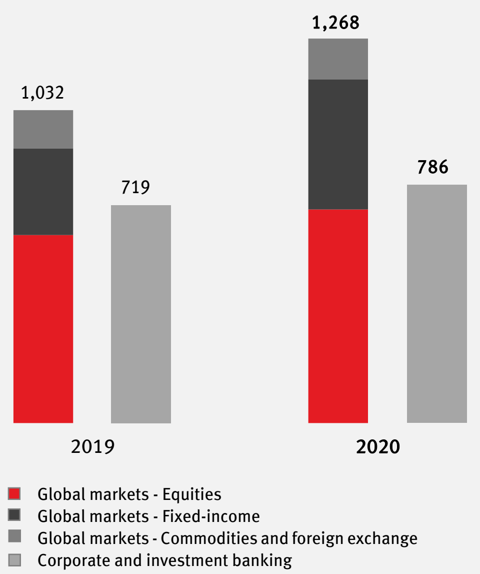
- Continue to expand activities in our areas of expertise with a constant focus on Canadian clients and a targeted presence outside Canada.
- Continue to be a strategic partner for our clients.
- Increase market share among corporations for all fee-based products.
- Maintain our leadership in established businesses across Canada: government issuances, structured products from ETF markets and securities lending.
- Continue to automate processes, use artificial intelligence, and increase data-sharing across the Financial Markets segment.
- Maintain tight cost control and an industry-leading efficiency ratio.

Segment Results – Financial Markets

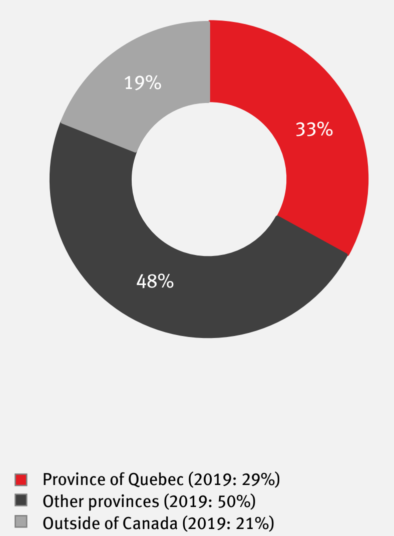
Year ended October 31 (taxable equivalent basis)(1) (millions of Canadian dollars)	2020	2019(2)	% change
Global markets			
Equities	706	621	14
Fixed-income	430	285	51
Commodities and foreign exchange	132	126	5
	1,268	1,032	23
Corporate and investment banking	786	719	9
Total revenues on a taxable equivalent basis	2,054	1,751	17
Non-interest expenses	809	756	7
Income before provisions for credit losses and income taxes on a taxable equivalent basis(1)	1,245	995	25
Provisions for credit losses	239	30	
Income before income taxes on a taxable equivalent basis	1,006	965	4
Income taxes on a taxable equivalent basis	266	257	4
Net income	740	708	5
Average assets	123,943	112,493	10
Average loans and acceptances (Corporate Banking only)	18,782	16,575	13
Net impaired loans(3)	21	23	(9)
Average deposits	35,433	30,497	16
Efficiency ratio on a taxable equivalent basis(1)	39.4 %	43.2 %	

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(2) For the year ended October 31, 2019, certain amounts have been reclassified.
(3) Net impaired loans are presented net of allowances for credit losses on Stage 3 loan amounts drawn.

Total Revenues by Category
Year ended October 31
(taxable equivalent basis)(1)
(millions of Canadian dollars)



Total Revenues by Geographic Distribution
Year ended October 31, 2020
(on a taxable equivalent basis)(1)



(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

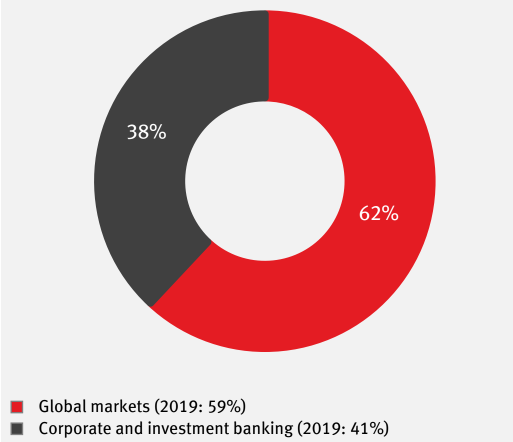
Financial Results

In the Financial Markets segment, net income totalled $740 million in fiscal 2020, up 5% year over year. The increase in all types of revenues in the segment was partly offset by higher provisions for credit losses during the year as a result of the significant deterioration in the macroeconomic outlook caused by COVID-19 and the expected impacts on the segment's clients. The Financial Markets segment's fiscal 2020 income before provisions for credit losses and income taxes on a taxable equivalent basis(1) amounted to $1,245 million, up $250 million or 25% year over year, as the segment benefited from an increase in the activities of all its business units. Total revenues on a taxable equivalent basis(1) were $2,054 million, up $303 million from $1,751 million in fiscal 2019. Revenues from the Global Markets category posted year-over-year growth of 23%, with revenues from equity securities and from fixed-income securities rising 14% and 51%, respectively, and revenues from commodities and foreign exchange activities up 5%. As for corporate and investment banking revenues, they increased 9% year over year, mainly due to higher revenues from capital markets activity, in particular issuances of government bonds, and revenues from merger and acquisition activities.

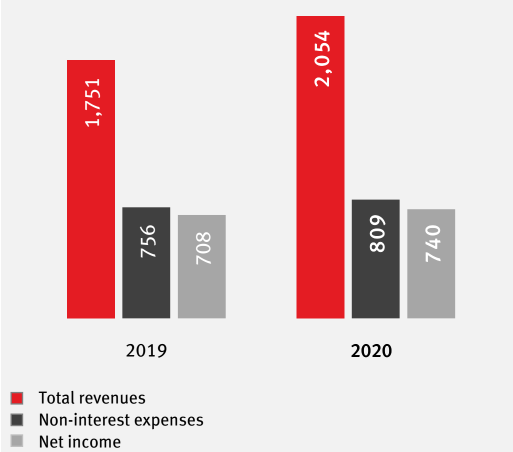
For the year ended October 31, 2020, the segment's non-interest expenses rose 7% year over year due to increases in compensation and employee benefits, in transaction fees related to growth in the segment's activities, and in technology investment expenses. The segment's fiscal 2020 efficiency ratio on a taxable equivalent basis(1) was 39.4% in fiscal 2020 versus 43.2% in 2019.

Financial Markets recorded $239 million in provisions for credit losses during fiscal 2020 compared to $30 million in fiscal 2019, an increase that stems mainly from credit loss provisions on impaired loans recorded in fiscal 2020 in connection with the economic context related to COVID-19. In addition, provisions for credit losses on impaired loans were up $47 million year over year.

Total Revenues by Category
Year ended October 31, 2020
(taxable equivalent basis)(1)



Operating Results
Year ended October 31
(taxable equivalent basis)(1)
(millions of Canadian dollars)



(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Business Segment Analysis | U.S. Specialty Finance and International

The Bank complements its Canadian growth with a targeted, disciplined international strategy that aims for superior returns. The Bank is currently focused on specialty finance in the U.S. through Credigy and on personal and commercial banking in Cambodia through ABA Bank. The Bank also holds minority positions in financial groups operating in French-speaking Africa and Africa-Asia. The Bank has a moratorium in effect on any new significant investments in emerging markets. During fiscal 2020, the U.S. Specialty Finance and International (USSF&I) segment generated 10% of the Bank's consolidated total revenue and 17% of its net income.

U.S. Specialty Finance – Credigy

Founded in 2001, Credigy is a specialty finance company with flexibility across its capital structure to acquire or finance a diverse range of assets. Based in Atlanta, Georgia, Credigy is primarily active in performing assets covering a broad range of asset classes, mostly secured consumer receivables in the U.S. market. The Bank holds an 80% ownership interest in Credigy.

Economic and Market Review

As in Canada, the U.S. economic recovery has been surprisingly strong. Retail sales have rebounded at an incredible pace and the real estate market is experiencing an impressive recovery. However, on the epidemiological side, the situation has deteriorated rapidly in recent weeks, as evidenced by the marked increase in new COVID-19 cases. Although political leaders seem more reluctant than Europeans to impose strict social distancing measures, this does not mean that the resurgence of the coronavirus will not have an effect on the economy and the labour market. According to the most recent data on unemployment claims, 21.5 million Americans are still dependent on government assistance. In this context, the strength of the economic recovery will largely depend on decisions made in Washington. But in all likelihood, Republicans will retain control of the Senate, which will jeopardize the chances of a strong recovery plan. In the current partisan climate, the Senate majority could make life difficult for the new president by approving only a modest stimulus package. Despite some shortcomings, the upcoming budgetary envelope should help support household consumption in the first half of 2021. After that, the economy could benefit from the arrival of an effective coronavirus vaccine.

The economic environment in 2020 and the outlook for 2021 are discussed in more detail in the Economic Review and Outlook section on page 28.

Key Success Factors

- Ability to seize opportunities in rapidly changing market conditions through a disciplined yet adaptable investment strategy.
- Diversification across several classes of performing assets.
- Market credibility achieved through over 320 transactions life-to-date, representing over US$16 billion in total investments.
- Rigorous pricing approach strengthened by continuous refinement of modelling and analytics capabilities and deep expertise in specific asset classes.
- Proven expertise in the successful management and servicing of consumer assets.
- Resilience to economic downturns achieved through limited exposure to unsecured assets, investments with high credit profiles, and structural enhancements that provide downside protection.

Objectives and Strategies

Credigy aims to provide customized solutions for the acquisition or financing of assets related to consumer receivables in pursuit of the best risk-adjusted returns and a return on assets (ROA) of at least 2.5%.

Strategic Priorities	2020 Achievements and Highlights
Sustain deal flow by being a partner of choice for bank and non-bank institutions facing complex challenges and strategic changes	> Active monitoring of the economy and opportunities. > Transactions with several new partners. > Maintained average assets of approximately $7 billion.
Maintain a diversified mix of performing assets	> Performing assets accounted for 98% of assets. > Continued to diversify asset classes focusing on both secured and unsecured high-quality consumer assets.
Achieve best risk-adjusted returns	> Credit model monitoring and refinement helped focus on the best risk/reward investments. > Maintained a disciplined approach to ensure a risk-return balance and an ROA of at least 2.5%.

Priorities and Outlook for 2021

- Maintain emphasis on asset diversification and a balanced risk/return investment profile.
- Leverage relationships with current and prospective partners.
- Deliver asset growth by focusing on investments with structural enhancements that provide protection against the risks of an economic slowdown.
- Active monitoring of the COVID-19 pandemic to implement risk-minimizing strategies and capitalize on changing market conditions that have potential for new investment opportunities.

International – ABA Bank

Established in 1996, ABA Bank provides financial services to individuals and businesses in Cambodia. It is the third largest and fastest-growing commercial bank in the country with an ROE of more than 20%. It offers a full spectrum of financial services to micro, small and medium enterprises (MSMEs) as well as to individuals through 77 branches, 633 ATMs and cash deposit machines, and advanced online banking and mobile banking platforms. ABA Bank has been selected as the Best Bank in Cambodia by The Banker (2019), Global Finance (sixth consecutive year) and Euromoney (seventh consecutive year) magazines.

Economic and Market Review

Despite the low number of COVID-19 cases reported in the country, the pandemic has affected Cambodia's economic growth, most notably in the garment and tourism industries. After a decade of GDP growth approaching 7%, the economy is expected to contract 2% in 2020. The growth trajectory is expected to return in 2021 as exports increase with the global economic recovery and as the border restrictions affecting tourism are lifted. Cambodia will also benefit from increased regional economic integration under the Association of Southeast Asian Nations (ASEAN) trade association. The Cambodian market is highly underbanked, with approximately 18% of the population over 15 years of age having an account in a financial institution. There is a high adoption and use of mobile technology and social media in the country, and over 65% of the population of 16.5 million is under 35 years of age.

Key Success Factors

- Loan strategy targeting MSMEs with simple products.
- Disciplined risk management driving high credit quality.
- Ability to fund loan growth through the deposit strategy.
- Deposit strategy leveraging state-of-the art technology, leading to an expanding self-sufficient transactional banking ecosystem.
- Experienced leadership team, and skilled workforce supported by robust training programs.
- Governance structure based on high Canadian standards while providing local management with the autonomy to pursue strategic priorities and business objectives.
- Leveraging National Bank's reputation as a world-class financial institution.

Objectives and Strategies

ABA Bank wishes to pursue an omnichannel banking strategy focused on being the lending partner of choice to MSMEs while increasing market penetration in deposits and transactional services for retail and business clients.

Strategic Priorities	2020 Achievements and Highlights
Grow market share in MSME lending	> Achieved 47% growth in loan volumes. > Opened 7 new branches, bringing the total to 77 throughout the country. > Secured its position as third-largest bank in the market by increasing market share.
Maintaining credit quality	> Well-diversified portfolio (98% of loans secured). > At 0.8% of the loan portfolio as at October 31, 2020, non-performing loans are below market average. > Implementation of a payment deferral policy to offer relief to ABA Bank clients affected by the slowdown due to the COVID-19 pandemic. > Standard & Poor's raised its long-term credit rating on ABA Bank from "B" to "B+" with a stable outlook based on its material and growing market share of loans and deposits with above-average profitability.
Sustain growth in deposits and transactional services	> Deposits increased 44% from fiscal 2019. > Continued to enhance to self-banking capabilities, including the first full-scale mobile banking application in Cambodia. > Self-banking transactions made up 94% of total number of transactions and, for the first time in the ABA Bank's history, surpassed 50% of total value of transactions. > Launched ABA 24/7, the network of standalone self-banking locations that provide customers with round-the-clock access to their accounts.
Retain international recognition of ABA Bank's progress	> Global Finance magazine named ABA Bank the "Best Bank in Cambodia" for the sixth consecutive year. > Euromoney magazine named ABA Bank the "Best Bank in Cambodia" for the seventh consecutive year. > The Banker magazine named ABA Bank the "Bank of the Year" in Cambodia for 2019. > Asiamoney magazine (a regional arm of Euromoney) named ABA Bank the "Best Digital Bank in Cambodia" for 2020.

Priorities and Outlook for 2021

Maintain double-digit growth and strong return on equity while staying focused on core target markets
- Open two branches in 2021 to extend its reach in Cambodia and gain direct access to a larger pool of MSME customers and retail deposits.
- Increase the deposit base by providing convenience to retail customers through an advanced digital and self-banking infrastructure and an expanding network of self-service spots.
- Focus on loan growth with MSME clients in industries that are minimally affected by the current economic downturn.

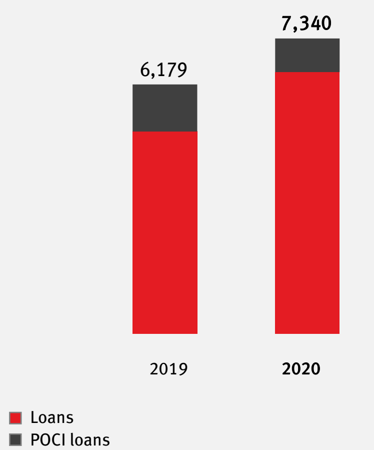
Ensure a solid foundation for sustainable long-term growth
- Maintain strong governance, disciplined risk management and sound business processes.
- Ensure strong credit quality across the loan portfolio to maintain non-performing loan levels below market averages.
- Continue to target fully collateralized loans to limit potential losses.

Segment Results – USSF&I

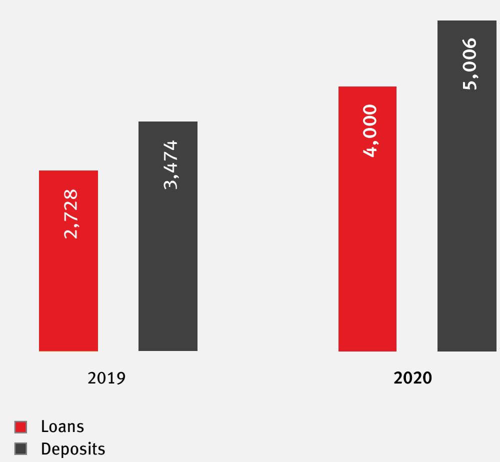
Year ended October 31 (millions of Canadian dollars)	2020	2019	% change
Total revenues			
Credigy	406	402	1
ABA Bank	410	303	35
International	4	10	
	820	715	15
Non-interest expenses			
Credigy	144	152	(5)
ABA Bank	171	131	31
International	4	2	
	319	285	12
Income before provisions for credit losses and income taxes[1]	501	430	17
Provisions for credit losses			
Credigy	59	68	(13)
ABA Bank	21	12	75
	80	80	–
Income before income taxes	421	350	20
Income taxes	69	71	(3)
Net income	352	279	26
Non-controlling interests	34	40	(15)
Net income attributable to the Bank's shareholders and holders of other equity instruments	318	239	33
Average assets	14,336	10,985	31
Average loans and receivables	11,340	8,907	27
Net impaired loans – Stage 3[2]	30	15	100
Purchased or originated credit-impaired (POCI) loans	855	1,166	(27)
Average deposits	5,006	3,474	44
Efficiency ratio	38.9 %	39.9 %	

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(2) Net impaired loans – Stage 3 exclude POCI loans and are presented net of allowances for credit losses on Stage 3 loan amounts drawn.

Average Loans – Credigy
Year ended October 31
(millions of Canadian dollars)



Average Loans and Deposits – ABA Bank
Year ended October 31
(millions of Canadian dollars)



Financial Results

In the USSF&I segment, net income totalled $352 million in fiscal 2020, up 26% from $279 million in fiscal 2019. The segment's fiscal 2020 total revenues amounted to $820 million versus $715 million in fiscal 2019, representing growth of 15% that came mainly from a $107 million increase in the revenues of the ABA Bank subsidiary owing to sustained growth in loan and deposit volumes. At the Credigy subsidiary, revenues were up $4 million. Total revenues from international investments were lower in fiscal 2020 than in fiscal 2019.

The segment's non-interest expenses stood at $319 million in fiscal 2020, up $34 million from $285 million in fiscal 2019, essentially attributable to all of ABA Bank's non-interest expenses related to its growing banking network. At the Credigy subsidiary, non-interest expenses were down year over year, in particular due to a decrease in collection costs.

In fiscal 2020, the segment recorded $80 million in provisions for credit losses, unchanged from fiscal 2019.

Credigy

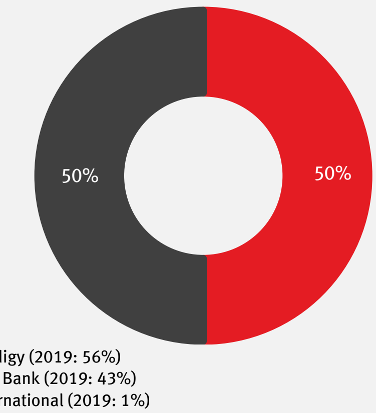
Credigy's net income for fiscal 2020, presented in the USSF&I segment, totalled $160 million, up 11% from fiscal 2019. The subsidiary's total revenues amounted to $406 million compared to $402 million in fiscal 2019. The increase in net interest income due to loan portfolio growth was offset by the decrease in non-interest income arising from changes in the loan portfolio mix and the impacts of the COVID-19 pandemic on the fair value of some of the subsidiary's loan portfolios. Credigy's fiscal 2019 non-interest expenses for the year ended October 31, 2020 were down $8 million, mainly due to a decrease in collection costs. The subsidiary's provisions for credit losses for fiscal 2020 totalled $59 million, down $9 million year over year. Provisions for credit losses on non-impaired loans increased as a result of the significant deterioration in the macroeconomic outlook caused by the COVID-19 pandemic and the expected impacts on the subsidiary's loan portfolios, but this increase was more than offset by a decline in provisions for credit losses on impaired loans following repayments and maturities of certain loan portfolios and revaluations of certain POCI loan portfolios.

ABA Bank

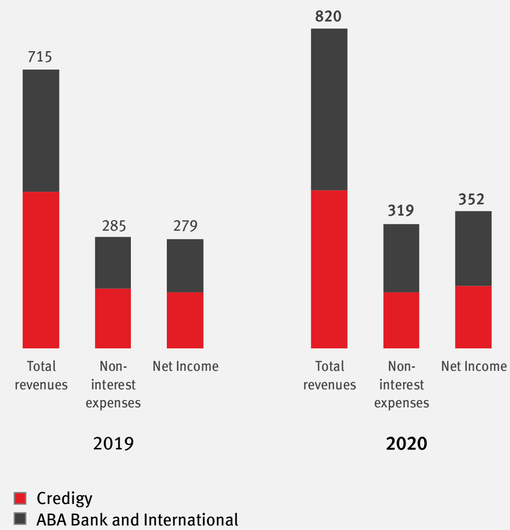
For fiscal 2020, ABA Bank net income totalled $192 million, up 50% from fiscal 2019. Growth in the subsidiary's activities produced a 35% increase in its total revenues and the 31% increase in non-interest expense. However, the increase in total revenues derived from sustained growth in loan and deposit volumes was partially offset by lower interest rates. The subsidiary's provisions for credit losses totalled $21 million for fiscal 2020, up $9 million year over year, due to provisions for credit losses on non-impaired loans recorded in fiscal 2020 to account for the expected impacts of the COVID-19 pandemic on the subsidiary's clients.

The effective tax rate declined in fiscal 2020 due to tax incentives provided by the Cambodian government and recorded in the second quarter of 2020.

Total Revenues by Category
Year ended October 31, 2020



Operating Results
Year ended October 31
(millions of Canadian dollars)



Business Segment Analysis | Other

The *Other* heading reports on Treasury operations, liquidity management, Bank funding, asset and liability management, certain specified items, and the unallocated portion of corporate units. Corporate units include Information Technology, Risk Management, Employee Experience, Operations, and Finance. These units provide advice and guidance throughout the Bank and to its business segments in addition to expertise and support in their respective fields.

Segment Results – Other

Year ended October 31 (taxable equivalent basis)(1) (millions of Canadian dollars)	2020	2019(2)
Net interest income on a taxable equivalent basis	(177)	(178)
Non-interest income on a taxable equivalent basis	177	280
Total revenues on a taxable equivalent basis	–	102
Non-interest expenses	453	350
Income before provisions for credit losses and income taxes on a taxable equivalent basis(1)	(453)	(248)
Provisions for credit losses	3	–
Income before income taxes on a taxable equivalent basis	(456)	(248)
Income taxes (recovery) on a taxable equivalent basis	(101)	(78)
Net loss	(355)	(170)
Non-controlling interests	8	26
Net loss attributable to the Bank's shareholders and holders of other equity instruments	(363)	(196)
Specified items after income taxes(1)	(133)	(6)
Net loss excluding specified items(1)	(222)	(164)
Specified items after income taxes and non-controlling interests(1)	(123)	(6)
Net loss attributable to the Bank's shareholders and holders of other equity instruments excluding specified items(1)	(240)	(190)
Average assets	56,665	43,667

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(2) For the year ended October 31, 2019, certain amounts have been reclassified.

Financial Results

For the *Other* heading of segment results, there was a net loss of $355 million in fiscal 2020 compared to a net loss of $170 million in fiscal 2019. This change was essentially due to approximately $50 million in expenses related to measures deployed by the Bank to protect the health and safety of employees and clients in the exceptional circumstances stemming from the COVID-19 pandemic, to increased technology investments related to the Bank's transformation plan and business development, as well as to the specified items recorded in fiscal 2020 that had a $133 million unfavourable impact on the net income recorded in the *Other* heading. Revenues from treasury activities were higher in fiscal 2020 compared to the previous year, partly due to market volatility in fiscal 2020.

The specified items net of income taxes recorded in fiscal 2020 include a $36 million foreign currency translation loss on disposal of Credigy subsidiaries in Brazil, $52 million in impairment losses on premises and equipment and on intangible assets, $35 million in severance pay, and a $10 million charge related to Maple. The specified items net of income taxes recorded in fiscal 2019 included a $68 million gain on disposal of Fiera Capital shares, a $43 million gain on disposal of premises and equipment, a $27 million loss arising from the fair value remeasurement of the Bank's investment in NSIA, $42 million in impairment losses on premises and equipment and on intangible assets, $7 million in severance pay, an $8 million charge related to Maple, and $33 million in provisions for onerous contracts. The net loss excluding specified items(1) for fiscal 2020 was $222 million, compared to a $164 million net loss recorded for fiscal 2019.

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Quarterly Financial Information

Several trends and factors have an impact on the Bank's quarterly net income, revenues, non-interest expenses and provisions for credit losses. The following table presents a summary of results for the past eight quarters.

Quarterly Results Summary[1]

(millions of Canadian dollars)				2020				2019
	Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1
Statement of income data								
Net interest income	1,124	1,096	1,105	930	936	855	942	863
Non-interest income	876	872	931	993	979	1,093	828	936
Total revenues	2,000	1,968	2,036	1,923	1,915	1,948	1,770	1,799
Non-interest expenses	1,259	1,074	1,121	1,091	1,095	1,154	1,026	1,026
Income before provisions for credit losses and income taxes[2]	741	894	915	832	820	794	744	773
Provisions for credit losses	110	143	504	89	89	86	84	88
Income taxes	139	149	32	133	127	100	102	133
Net income	492	602	379	610	604	608	558	552

(1) For additional information about the 2020 fourth quarter results, visit the Bank's website at nbc.ca or the SEDAR website at sedar.com to consult the Bank's *Press Release for the Fourth Quarter of 2020,* published on December 2, 2020. The following table presents a summary of results for the past eight quarters. Furthermore, a summary of results for the past 12 quarters is provided in Table 1 on pages 114 and 115.

(2) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

The above analysis of the past eight quarters reflects the sustained performance of all the business segments and helps readers identify the items that have favourably or unfavourably affected results. Net income for all the quarters of 2020, except the first quarter, was lower year over year. The growth in the business segments' net income was offset by higher non-interest expenses and the significant increase in provisions for credit losses related to the deterioration in the macroeconomic outlook caused by the COVID-19 pandemic. Net income for the first quarter of fiscal 2020 rose year over year in particular due to the Financial Markets segment. The year-over-year decline in the fourth quarter of 2020 was essentially due to the Bank recording a foreign currency translation loss on disposals of subsidiaries, impairment losses on premises and equipment and intangible assets, and severance pay, all of which had an unfavourable impact on net income.

Net interest income posted year-over-year growth in every quarter of fiscal 2020. These increases were mainly driven by growth in personal and commercial loan and deposit volumes, activities related to trading income in the Financial Markets segment, loan portfolio growth at the Credigy subsidiary, and growth in net interest income at the ABA Bank subsidiary, related to sustained business growth. The Wealth Management segment posted year-over-year declines in net interest income in the third and fourth quarters of fiscal 2020 due to narrower margins on deposits caused by lower interest rates.

The non-interest income for the first and second quarters of 2020 was up year over year, as results in the same quarters of fiscal 2019 were affected by a slowdown in business at the Financial Markets segment. The lower non-interest income in the third and fourth quarters of fiscal 2020 was generated in part by card revenues and revenues from deposit and payment service charges as a result of the temporary closing of businesses and non-essential services and the lockdowns imposed by governments related to the pandemic, which led to a drop in the number of transactions. Furthermore, non-interest income for the third quarter of fiscal 2019 included a gain on disposal of Fiera Capital shares, a gain on disposal of premises and equipment, and a loss arising from the remeasurement at fair value of the Bank's investment in NSIA.

The non-interest expense for every quarter of 2020, except the third quarter, was up year over year. Explaining these increases were compensation and employee benefits, technology investment expenses made as part of the Bank's transformation plan and for business development activities, and expenses related to the measures taken by the Bank to protect the health and guarantee the safety of employees and clients given the exceptional circumstances related to COVID-19, recorded in the second quarter of fiscal 2020. In addition, non-interest expenses for the fourth quarter of 2020 include impairment losses on premises and equipment and on intangible assets and severance pay, similar to the expenses recorded in the third quarter of fiscal 2019.

Provisions for credit losses were up on a year-over-year basis in each quarter of fiscal 2020. The sizeable increase in provisions for credit losses in the second quarter was due to the significant deterioration in the macroeconomic outlook caused by the COVID-19 pandemic, and the expected impacts of the pandemic on the Bank's clients. In addition, the increase stemmed from a sharp rise in provisions for credit losses on impaired loans, essentially due to Commercial Banking and the Financial Markets segment.

The change in the effective income tax rate between the 2020 and 2019 quarters was mainly due to the tax impact of the disposal of the subsidiaries in Brazil, as well as the realization of capital gains that were taxed at a lower rate in fiscal 2019. In addition, the lower effective tax rate in the second quarter of 2020 was attributable to a drop in the tax rate of the ABA Bank subsidiary due to fiscal incentives granted by the government of Cambodia.

Analysis of the Consolidated Balance Sheet

Consolidated Balance Sheet Summary

As at October 31 (millions of Canadian dollars)	2020	2019	% change
Assets			
Cash and deposits with financial institutions	29,142	13,698	113
Securities	102,131	82,226	24
Securities purchased under reverse repurchase agreements and securities borrowed	14,512	17,723	(18)
Loans and acceptances, net of allowances	164,740	153,251	7
Other	21,100	14,560	45
	331,625	281,458	18
Liabilities and equity			
Deposits	215,878	189,566	14
Other	98,589	75,983	30
Subordinated debt	775	773	–
Equity attributable to the Bank's shareholders and holders of other equity instruments	16,380	14,778	11
Non-controlling interests	3	358	(99)
	331,625	281,458	18

As at October 31, 2020, the Bank's total assets amounted to $331.6 billion compared to $281.5 billion at year-end 2019, a $50.1 billion or 18% increase.

Cash and Deposits With Financial Institutions

At $29.1 billion as at October 31, 2020, cash and deposits with financial institutions rose $15.4 billion since the same date last year, mainly due to increased deposits with the Bank of Canada. This increase stems partly from the liquidity obtained as part of financing initiatives implemented by the Canadian government through the Bank of Canada, the objective of which is to support the Canadian financial system during the COVID-19 pandemic. The Bank's liquidity and funding risk management practices are described on pages 93 to 101 of this MD&A.

Securities

Since October 31, 2019, securities rose $19.9 billion due to a $16.5 billion or 27% increase in securities at fair value through profit or loss, particularly securities issued or guaranteed by Treasury, other U.S. agencies and other foreign governments, and equity securities, and due to a $3.4 billion increase in securities other than those measured at fair value through profit or loss. Securities purchased under reverse repurchase agreements and securities borrowed decreased by $3.2 billion mainly related to activities in the Financial Markets segment and Treasury. The Bank's market risk management policies are described on pages 86 to 92 of this MD&A.

Loans and Acceptances

Totalling $164.7 billion as at October 31, 2020, and representing 50% of total asset, loans and acceptances, net of allowances, rose $11.4 billion or 7% since October 31, 2019.

Residential mortgage loans outstanding totalled $65.0 billion as at October 31, 2020, rising $7.8 billion or 14% since October 31, 2019. This growth was driven by sustained demand for mortgage credit, residential mortgage portfolio acquisition as well as by business growth at the ABA Bank subsidiary. Personal loans totalled $37.6 billion at year-end 2020, rising $0.7 billion from $36.9 billion at year-end 2019 due mainly to the business growth in Personal Banking, tempered somewhat by repayments and maturities in certain loan portfolios of the Credigy subsidiary. As for credit card receivables, they totalled $2.0 billion, down from $0.3 billion as at October 31, 2019, due to a slowdown in activities related to COVID-19.

At $61.3 billion as at October 31, 2020, loans and acceptances to businesses and government increased $3.8 billion or 7% since October 31, 2019 owing to growth in corporate financial services activities and to growth at the Credigy subsidiary.

Table 9 (page 121) shows gross loans and acceptances by borrower category as at October 31, 2020. At $81.5 billion, residential mortgages (including home equity lines of credit) have posted strong growth since 2016 and account for 49% of total loans and acceptances as at October 31, 2020. This growth in residential mortgages was driven by sustained demand for mortgage credit, the acquisition of mortgage portfolios, as well as by growth in business activity at the ABA Bank subsidiary. As for retail loans, they totalled $15.2 billion as at October 31, 2020. With respect to commercial loans, there was year-over-year growth in the oil and gas and pipelines category, utilities category, and real estate and real estate construction category. As at October 31, 2020, certain categories posted year-over-year decreases, notably manufacturing and communications. Furthermore, the Credigy subsidiary's POCI loans were down from October 31, 2019 as a result of repayments and maturities of certain loan portfolios.

Impaired Loans

Impaired loans include loans classified in Stage 3 of the expected credit loss model and the purchased or originated credit-impaired (POCI) loans of the Credigy subsidiary.

As at October 31, 2020, gross impaired loans excluding POCI loans stood at $817 million compared to $684 million as at October 31, 2019 (Table 10, page 121). Net impaired loans excluding POCI loans totalled $465 million as at October 31, 2020 compared to $450 million as at October 31, 2019, a $15 million increase related to net impaired loans of the personal loan portfolios and the ABA Bank subsidiary, tempered somewhat by a decrease in the net impaired loans of the commercial loan portfolio. Gross POCI loans stood at $855 million as at October 31, 2020, down from $1,166 million as at October 31, 2019 as a result of maturities and repayments of certain portfolios.

A detailed description of the Bank's credit risk management practices is provided on pages 77 to 85 of this MD&A as well as in Note 7 to the consolidated financial statements.

Other Assets

As at October 31, 2020, other assets totalled $21.1 billion compared to $14.6 billion as at October 31, 2019, a $6.5 billion increase arising mainly from an increase in derivative financial instruments related to the activities of the Financial Markets segment.

Deposit Liability

At $215.9 billion as at October 31, 2020, deposits increased by $26.3 billion or 14% since year-end 2019. This increase is partly attributable to support measures granted to clients by the Bank and government authorities in response to the economic and financial context caused by the COVID-19 pandemic. At $67.5 billion, personal deposits, as presented in Table 12 (page 122), increased $7.4 billion since October 31, 2019 and accounted for 31% of all deposits. This increase stems from Personal Banking activities, the Wealth Management segment's brokerage accounts, and business growth at the ABA Bank subsidiary.

As shown in Table 12, business and government deposits totalled $143.8 billion, up $18.5 billion from $125.3 billion at year-end 2019. This increase came from the funding activities of the Financial Markets segment and of Treasury, including $4.9 billion in deposits subject to bank recapitalization (Bail-In) conversion regulations, from the Wealth Management segment's brokerage activities, as well as from Commercial Banking's activities. Deposits from deposit-taking institutions were up $0.4 billion from the same date last year.

Other Liabilities

As at October 31, 2020, other liabilities stood at $98.6 billion, up $22.6 billion since October 31, 2019, essentially due to a $3.6 billion increase in obligations related to securities sold short, a $12.0 billion increase in obligations related to securities sold under repurchase agreements and securities loaned, and a $6.0 billion increase in derivative financial instruments.

Subordinated Debt and Other Contractual Obligations

Subordinated debt has remained relatively stable since October 31, 2019. The contractual obligations are presented in detail in Note 29 to the consolidated financial statements.

Equity

As at October 31, 2020, the Bank's equity totalled $16.4 million compared to $15.1 million as at October 31, 2019. Equity attributable to the Bank's shareholders and holders of other equity instruments was $16.4 billion, rising $1.6 billion from $14.8 billion since October 31, 2019. This increase came from net income net of dividends, by issuances of LRCN – Series 1 in the amount of $500 million, and by remeasurements of pension plans and other post-employment benefit plans. These increases were partly offset by accumulated other comprehensive income, in particular losses on cash flow hedges. Lastly, non-controlling interests were down $355 million, essentially due to the redemption of trust units issued by NBC Asset Trust (NBC CapS – II) – Series 2, for gross proceeds of $350 million.

The Consolidated Statements of Changes in Equity on page 131 of this Annual Report present the items of equity. In addition, an analysis of the Bank's regulatory capital is presented in the Capital Management section of this MD&A.

Exposures to Certain Activities

The Financial Stability Board (FSB) formed a working group, the Enhanced Disclosure Task Force (EDTF), that was mandated to develop principles for enhancing the risk disclosures of major banks. The EDTF published a report containing 32 recommendations. The risk disclosures required by the EDTF are provided in this Annual Report and in the documents entitled *Supplementary Regulatory Capital and Pillar 3 Disclosure* and *Supplementary Financial Information*, which are available on the Bank's website at nbc.ca. In addition, on page 13 of this Annual Report is a table of contents that readers can use to locate information relative to the 32 recommendations.

The FSB recommendations seek to enhance the transparency and measurement of certain exposures, in particular structured entities, subprime and Alt-A exposures, collateralized debt obligations, residential and commercial mortgage-backed securities, and leveraged financing structures. The Bank does not market any specific mortgage financing program to subprime or Alt-A clients. The Bank does not have any significant direct position in residential and commercial mortgage-backed securities that are not insured by the CMHC. Credit derivative positions are presented in the *Supplementary Regulatory Capital and Pillar 3 Disclosure* report, which is available on the Bank's website at nbc.ca.

Leveraged finance is commonly employed to achieve a specific objective, for example, to make an acquisition, complete a buy-out or repurchase shares. Leveraged finance risk exposure takes the form of both funded and unfunded commitments. As at October 31, 2020, total commitments for this type of loan stood at $3,681 million ($3,559 million as at October 31, 2019). Details about other exposures are provided in the table concerning structured entities in Note 27 to the consolidated financial statements.

Related Party Transactions

In the normal course of business, the Bank provides various banking services and enters into contractual agreements and other transactions with associates, joint ventures, directors, key officers and other related parties. These agreements and transactions are entered into under conditions similar to those offered to non-related third parties.

In accordance with the *Bank Act* (Canada), the aggregate of loans granted to key officers of the Bank, excluding mortgage loans granted on their principal residence, cannot exceed twice the officer's annual salary.

Loans to eligible key officers are granted under the same conditions as those granted to any other employee of the Bank. The main conditions are as follows:

- the employee must meet the same credit requirements as a client;
- mortgage loans are offered at the preferential employee rate;
- home equity lines of credit bear interest at Canadian prime less 0.5%, but never lower than Canadian prime divided by two;
- personal loans bear interest at a risk-based regular client rate;
- credit card advances bear interest at a prescribed fixed rate in accordance with Bank policy;
- personal lines of credit bear interest at Canadian prime less 0.5%, but never lower than Canadian prime divided by two.

The Bank also offers a deferred stock unit plan to directors who are not Bank employees. For additional information, see Note 22 to the consolidated financial statements. Additional information on related parties is presented in Notes 9, 27 and 28 to the consolidated financial statements.

Income Taxes

In April 2020, the Bank was reassessed by the Canada Revenue Agency (CRA) for additional income tax and interest of approximately $240 million (including estimated provincial tax and interest) in respect of certain Canadian dividends received by the Bank during 2015.

In prior fiscal years, the Bank was reassessed for additional income tax and interest of approximately $370 million (including provincial tax and interest) in respect of certain Canadian dividends received by the Bank during the 2014, 2013 and 2012 taxation years.

The transactions to which the above-mentioned reassessments relate are similar to those prospectively addressed by income tax legislation enacted as a result of the 2015 and 2018 Canadian federal budgets.

The CRA may issue reassessments to the Bank for taxation years subsequent to 2015 in regard to activities similar to those that were the subject of the above-mentioned reassessments. The Bank remains confident that its tax position was appropriate and intends to vigorously defend its position. As a result, no amount has been recognized in the consolidated financial statements as at October 31, 2020.

Event After the Consolidated Balance Sheet

Acquisition
In the first quarter of fiscal 2021, the Bank will acquire the remaining non-controlling interest in the Credigy Ltd. subsidiary following the decision of the non-controlling shareholders to exercise their put options for an amount of approximately US$235 million according to an agreement reached in 2013. Subsequent to this transaction, Credigy Ltd. will become a wholly owned subsidiary of the Bank.

Securitization and Off-Balance-Sheet Arrangements

In the normal course of business, the Bank is party to various financial arrangements that, under IFRS, are not required to be recorded on the Consolidated Balance Sheet or are recorded under amounts other than their notional or contractual values. These arrangements include, among others, transactions with structured entities, derivative financial instruments, the issuance of guarantees, credit instruments, and financial assets received as collateral.

Structured Entities

The Bank uses structured entities, among other means, to diversify its funding sources and to offer services to clients, in particular to help them securitize their financial assets or provide them with investment opportunities. Under IFRS, a structured entity must be consolidated if the Bank controls the entity. Note 1 to the consolidated financial statements describes the accounting policy and criteria used for consolidating structured entities. Additional information on consolidated and non-consolidated structured entities is provided in Note 27 to the consolidated financial statements.

Securitization of the Bank's Financial Assets
Mortgage Loans
The Bank participates in two Canada Mortgage and Housing Corporation (CMHC) securitization programs: the Mortgage-Backed Securities Program under the *National Housing Act* (Canada) (NHA) and the Canada Mortgage Bond (CMB) Program. Under the first program, the Bank issues NHA securities backed by insured residential mortgage loans and, under the second, the Bank sells NHA securities to Canada Housing Trust (CHT), which finances the purchase through the issuance of mortgage bonds insured by CMHC. Moreover, these mortgage bonds feature an interest rate swap agreement under which a CMHC-certified counterparty pays CHT the interest due to investors and receives the interest on the NHA securities. As at October 31, 2020, the outstanding amount of NHA securities issued by the Bank and sold to CHT was $20.7 billion. The mortgage loans sold consist of fixed- or variable-rate residential loans that are insured against potential losses by a loan insurer. In accordance with the NHA-MBS Program, the Bank advances the funds required to cover late payments and, if necessary, obtains reimbursement from the insurer that insured the loan. The NHA-MBS and CMB programs do not use liquidity guarantee arrangements. The Bank uses these securitization programs mainly to diversify its funding sources. In accordance with IFRS, because the Bank retains substantially all of the risks and rewards of ownership of the mortgage loans transferred to CHT, the derecognition criteria are not met. Therefore, the insured mortgage loans securitized under the CMB Program continue to be recognized in *Loans* on the Bank's Consolidated Balance Sheet, and the liabilities for the considerations received from the transfer are recognized in *Liabilities related to transferred receivables* on the Consolidated Balance Sheet. For additional information, see Note 8 to the consolidated financial statements.

Credit Card Receivables
In April 2015, the Bank set up Canadian Credit Card Trust II (CCCT II) to continue its program of securitizing credit card receivables on a revolving basis. The Bank uses this entity for capital management and funding purposes. The Bank acts as the servicer of the receivables sold and maintains the client relationship. Furthermore, it administers the securitization program and ensures that all related procedures are stringently followed and that investors are paid according to the provisions of the program.

As at October 31, 2020, the credit card receivables portfolio held by CCCT II (net of the Bank Certificate held by the Bank) represented an amount outstanding of $1.1 billion. CCCT II issued investors' certificates, $0.1 billion of which is held by third parties and $1.0 billion is held by the Bank. New receivables are periodically sold to the structure on a revolving basis to replace the receivables reimbursed by clients.

The different series of certificates are rated by the Fitch and DBRS rating agencies. From this portfolio of sold receivables, the Bank retains the excess spread, i.e., the residual net interest income after all the expenses related to this structure have been paid, and thus provides first-loss protection. Furthermore, second-loss protection for issued series is provided by certificates subordinated to the senior notes, representing 5.8% of the total amount of the series issued. The Bank controls CCCT II and thus consolidates it.

Securitization of Third-Party Financial Assets
The Bank administers multi-seller conduits that purchase financial assets from clients and finance those purchases by issuing commercial paper backed by the acquired assets. Clients use these multi-seller conduits to diversify their funding sources and reduce borrowing costs while continuing to service the financial assets and providing some amount of first-loss protection. Notes issued by the conduits and held by third parties provide additional credit loss protection. The Bank acts as a financial agent and provides administrative and transaction structuring services to these conduits. The Bank provides backstop liquidity and credit enhancement facilities under the commercial paper program. These facilities are presented and described in Notes 26 and 27 to the consolidated financial statements. The Bank has concluded derivative financial instrument contracts with these conduits, the fair value of which is presented on the Bank's Consolidated Balance Sheet. The Bank is not required to consolidate these conduits, as it does not control them.

Derivative Financial Instruments

The Bank uses various types of derivative financial instruments to meet its clients' needs, generate trading activity revenues and manage its exposure to interest rate, foreign exchange and credit risk as well as other market risks. All derivative financial instruments are accounted for at fair value on the Consolidated Balance Sheet. Transactions in derivative financial instruments are expressed as notional amounts. These amounts are not presented as assets or liabilities on the Consolidated Balance Sheet. They represent the face amount of the contract to which a rate or price is applied to determine the amount of cash flows to be exchanged. Notes 1 and 16 to the consolidated financial statements provide additional information on the types of derivative financial instruments used by the Bank and their accounting basis.

Guarantees

In the normal course of business, the Bank enters into various guarantee contracts. The principal types of guarantees are letters of guarantee, backstop liquidity and credit enhancement facilities, certain securities lending activities, and certain indemnification agreements. Note 26 to the consolidated financial statements provides detailed information on these guarantees.

Credit Instruments

In the normal course of business, the Bank enters into various off-balance-sheet credit commitments. The credit instruments used to meet the financing needs of its clients represent the maximum amount of additional credit that the Bank could be required to extend if the commitments were fully drawn. For additional information on these off-balance-sheet credit instruments and other items, see Note 26 to the consolidated financial statements.

Financial Assets Received as Collateral

In the normal course of business, the Bank receives financial assets as collateral as a result of transactions involving securities purchased under reverse repurchase agreements, securities borrowing and lending agreements, and derivative financial instrument transactions. For additional information regarding financial assets received as collateral, see Note 26 to the consolidated financial statements.

Capital Management

Capital management has a dual role of ensuring a competitive return to the Bank's shareholders while maintaining a solid capital foundation that covers risks inherent to the Bank's business, supports its business segments, and protects its clients.

Capital Management Framework

The Bank's capital management policy defines guiding principles as well as the roles and responsibilities of its internal capital adequacy assessment process. This process aims to determine the capital that the Bank needs to pursue its business activities and accommodate unexpected losses arising from extremely adverse economic and operational conditions. The Bank has implemented a rigorous internal capital adequacy assessment process that comprises the following procedures:

- conducting an overall risk assessment;
- measuring significant risks and the capital requirements related to the Bank's financial budget for the next fiscal year and current and prospective risk profiles;
- integrating stress tests across the organization and executing sensitivity analyses to determine the capital buffer above minimum regulatory levels (for additional information on enterprise-wide stress testing, see the Risk Management section of this MD&A);
- aggregating capital and monitoring the reasonableness of internal capital compared with regulatory capital;
- comparing projected internal capital with regulatory capital levels, internal operating targets, and competing banks;
- attesting to the adequacy of the Bank's capital levels.

Assessing capital adequacy is an integral part of capital planning and strategy. The Bank sets internal capital ratio targets that include a discretionary cushion in excess of the regulatory requirements, which provides a solid financial structure and sufficient capital to meet management's business needs in accordance with its risk appetite, along with competitive returns to shareholders, under both normal market conditions and a range of severe but plausible stress testing scenarios. The internal capital adequacy assessment process is a key tool in establishing the Bank's capital strategy and is subject to quarterly reviews and periodic amendments.

Risk-adjusted return on capital (RAROC) and shareholder value added (SVA), which are obtained from an assessment of required economic capital, are calculated quarterly for each of the Bank's business segments. The results are then used to guide management in allocating capital among the various business segments.

Structure and Governance

Along with its partners from Risk Management, Global Funding and Treasury Group, and Finance, the Capital Management team is responsible for maintaining integrated control methods and processes so that an overall assessment of capital adequacy may be performed.

The Board oversees the structure and development of the Bank's capital management policy and ensures that the Bank maintains sufficient capital in accordance with regulatory requirements and in consideration of market conditions. The Board delegates certain responsibilities to the Risk Management Committee (RMC), which in turn recommends capital management policies and oversees their application. However, the Board, on the recommendation of the RMC, assumes the following responsibilities:

- reviewing and approving the capital management policy;
- reviewing and approving the Bank's risk appetite, including the main capital and risk targets and the corresponding limits;
- reviewing and approving the capital plan and strategy on an annual basis, including the Bank's internal capital adequacy assessment process;
- reviewing and approving the implementation of significant measures respecting capital, including contingency measures;
- reviewing significant capital disclosures, including Basel capital adequacy ratios;
- ensuring the appropriateness of the regulatory capital adequacy assessment.

The Office of the President is responsible for defining the Bank's strategy and plays a key role in guiding measures and decisions regarding capital. The Enterprise-Wide Risk Management Committee oversees capital management, which consists of reviewing the capital plan and strategy and implementing significant measures respecting capital, including contingency measures, and making recommendations with respect to these measures.

Basel Accord and Regulatory Environment

Basel Accord

The Basel Accord proposes a range of approaches of varying complexity, the choice of which determines the sensitivity of capital to risks. A less complex approach, such as the Standardized Approach, uses regulatory weightings, while a more complex approach uses the Bank's internal estimates of risk components to establish risk-weighted assets and calculate regulatory capital.

As required under Basel, risk-weighted assets (RWA) are calculated for each credit risk, market risk, and operational risk. The Bank uses the Advanced Internal Rating-Based (AIRB) Approach for credit risk to determine minimum regulatory capital requirements for a majority of its portfolios. The credit risk of certain portfolios considered to be less significant is weighted according to the Basel Standardized Approach. The simple risk-weighted method is used to calculate the charge related to banking book equity securities. This method requires proactive management of the capital allocated to portfolios with banking book equity securities since, beyond a certain investment threshold, the cost of regulatory capital becomes prohibitive. As for operational risk, the Bank uses the Standardized Approach. Market risk-weighted assets are primarily determined using the Internal Model-Based Approach, while the Standardized Approach is used to assess interest-rate specific risk.

With respect to the risk related to securitization operations, the capital treatment depends on the type of underlying exposures and on the information available about the exposures. The Bank must use the Securitization Internal Rating-Based Approach (SEC-IRBA) if it is able to apply an approved internal ratings-based model and has sufficient information to calculate the capital requirements for all underlying exposures in the securitization pool. Under this approach, the RWA is derived from a combination of supervisory inputs and inputs specific to the securitization exposure, such as the implicit capital charge related to the underlying exposures, the credit enhancement level, the effective maturity, the number of exposures, and the weighted average loss given default (LGD).

If the Bank cannot use the SEC-IRBA, it must use the Securitization External Rating-Based Approach (SEC-ERBA) for the securitization exposures that are externally rated. This approach assigns risk weights to exposures using external ratings. The Bank uses the ratings assigned by Moody's, Standard & Poor's (S&P), Fitch, DBRS or a combination of these ratings. The Bank uses the Internal Assessment Approach (IAA) for unrated securitization exposures relating to the asset-backed commercial paper conduits it sponsors. If the Bank cannot apply the SEC-ERBA or the IAA, it must use the supervisory formula under the Securitization Standardized Approach (SEC-SA). Under this approach, RWA is derived from inputs specific to the securitization exposure, such as the implicit capital charge related to the underlying exposures calculated under the standardized credit risk approach as well as credit enhancement and delinquency levels.

If none of the above approaches can be used, the securitization exposure must be assigned a risk weight of 1,250%. The Bank can apply a reduced capital charge for securitization exposures that meet the criteria of the Simple, Transparent and Comparable (STC) framework. The revised securitization framework was in effect since November 1, 2018, and OSFI permitted grandfathering treatment that ended on November 1, 2019. OSFI also provided transitional arrangements for all securitization transactions completed by December 31, 2018 for a maximum of two years.

Capital ratios are calculated by dividing capital by risk-weighted assets. Credit, market, and operational risks are factored into the risk-weighted assets calculation for regulatory purposes. Basel rules apply at the consolidated level of the Bank. Assets of non-consolidated entities for regulatory purposes are therefore excluded from the risk-weighted assets calculation.

The definition adopted by the Basel Committee on Banking Supervision (BCBS) distinguishes between three types of capital. Common Equity Tier 1 (CET1) capital consists of common shareholders' equity less goodwill, intangible assets, and other capital deductions. The Additional Tier 1 capital consists of eligible non-cumulative preferred shares, limited recourse capital notes and the eligible amount of innovative instruments. During the year ended October 31, 2020, the Bank redeemed all of its outstanding innovative instruments. The sum of CET1 and Additional Tier 1 capital forms what is known as Tier 1 capital. Tier 2 capital consists of eligible subordinated debt and certain allowances for credit losses. Total regulatory capital is the sum of Tier 1 and Tier 2 capital.

OSFI is responsible for applying the Basel Accord in Canada. As required under the Basel Accord, OSFI requires that regulatory capital instruments other than common equity have a non-viability contingent capital (NVCC) clause to ensure that investors bear losses before taxpayers should the government determine that it is in the public interest to rescue a non-viable financial institution. Instruments issued before January 1, 2013 that would be Basel III compliant if it were not for the absence of the NVCC clause are grandfathered and will be phased out over a period of ten years. The Bank expects to phase out all of its non-NVCC instruments without resorting to any regulatory event redemption. Furthermore, in the regulations of the *Canadian Deposit Insurance Corporation (CDIC) Act* and the *Bank Act* (Canada), the Government of Canada has provided detailed information on conversion, issuance, and compensation regimes for bail-in instruments issued by D-SIBs. Pursuant to the *CDIC Act,* in circumstances where OSFI has determined that the Bank has ceased, or is about to cease, to be viable, the Governor in Council may, upon a Minister of Finance recommendation indicating that he or she believes that it is in the public interest to do so, grant an order directing CDIC to convert all or a portion of certain shares and liabilities of the Bank into common shares of the Bank (a "Bail-In Conversion"). The Bail-In Regulations governing the conversion and issuance of bail-in instruments came into force on September 23, 2018, and those governing compensation for holders of converted instruments came into force on March 27, 2018. Any shares and liabilities issued before the date that the Bail-In Regulations come into force are not subject to a Bail-In Conversion, unless, in the case of a liability, the terms of such liability are, on or after that day, amended to increase its principal amount or to extend its term to maturity, and the liability, as amended, meets the requirements to be subject to a Bail-In Conversion.

The Bail-In Regulations prescribe the types of shares and liabilities that are subject to a Bail-In Conversion. In general, any senior debt securities with an initial or amended term-to-maturity greater than 400 days that are unsecured or partially secured and have been assigned a Committee on Uniform Securities Identification Procedures (CUSIP), International Securities Identification Number (ISIN), or similar identification number are subject to a Bail-In Conversion. Shares, other than common shares, and subordinated debt, that are not NVCC instruments, are also subject to a Bail-In Conversion. However, certain other debt obligations of the Bank such as structured notes (as defined in the Bail-In Regulations), covered bonds, deposits and certain derivative financial instruments are not subject to a Bail-In Conversion.

As at October 31, 2020, the notional value of issued and outstanding long-term debt subject to the bank Bail-In conversion regulations was $8.4 billion.

During the second quarter of 2020, OSFI adjusted regulatory ratio requirements in response to the impact of the COVID-19 pandemic. For additional information, see the section entitled COVID-19 Pandemic – Key Measures Introduced by the Regulatory Authorities on pages 20 and 21 of this MD&A. The Bank and all other major Canadian banks have to maintain minimum capital ratios established by OSFI: a CET1 capital ratio of at least 9.0%, a Tier 1 capital ratio of at least 10.5%, and a Total capital ratio of at least 12.5%. All of these ratios are to include a capital conservation buffer of 2.5% established by the BCBS and OSFI as well as a 1.0% surcharge applicable solely to D-SIBs and a 1.0% domestic stability buffer established by OSFI. The domestic stability buffer, which can vary from 0% to 2.5% of risk-weighted assets, consists exclusively of CET1 capital. A D-SIB that fails to meet this buffer requirement will not be subject to automatic constraints to reduce capital distributions but will have to provide a remediation plan to OSFI. The banks also have to meet the capital floor that sets the regulatory capital level according to the Basel II standardized approach. If the capital requirement under Basel III is less than 70% of the capital requirement as calculated under Basel II, the difference is added to risk-weighted assets. OSFI requires Canadian banks to meet a Basel III leverage ratio of at least 3.0%. The leverage ratio is a measure independent of risk that is calculated by dividing the amount of Tier 1 capital by total exposure. Total exposure is defined as the sum of on-balance-sheet assets (including derivative financial instruments exposures and securities financing transaction exposures) and off-balance-sheet items. The assets deducted from Tier 1 capital are also deducted from total exposure.

OSFI's Total Loss Absorbing Capacity (TLAC) guideline, which applies to all D-SIBs under the federal government's Bail-In Regulations, came into effect on September 23, 2018. The purpose of the TLAC guideline is to ensure that a D-SIB has sufficient loss-absorbing capacity to support its recapitalization in the unlikely event it becomes non-viable. OSFI is requiring D-SIBs to maintain a minimum risk-based TLAC ratio of 22.50% (including the domestic stability buffer) of risk-weighted assets and a minimum TLAC leverage ratio of 6.75% by November 1, 2021. During the fiscal year ended October 31, 2019, the Bank started to issue qualifying bail-in debt and expects its TLAC ratios to improve through the normal refinancing of its maturing unsecured term debt. The Bank does not anticipate any challenges in meeting these TLAC requirements.

Requirements – Regulatory Ratios Under Basel III

							As at October 31, 2020
	Minimum	Capital conservation buffer	Minimum set by BCBS	D-SIB surcharge	Minimum set by OSFI[1]	Domestic stability buffer[2]	Minimum set by OSFI[1], including the buffer
Capital ratios							
CET1	4.5 %	2.5 %	7.0 %	1.0 %	8.0 %	1.0 %	9.0 %
Tier 1	6.0 %	2.5 %	8.5 %	1.0 %	9.5 %	1.0 %	10.5 %
Total	8.0 %	2.5 %	10.5 %	1.0 %	11.5 %	1.0 %	12.5 %
Leverage ratio	3.0 %	n.a.	n.a.	n.a.	3.0 %	n.a.	3.0 %

n.a. Not applicable
(1) The capital ratios include the capital conservation buffer and the D-SIB surcharge.
(2) On December 10, 2019, OSFI raised the buffer to 2.25%, starting April 30, 2020. On March 13, 2020, OSFI lowered the buffer to 1% in response to the impact of the COVID-19 pandemic.

The Bank ensures that its capital levels are always above the minimum capital requirements set by OSFI, including the buffer. By maintaining a strong capital structure, the Bank can cover the risks inherent to its business activities, support its business segments, and protect its clients.

Other disclosure requirements pursuant to Pillar 3 of the Basel Accord and a set of recommendations defined by the EDTF are presented in the *Supplementary Regulatory Capital and Pillar 3 Disclosure* report published quarterly and available on the Bank's website at nbc.ca. Furthermore, a complete list of capital instruments and their main features is also available on the Bank's website.

Regulatory Context

The Bank closely monitors regulatory developments and participates actively in various consultative processes. During the second quarter of 2020, in response to the impact of the COVID-19 pandemic, OSFI announced a series of regulatory adjustments to support the financial and operational resilience of banks. For additional information, see the section entitled COVID-19 Pandemic – Key Measures Introduced by the Regulatory Authorities on pages 20 and 21 of this MD&A. Presented below are brief descriptions of ongoing regulatory projects.

Basel III Reform

In December 2017, the Group of Central Bank Governors and Heads of Supervision (GHOS), which oversees the BCBS, endorsed the outstanding Basel III post-crisis regulatory reforms. The purpose of the approved reforms, set out in *Basel III: Finalising Post-Crisis Reforms,* is to reduce excessive variability in risk-weighted assets and improve comparability and transparency among bank capital ratios. The reforms cover the following: revisions to the standardized approaches for calculating credit risk and operational risk; a constraint on using the internal ratings-based approach for calculating credit risk; and revisions to the leverage ratio, the CVA, and the calculation of the output capital floor.

In February 2018, the BCBS issued *Pillar 3 Disclosure Requirements – Updated Framework,* a consultative document that presents the additional disclosure requirements that will apply when the outstanding Basel III regulatory reforms take effect. These requirements will form a single Pillar 3 disclosure framework.

In January 2019, the BCBS issued a newly revised version of the document entitled *Revisions to the Minimum Capital Requirements for Market Risk* (initially issued in March 2018).

On November 14, 2019, the BCBS issued a consultative document entitled *Revisions to Market Risk Disclosure Requirements*. This document sets out adjustments to the Pillar 3 templates for the revised market risk framework, i.e., adjustments made to reflect the changes made to the final version of *Revisions to the Minimum Capital Requirements for Market Risk* published in January 2019.

On November 28, 2019, the BCBS issued a consultative document entitled *Credit Valuation Adjustment Risk: Targeted Final Revisions*. This document proposes a set of targeted adjustments to the credit valuation adjustment (CVA) risk framework issued in December 2017. The adjustments are designed to align the revised CVA risk framework with the standards set out in Minimum Capital Requirements for Market Risk and in Capital Requirements for Bank Exposures to Central Counterparties. On July 8, 2020, the BCBS issued the final version of the document entitled *Targeted Revisions to the Credit Valuation Adjustment Risk Framework*. This document reflects feedback received from the consultation in December 2019.

In response to the impact of the COVID-19 pandemic, the GHOS announced a postponement to the implementation of the reforms of the Basel III capital international standard. OSFI has therefore postponed, until the first quarter of 2023, the implementation of the Standardized Approach and AIRB Approach to credit risk, the revision of the operational risk framework, and of the leverage ratio framework, as well as the introduction of a more risk-sensitive capital floor. Implementation of the Pillar 3 financial disclosure requirements finalized by the BCBS in December 2018 has also been delayed until at least the first quarter of 2023. Lastly, implementation of the final set of revisions to the new market risk framework, entitled "Fundamental Review of the Trading Book" and published in January 2019, as well as the revised CVA risk framework are being delayed to the first quarter of 2024.

Other Projects
On November 14, 2019, the BCBS issued *Voluntary Disclosure of Sovereign Exposures*, a consultative document seeking views on the potential disclosure of three new templates. The document would require banks to disclose their sovereign exposures and risk-weighed assets according to jurisdiction, currency, and accounting classification. Implementation is mandatory for banks only when so required by the national authority in its territory.

On August 6, 2020, the BCBS issued two consultative documents: *Principles for Operational Risk* and *Revisions to the Principles for the Sound Management of Operational Risk*. In the first document, the BCBS is seeking views on a series of principles in helping improve the banks' operational resilience. These principles aim to strengthen the ability of banks to withstand operational risk related events which could cause significant operational failures or wide-scale disruptions in financial markets, such as pandemics, cyber incidents, technology failures or natural disasters. In the second document, the BCBS is proposing a limited number of updates to their existing set of principles for the sound management of operational risk.

Capital Management in 2020

Management Activities
On June 10, 2019, the Bank began a normal course issuer bid to repurchase for cancellation up to 6,000,000 common shares over the 12-month period ending no later than June 9, 2020. During the year ended October 31, 2019, the Bank had repurchased 2,200,000 common shares under this program. During the year ended October 31, 2020, the Bank repurchased 525,000 common shares for $30 million, which reduced Common share capital by $5 million and *Retained earnings* by $25 million. These repurchases were carried out before March 13, 2020, which was the date on which OSFI lowered the domestic stability buffer and indicated that it was expecting all banks to cease any dividend increases or share buybacks.

On June 30, 2020, NBC Asset Trust (the Trust), a closed-end trust established by the Bank, redeemed all of the outstanding 350,000 Trust units (NBC CapS II -Series 2) at a per-unit price of $1,000 for gross proceeds of $350 million. On July 17, 2020, the Trust was dissolved.

On September 9, 2020, the Bank issued $500 million of Limited Recourse Capital Notes Series 1 (LRCN – Series 1) for which noteholders' recourse is limited to the assets held by an independent trustee in a consolidated limited recourse trust. The assets of this trust consist of $500 million of Series 44 first preferred shares issued by the Bank, in parallel with the LRCN – Series 1. The LRCN – Series 1 sell for $1,000 each and bear interest at a fixed rate of 4.3% per annum until November 15, 2025 exclusively and, thereafter, at an annual rate equal to the yield on five-year Government of Canada bonds plus 3.943% until November 15, 2075. Since the LRCN – Series 1 satisfy the non-viability contingent capital requirements, they qualify for the purposes of calculating regulatory capital under Basel III.

As at October 31, 2020, the Bank had 335,997,660 issued and outstanding common shares compared to 334,172,411 one year earlier. The Bank also had 98,000,000 issued and outstanding preferred shares, unchanged from October 31, 2019. Moreover, as at October 31, 2020, it had 500,000 LRCN – Series 1 that it did not have one year earlier. For additional information on capital instruments, see Notes 15, 18 and 19 to the consolidated financial statements.

Dividends
The Bank's strategy for common share dividends is to aim for a dividend payout ratio of between 40% and 50% of net income attributable to common shareholders excluding specified items, taking into account such factors as financial position, cash needs, regulatory requirements and any other factor deemed relevant by the Board.

For fiscal 2020, the Bank declared $953 million in dividends to common shareholders, which represents 50% of net income attributable to common shareholders (2019: 42%). The declared dividends are within the target payout range. The Bank has taken a prudent approach to managing regulatory capital and remains confident in its ability to increase earnings going forward.

Shares, Other Capital Instruments and Stock Options

	As at October 31, 2020	
	Number of shares or capital notes	$ million
First preferred shares		
Series 30	14,000,000	350
Series 32	12,000,000	300
Series 34	16,000,000	400
Series 36	16,000,000	400
Series 38	16,000,000	400
Series 40	12,000,000	300
Series 42	12,000,000	300
	98,000,000	2,450
Other equity instruments		
Limited Recourse Capital Notes, Series 1	500,000	500
Common shares	335,997,660	3,057
Stock options	11,425,403	

As at November 27, 2020, there were 336,017,698 common shares and 11,375,920 stock options outstanding. NVCC provisions require the conversion of capital instruments into a variable number of common shares should OSFI deem a bank to be non-viable or should the government publicly announce that a bank has accepted or agreed to accept an injection of capital. If an NVCC trigger event were to occur, all of the Bank's preferred shares and other equity instruments and medium-term notes maturing on February 1, 2028, which are NVCC capital instruments, would be converted into common shares of the Bank according to an automatic conversion formula at a conversion price corresponding to the greater of the following amounts: (i) a $5.00 contractual floor price; or (ii) the market price of the Bank's common shares on the date of the trigger event (10-day weighted average price). Based on a $5.00 floor price and including an estimate for accrued dividends and interest, these NVCC capital instruments would be converted into a maximum of 823 million Bank common shares, which would have a 71.0% dilutive effect based on the number of Bank common shares outstanding as at October 31, 2020.

Regulatory Capital Ratios

As at October 31, 2020, the Bank's CET1, Tier 1, and Total capital ratios were, respectively, 11.8%, 14.9% and 16.0%, i.e., above the regulatory requirements, compared to ratios of, respectively, 11.7%, 15.0% and 16.1% as at October 31, 2019. The increase in the CET1 capital ratio since October 31, 2019 was essentially due to net income net of dividends, transitional measures applicable to ECL provisioning, common share issuances under the Stock Option Plan, and remeasurements of pension plans and other post-employment benefit plans. The growth in risk-weighted assets, the expiry of transitional arrangements for specific wrong-way risk and for the revised securitization framework as well as the adoption of IFRS 16 contributed to offset this increase. The decreases in the Tier 1 capital ratio and the Total capital ratio were essentially due to growth in risk-weighted assets as well as to a redemption of trust units issued by NBC Asset Trust; however, the decrease was partly offset by the issuance of LRCN – Series 1. As at October 31, 2020, the leverage ratio was 4.4% compared to 4.0% as at October 31, 2019. The increase in the leverage ratio is explained by the growth in Tier 1 capital, due to the same factors as described above, and by modest growth in total exposure, mainly from temporary measures announced by OSFI with respect to the exclusion of exposures from central bank reserves and sovereign-issued securities that qualify as HQLA securities under the *Liquidity Adequacy Requirements* guideline.

Regulatory Capital and Ratios Under Basel III

As at October 31	2020		2019
	Adjusted[1]		
Capital			
CET1	10,924	11,167	9,692
Tier 1	13,869	14,112	12,492
Total	15,167	15,167	13,366
Risk-weighted assets	94,808	94,808	83,039
Total exposure	321,038	321,038	308,902
Capital ratios			
CET1	11.5 %	11.8 %	11.7 %
Tier 1	14.6 %	14.9 %	15.0 %
Total	16.0 %	16.0 %	16.1 %
Leverage ratio	4.3 %	4.4 %	4.0 %

(1) The Basel III regulatory capital and ratios adjusted as at October 31, 2020 do not include the transitional measure applicable to expected credit loss provisioning. For additional information, see the section entitled COVID-19 Pandemic – Key Measures Introduced by the Regulatory Authorities on pages 20 and 21 of the MD&A.

Movement in Regulatory Capital

Year ended October 31 (millions of Canadian dollars)	2020	2019
Common Equity Tier 1 (CET1) capital		
Balance at beginning	9,692	8,608
Issuance of common shares (including Stock Option Plan)	98	107
Impact of shares purchased or sold for trading	2	45
Repurchase of common shares	(30)	(281)
Other contributed surplus	9	9
Dividends on preferred and common shares and distributions on other equity instruments	(1,072)	(1,008)
Net income attributable to the Bank's shareholders and holders of other equity instruments	2,041	2,256
Common share capital issued by subsidiaries and held by third parties	–	(13)
Removal of own credit spread net of income taxes	35	(8)
Impact of adopting IFRS 15 on November 1, 2018	–	(4)
Other	188	(163)
Movements in accumulated other comprehensive income		
Translation adjustments	53	(6)
Debt securities at fair value through other comprehensive income	87	1
Other	3	3
Change in goodwill and intangible assets (net of related tax liability)	(70)	134
Other, including regulatory adjustments and transitional arrangements		
Change in defined benefit pension plan asset (net of related tax liability)	(71)	3
Change in amount exceeding 15% threshold		
Deferred tax assets	–	–
Significant investment in common shares of financial institutions	–	–
Deferred tax assets, unless they result from temporary differences (net of related tax liability)	(41)	–
Other deductions of regulatory adjustments to CET1 implemented by OSFI(1)	243	–
Change in other regulatory adjustments(2)	–	9
Balance at end	11,167	9,692
Additional Tier 1 capital		
Balance at beginning	2,800	2,802
New Tier 1 eligible capital issuances	500	–
Redeemed capital	(350)	–
Change in non-qualifying Additional Tier 1 capital subject to phase-out	–	–
Other, including regulatory adjustments and transitional arrangements	(5)	(2)
Balance at end	2,945	2,800
Total Tier 1 capital	14,112	12,492
Tier 2 capital		
Balance at beginning	874	942
New Tier 2 eligible capital issuances	–	–
Redeemed capital	–	–
Change in non-qualifying Tier 2 subject to phase-out	–	–
Tier 2 instruments issued by subsidiaries and held by third parties	–	(4)
Change in certain allowances for credit losses	128	10
Other, including regulatory adjustments and transitional arrangements	53	(74)
Balance at end	1,055	874
Total regulatory capital	15,167	13,366

(1) This item includes the transitional measure applicable to expected credit loss provisioning implemented during the second quarter of 2020. For additional information, see the section entitled COVID-19 Pandemic – Key Measures Introduced by the Regulatory Authorities on pages 20 and 21 of this MD&A.
(2) This item includes the change in investments in the Bank's CET1 capital.

RWA by Key Risk Drivers

Risk-weighted assets increased by $11.8 billion and amounted to $94.8 billion as at October 31, 2020 compared to $83.0 billion as at October 31, 2019, an increase resulting mainly from organic growth in RWA, from clients' rating migration, from foreign exchange movements, and from changes to the calculation method resulting from regulatory changes. For credit risk, these changes include the expiry of transitional arrangements for specific wrong-way risk and for the revised securitization framework as well as the adoption of IFRS 16. For market risk, transitional measures were implemented to respond to the volatility caused by the COVID-19 pandemic. The following table presents the changes in the Bank's risk-weighted assets by risk type.

Risk-Weighted Assets Movement by Key Drivers

Quarter ended (millions of Canadian dollars)	October 31, 2020	July 31, 2020	April 30, 2020	January 31, 2020	October 31, 2019
	Total	Total	Total	Total	Total
Credit risk – Risk-weighted assets at beginning	77,944	76,657	70,145	67,254	65,693
Book size	812	1,943	5,324	1,650	1,979
Book quality	801	157	50	(77)	11
Model updates	(447)	–	112	(17)	(46)
Methodology and policy	–	–	–	1,246	(362)
Acquisitions and disposals	–	–	–	–	–
Foreign exchange movements	(125)	(813)	1,026	89	(21)
Credit risk – Risk-weighted assets at end	78,985	77,944	76,657	70,145	67,254
Market risk – Risk-weighted assets at beginning	4,724	4,121	4,397	4,276	3,972
Movement in risk levels(1)	(1,227)	385	1,441	121	304
Model updates	–	218	–	–	–
Methodology and policy	–	–	(1,717)	–	–
Acquisitions and disposals	–	–	–	–	–
Market risk – Risk-weighted assets at end	3,497	4,724	4,121	4,397	4,276
Operational risk – Risk-weighted assets at beginning	12,146	11,977	11,664	11,509	11,319
Movement in risk levels	180	169	313	155	190
Acquisitions and disposals	–	–	–	–	–
Operational risk – Risk-weighted assets at end	12,326	12,146	11,977	11,664	11,509
Risk-weighted assets at end	94,808	94,814	92,755	86,206	83,039

(1) Also includes foreign exchange rate movements that are not considered material.

The table above provides the risk-weighted assets movements by key drivers underlying the different risk categories.

The *Book size* item reflects organic changes in book size and composition (including new loans and maturing loans). RWA movements attributable to book size include increases or decreases in exposures, measured by exposure at default, assuming a stable risk profile.

The *Book quality* item is the Bank's best estimate of changes in book quality related to experience, such as underlying customer behaviour or demographics, including changes resulting from model recalibrations or realignments and also including risk mitigation factors.

The *Model updates* item is used to reflect implementations of new models, changes in model scope, and any other change applied to address model malfunctions. During the quarter ended July 31, 2020, the Bank changed its SVaR period to encompass the COVID-19 crisis. During the quarter ended October 31, 2020, the Bank updated one of its AIRB models: the SME-retail model.

The *Methodology and policy* item presents the impact of changes in calculation methods resulting from changes in regulatory policies as a result, for example, of new regulations. During the quarter ended January 31, 2020, the transitional arrangements for specific wrong-way risk and for the revised securitization framework expired. On November 1, 2019, the Bank also adopted IFRS 16 and recognized right-of-use assets. During the quarter ended April 30, 2020, OSFI introduced provisional measures for market risk in response to the volatility caused by the COVID-19 pandemic. These measures are still in effect.

Allocation of Economic Capital and Regulatory RWA

Economic capital is an internal measure that the Bank uses to determine the capital it needs to remain solvent and to pursue its business operations. Economic capital takes into consideration the credit, market, operational, business and other risks to which the Bank is exposed as well as the risk diversification effect among them and among the business segments. Economic capital thus helps the Bank to determine the capital required to protect itself against such risks and ensure its long-term viability. The by-segment allocation of economic capital and regulatory RWA was carried out on a stand-alone basis before attribution of goodwill and intangible assets. The method used to assess economic capital is reviewed regularly in order to accurately quantify these risks.

The Risk Management section of this MD&A provides comprehensive information about the main types of risk. The "Other risks" presented below include risks such as business risk and structural interest rate risk in addition to the benefit of diversification among types of risk.

Allocation of Risks by Business Segment

As at October 31, 2020
(millions of Canadian dollars)

NATIONAL BANK OF CANADA

Business segments	Personal and Commercial	Wealth Management	Financial Markets	U.S. Specialty Finance and International	Other
Major activities	Banking services Credit services Financing Investment solutions Insurance	Full-service brokerage Private banking Direct brokerage Investment solutions Administrative and trade execution services Transaction products for advisors Trust and estate services	Equities, Fixed-income, commodities and foreign exchange Corporate banking Investment banking	U.S. Specialty Finance • Credigy International • ABA Bank (Cambodia) • Minority interests in emerging markets	Treasury activities Liquidity management Bank funding Asset and liability management Corporate units

Economic capital by type of risk

	Personal and Commercial	Wealth Management	Financial Markets	U.S. Specialty Finance and International	Other
Credit	1,772	110	2,398	859	281
Market	–	–	322	37	(50)
Operational	394	249	333	95	(75)
Other risks	184	405	472	47	5
Total	**2,350**	**764**	**3,525**	**1,038**	**161**

Risk-weighted assets

	Personal and Commercial	Wealth Management	Financial Markets	U.S. Specialty Finance and International	Other
Credit	33,782	1,795	27,310	10,426	5,672
Market	–	–	3,364	–	133
Operational	4,863	3,091	4,111	1,190	(929)
Total	**38,645**	**4,886**	**34,785**	**11,616**	**4,876**

Risk Management

In this section of the MD&A, grey-shaded text and tables marked with an asterisk (*) are integral parts of the consolidated financial statements. They represent the Bank's objectives, the risk management policies and procedures, and the methods applied to measure credit risk, market risk as well as liquidity and funding risk, as required by IFRS 7 – *Financial Instruments: Disclosures.*

Risk-taking is intrinsic to a financial institution's business. The Bank views risk as an integral part of its development and the diversification of its activities. It advocates a risk management approach consistent with its business strategy. The Bank voluntarily exposes itself to certain risk categories, particularly credit and market risk, in order to generate revenue. It assumes certain risks that are inherent to its activities—to which it does not choose to expose itself—and that do not generate revenue, i.e., mainly operational risks. The purpose of sound and effective risk management is to provide reasonable assurance that incurred risks do not exceed acceptable thresholds, to control the volatility in the Bank's results, and to ensure that risk-taking contributes to the creation of shareholder value.

Risk Management Framework

Risk is rigorously managed. Risks are identified, measured and controlled to achieve an appropriate balance between the returns obtained and the risks assumed. The COVID-19 pandemic has affected general economic conditions as well as capital market conditions in Canada, the United States, and other countries where the Bank conducts business. COVID-19 has also put certain top and emerging risks into perspective. Despite this exceptional situation, risks are being rigorously managed. Consequently, decision-making is supported by risk assessments and management processes that are consistent with the Bank's risk appetite and by prudent levels of capital and liquidity. Despite the exercise of stringent risk management and the mitigation measures in place, risk cannot be suppressed entirely, and residual risks may occasionally cause significant losses.

The Bank has developed guidelines that support sound and effective risk management:

- risk is everyone's business: business units, risk management and oversight functions as well as Internal Audit play an important role in ensuring a risk management framework is in place;
- client-centric: having quality information is key to understanding clients, effectively managing risk, and delivering excellent client service;
- enterprise-wide: an integrated view of risk is the basis for sound and effective risk management and decision-making by management;
- human capital: the Bank's employees are engaged, experienced and have a high level of expertise; their curiosity supports continuous development and their rigour ensures that risk management is built into the corporate culture;
- fact-based: good risk management relies heavily on common sense and good judgment and on advanced systems and models.

Risk Appetite

Risk appetite represents how much risk an organization is willing to assume to achieve its business strategy. The Bank defines its risk appetite by setting tolerance thresholds, by aligning those thresholds with its business strategy, and by integrating risk management throughout its corporate culture. Risk appetite is built into decision-making processes as well as into strategic, financial and capital planning.

The Bank's risk appetite framework consists of principles, statements, metrics as well as targets and is reinforced by policies and limits. When setting its risk appetite targets, the Bank considers regulatory constraints and the expectations of stakeholders, in particular customers, employees, the community, shareholders, regulatory agencies, governments, and rating agencies.

The risk appetite framework is defined by the following principles and statements:

The Bank's brand, reputation and long-term viability are at the centre of our decisions, which demand:

- a strong credit rating to be maintained;
- a strong capital and cash position;
- rigorous management of regulatory compliance risk, including sales practices;
- zero tolerance for negligence in information security.

The Bank understands the risks taken; they are aligned with our business strategy and translate into:

- a risk-reward balance;
- a stable risk profile;
- a strategic level of concentration aligned with approved targets.

The Bank's transformation and simplification plan is being carried out without compromising rigorous risk management, which is reflected in:

- a low tolerance to operational and reputation risk;
- operational and information systems stability, both under normal circumstances and in times of crisis.

The Bank's management and business units are involved in the process for setting the risk appetite and are responsible for adequately monitoring the chosen risk indicators. These needs are assessed by means of the enterprise strategic planning process. The risk indicators are reported on a regular basis to ensure an effective alignment of the Bank's risk profile to its risk appetite; otherwise, appropriate actions could be taken. Additional information on the key credit, market and liquidity risk indicators monitored by the Bank's management is presented on the following pages.

Enterprise-Wide Stress Testing

As part of a more extensive process aimed at ensuring that the Bank maintains adequate capital levels commensurate with its business strategy and risk appetite, an enterprise-wide stress testing program is in place at the Bank. Stress testing can be defined as a risk management method that assesses the potential effects—on the Bank's financial position, capital and liquidity—of a series of specified changes in risk factors, corresponding to exceptional but plausible events. The program supports management's decision-making process by identifying potential vulnerabilities for the Bank as a whole that are considered in setting limits as well as in longer term business planning. The scenarios and stress test results are reviewed by a group of stress testing experts, a stress testing oversight group and the Global Risk Committee (GRC) and are approved by the Board. For additional information, see the Stress Testing and Crisis Scenarios sections of this MD&A applicable to credit risk, market risk, and liquidity risk.

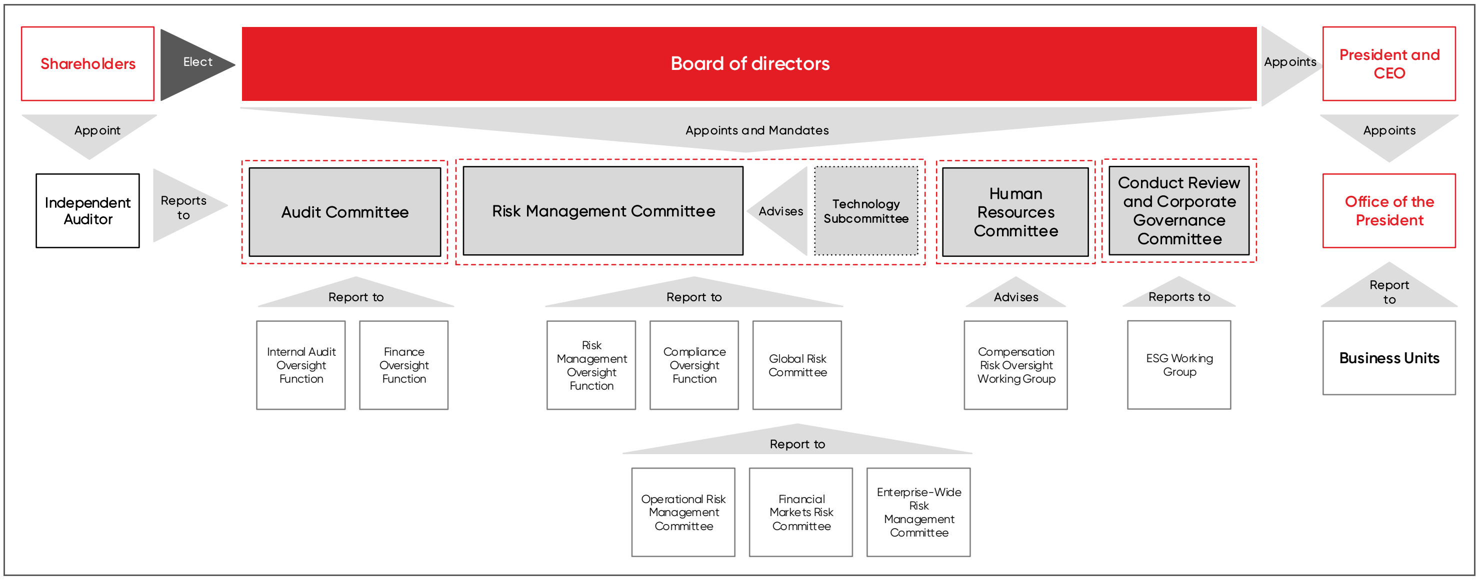
Incorporation of Risk Management Into the Corporate Culture

The Bank's management continually promotes risk management through internal communications. A balanced approach is advocated, whereby business development initiatives are combined with a constant focus on sound and effective risk management. In particular, risk is taken into consideration when preparing the segments' business plans, when analyzing strategic initiatives and when launching new products. The Bank's risk management is also strengthened by incentive compensation programs that are structured to reflect the Bank's risk appetite. In addition, Internal Audit carries out an evaluation of the culture through its mandates. Finally, all employees must complete mandatory annual regulatory compliance training focused on the Bank's Code of Conduct and Ethics and on anti-money laundering and anti-terrorist financing (AML/ATF) efforts as well as cybersecurity training. Risk management training is also offered across all segments of the Bank.

Furthermore, to ensure the effectiveness of the existing risk management framework, the Bank has defined clear roles and responsibilities by reinforcing the concept of the three lines of defence. The Governance Structure section presented on the following pages defines this concept as well as the roles and responsibilities at all levels of the organization.

First Line of Defence Risk Owner	**Second Line of Defence** Independent Oversight	**Third Line of Defence** Independent Assurance
Business Units	Risk Management and Oversight Functions	Internal Audit
• Identify, manage, assess and mitigate risks in day-to-day activities. • Ensure activities are in alignment with the Bank's risk appetite and risk management policies.	• Oversee risk management by setting policies and standards. • Provide independent oversight of management practices and an independent challenge of the first line of defence. • Promote sound risk management at the Bank. • Monitor and report on risk.	• Provide the Board and management with independent assurance as to the effectiveness and efficiency of the main governance, risk management, and internal control processes and systems. • Provide recommendations and advice to promote the Bank's long-term financial strength.

Governance Structure *
The following diagram shows the Bank's overall governance architecture and the governance relationships established for risk management.



The Board of Directors (Board)[1]
The Board examines and approves the Bank's overall risk philosophy and risk appetite, acknowledges and understands the main risks faced by the Bank, and makes sure appropriate systems are in place to effectively manage and control those risks. In addition, the Board ensures that the Bank operates in accordance with environmental, social and governance (ESG) practices and strategies. It performs its mandate both directly and through its committees: the Audit Committee, the Risk Management Committee (including the Information Technology Subcommittee), the Human Resources Committee, and the Conduct Review and Corporate Governance Committee. In addition, the various oversight functions, the Global Risk Committee and the working groups report to the Board and advise it.

The Audit Committee[1]
The Audit Committee oversees the work of the Bank's internal auditor and independent auditor; ensures the Bank's financial strength; establishes the Bank's financial reporting framework, analysis processes and internal controls; and reviews any reports of irregularities in accounting, internal controls, and audit.

The Risk Management Committee (RMC)[1]
The Risk Management Committee examines the risk appetite framework and recommends it to the Board for approval. It approves the main risk management policies and risk tolerance limits. It ensures that appropriate resources, processes and procedures are in place to properly and effectively manage risk on an ongoing basis. Finally, it monitors the risk profile and risk trends of the Bank's activities and ensures alignment with the risk appetite.

The Information Technology Subcommittee[1]
The Information Technology Subcommittee advises the Risk Management Committee and supports it on, among other things, the Bank's technology strategy and the monitoring and management of information technology risks, including cyberrisks, cybercrime and protection of personal information.

The Human Resources Committee[1]
The Human Resources Committee examines and approves the Bank's total compensation policies and programs, taking into consideration the risk management framework, and recommends their approval to the Board. It sets annual objectives and key performance indicators for the President and Chief Executive Officer, recommends that they be approved by the Board, and evaluates the performance and achievements against these objectives and indicators. It recommends to the Board that it approves the compensation of the President and Chief Executive Officer, of the members of the Office of the President, and of the heads of the oversight functions. It also periodically reviews and examines the management succession plan.

The Conduct Review and Corporate Governance Committee[1]
The Conduct Review and Corporate Governance Committee ensures that the Bank maintains sound practices that comply with legislation and best practices, particularly in the area of ESG responsibilities. It must ensure that the directors are qualified by evaluating the performance and effectiveness of the Board and its members and by planning director succession and the composition of the Board. The Committee ensures that mechanisms are in place to prevent prohibited financial transactions between the Bank and related parties.

(1) Additional information about the Bank's governance architecture can be found in the Management Proxy Circular for the 2021 Annual Meeting of Holders of Common Shares, which will soon be available on the Bank's website at nbc.ca and on SEDAR's website at sedar.com. The mandates of the Board and its committees are available in their entirety at nbc.ca.

The Office of the President and the Bank's Management

Composed of the President and Chief Executive Officer and the officers responsible for the Bank's main functions and business units, the Office of the President ensures that risk management is effective and aligned with the Bank's pursuit of its objectives and strategies. The Bank's management promotes the integration of risk management into its corporate culture and manages the primary risks facing the Bank.

The Internal Audit Oversight Function

The Internal Audit Oversight Function is the third line of defence in the risk management framework. It is responsible for providing the Bank's Board and management with objective, independent assurance as well as advice on the effectiveness and efficiency of the main governance, risk management, and internal control processes and systems and for making recommendations and providing advice to promote the Bank's long-term strength.

The Finance Oversight Function

The Finance Oversight Function is responsible for optimizing management of financial resources and ensuring sound governance of financial information. It helps the business segments and support functions with their financial performance, ensures compliance with regulatory requirements, and carries out the Bank's reporting to shareholders and the external reporting of the various units, entities and subsidiaries of the Bank. It is responsible for capital management and actively participates in the activities of the Asset/Liability Management Committee.

The Risk Management Oversight Function

The Risk Management Oversight Function is responsible for identifying, assessing and monitoring—independently and using an integrated approach—the various risks to which the Bank is exposed and for promoting a risk management culture within the Bank. The Risk Management team helps the Board and management understand and monitor the main risks. The unit also develops, maintains and communicates the risk appetite framework while overseeing the integrity and reliability of risk measures.

The Compliance Oversight Function

The Compliance Oversight Function is responsible for implementing a Bank-wide regulatory compliance risk management framework by relying on an organizational structure that includes functional links to the main business segments. It also exercises independent oversight and evaluation of the compliance of the Bank and its subsidiaries with standards and policies on regulatory compliance risk.

The Global Risk Committee (GRC)

The Global Risk Committee defines the parameters of the policies that determine risk tolerance and the overall risk strategy, for the Bank and its subsidiaries as a whole, and sets limits as well as tolerance and intervention thresholds enabling the Bank to properly manage the main risks to which it is exposed. The committee approves and monitors all large credit facilities. It also recommends for Board approval the Bank's risk philosophy, risk appetite and risk profile management. The Operational Risk Management Committee, the Financial Markets Risk Committee, and the Enterprise-Wide Risk Management Committee presented in the governance structure diagram are the primary committees reporting to the Global Risk Committee. The Global Risk Committee also carries out its mandate through the Senior Complex Valuation Committee, the Committee on Banks, the Models Oversight Committee and the Product and Activity Review Committees.

The Compensation Risk Oversight Working Group

The working group that monitors compensation-related risks supports the Human Resources Committee in its compensation risk oversight role. It is a three-member group consisting of the Executive Vice-President, Risk Management; the Chief Financial Officer and Executive Vice-President, Finance; and the Executive Vice-President, Employee Experience. The working group helps to ensure that compensation policies and programs do not unduly encourage senior management members, officers, material risk takers or bank employees to take risks beyond the Bank's risk tolerance thresholds. As part of that role, it ensures that the Bank is adhering to the Corporate Governance Guidelines issued by OSFI and to the Principles for Sound Compensation Practices issued by the Financial Stability Board, for which the Canadian implementation and monitoring is conducted by OSFI. The Board's Risk Management Committee also reviews the reports presented by the working group to the Human Resources Committee.

The ESG Working Group

The Working Group's main function is to develop and support the environmental, social and governance (ESG) initiatives and strategy of the Bank. Its members meet on a monthly basis. This committee is responsible for implementing the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD). At least twice each year, the ESG Working Group reports to the Conduct Review and Governance Committee and the Audit Committee on the progress made and ongoing and upcoming ESG projects.

The Business Units

As the first line of defence, the business units manage risks related to their operations within established limits and in accordance with risk management policies by identifying, analyzing and understanding the risks to which they are exposed and implementing risk mitigation mechanisms. The management of these units must ensure that employees are adhering to current policies and limits.

Risk Management Policies
The risk management policies and related standards and procedures set out responsibilities, define and describe the main activity-related risks, specify the requirements that the business units must meet in assessing and managing risk, stipulate the authorization process for risk-taking and set the risk limits to be adhered to. These policies cover the main risks in the Bank, are reviewed regularly to ensure they are still relevant given changes in the markets and in the business plans of the Bank's business units, and apply to the entire Bank and its subsidiaries. Other policies, standards, and procedures complement the main policies and cover more specific aspects of risk management such as business continuity, the launch of new products, initiatives or activities, or financial instrument measurement.

Governance of Model Risk Management
The Bank makes increasing use of models to guide enterprise-wide risk management, financial markets strategy, economic and regulatory capital allocation, global credit risk management, wealth management and profitability measures. Models have in fact become a standard in risk management. This stresses the growing importance of model risk for banks, hence the implementation of a rigorous model risk management process to ensure models can be used appropriately and efficiently to manage risks.

The key components of the Bank's model risk management governance framework are as follows: the model risk management policies and standards, the model vetting group, and the Models Oversight Committee. The policies and standards set the rules and principles applicable to developing and vetting models. The scope of models covered is wide, ranging from market risk pricing models and automated credit decision-making models to the business risk capital model, including models used for regulatory capital and stressed capital purposes, IFRS 9 models, and financial-crime models. The framework also includes more advanced artificial intelligence models.

One of the cornerstones of the Bank's policies is the general principle that all models deemed important for the Bank or used for regulatory capital purposes require heightened lifecycle monitoring and independent vetting. All models used by the Bank are therefore classified in terms of risk level (low, medium, or high). Based on this classification, the Bank applies strict guidelines regarding the requirements for model development and documentation, independent review thereof, performance monitoring thereof, and minimum review frequency. The Bank believes that the best defence against "model risk" is the implementation of a robust development and validation framework.

Independent Oversight by the Compliance Service
Compliance is an independent oversight function within the Bank. Its Senior Vice-President, Chief Compliance Officer and Chief Anti-Money Laundering Officer have direct access to the RMC and to the President and Chief Executive Officer and can communicate directly with officers and directors of the Bank and of its subsidiaries and foreign centres. The Senior Vice-President, Chief Compliance Officer and Chief Anti-Money Laundering Officer regularly meets with the Chair of the RMC (with whom she has a direct reporting relationship) in the absence of management, to review matters on the relationship between the Compliance Service and the Bank's management and on access to the information required.

Business unit managers must oversee the implementation of mechanisms for the daily control of regulatory compliance risks arising from the operations under their responsibility. Compliance exercises independent oversight in order to assist managers in effectively managing these risks and to obtain reasonable assurance that the Bank is compliant with the regulatory requirements in effect where it does business, both in Canada and internationally.

Independent Assessment by Internal Audit
Internal Audit is an independent, objective function within the Bank. Through the Audit Committee, it provides assurance to management and the Board as to the Bank's level of command over its activities, advises on how to improve those activities, and contributes to the creation of added value. It helps the Bank to achieve its objectives by applying a systematic, methodical approach for assessing and improving the effectiveness of the design and operation of its main governance, risk management and internal control processes and systems and formulates recommendations and advice to promote the Bank's long-term strength.

Whenever recommendations are issued, Internal Audit is mandated to independently evaluate the appropriateness of the measures taken by managers to resolve issues and then to ensure rigorous follow-up. The Senior Vice-President, Internal Audit reports to the Chair of the Audit Committee. Her independence is ensured through an administrative relationship with the President and Chief Executive Officer, and she may, at any time, call an unscheduled Audit Committee meeting. Internal Audit has unrestricted access to all business segments, corporate units and subsidiaries of the Bank.

Top and Emerging Risks

Managing risk requires a solid understanding of every type of risk found across the Bank, as they could have a material adverse effect on the Bank's business, results of operations, financial position and reputation. As part of its approach to risk management, the Bank identifies, assesses, reviews and monitors the range of top and emerging risks to which it is exposed in order to proactively manage them and implement appropriate mitigation strategies.

The Bank separately qualifies the risks to which it is exposed: a "top risk" is a risk that has been identified, is clearly defined, and could have a significant impact on the Bank's business, results of operations, financial position, and reputation, while an "emerging risk" is a risk that, while it may also have an impact on the Bank, is not well understood in terms of its likelihood, consequences, timing, or the extent of its potential impact.

In the normal course of business, the Bank is exposed to the following top risks.

Credit risk	Market risk	Funding and liquidity risk	Operational risk	Regulatory compliance risk	Reputation risk	Strategic risk	Environmental and social risk

Risks related to the COVID-19 pandemic
The COVID-19 pandemic has had and may continue to have disruptive and adverse effects in the countries where the Bank operates and, more broadly, on the global economy. It has also affected and may continue to affect the Bank and how it conducts business as well as its clients. This situation provides perspective on some of the top and emerging risks to which the Bank is exposed. Additional information is provided in the COVID-19 Pandemic section of this MD&A.

The Bank is also exposed to other so-called emerging or material risks, which are defined as follows.

Risk and Trend	Description
Information security and cybersecurity	Technology, which is now omnipresent in our daily lives, is at the heart of banking services and has become the main driver of innovation in the financial sector. While this digital transformation meets the growing needs of customers while enhancing the operational efficiency of institutions, it nevertheless comes with information security and cybersecurity risks. The personal information and financial data of financial institution customers are prime targets for criminals. These criminals, who are increasingly well organized and employing ever more sophisticated schemes, try to use technology to steal information. Faced with a resurgence of cyberthreats and the sophistication of cybercriminals, the Bank is exposed to the risks associated with data breaches, malicious software, unauthorized access, hacking, phishing, identity theft, intellectual property theft, asset theft, industrial espionage, and possible denial of service due to activities causing network failures and service interruptions. Cyberattacks, as with system breaches or interruptions that support the Bank and its customers, could cause client attrition; financial loss; inability of clients to do their banking; non-compliance with privacy legislation or any other laws in effect; legal disputes; fines; penalties or regulatory action; reputational damage; compliance costs, corrective measures, investigative, or restoration costs; cost hikes to maintain and upgrade technological infrastructures and systems, all of which could affect the Bank's operating results or financial position, in addition to having an impact on its reputation. It is also possible for the Bank to be unable to prevent or implement effective preventive measures against every potential cyberthreat, as the tactics used are multiplying, change frequently, come from a wide range of sources and are increasingly sophisticated. Within this context, the Bank works to ensure the integrity and protection of its systems and the information they contain. The Bank reaffirms its commitment to continuous improvement in the area of information security, the ultimate goal being to protect its customers and maintain their trust. Along with its partners in the financial sector and with the regulatory authorities, the Bank is committed to making a sustained effort to mitigate technology risks. Measures specifically directed at anticipating this type of threat include the formation of multidisciplinary teams comprising cybersecurity and fraud prevention specialists. The Bank is also pursuing initiatives under its own cybersecurity program aimed at adapting its protection, surveillance, detection and response capabilities in response to changing threats. A governance and accountability structure has also been established to support decision-making based on sound risk management. The Information Technology Subcommittee is regularly informed of cybersecurity trends and developments and of lessons learned from operational incidents that have occurred in other large organizations in order to gain a better understanding of potential risks, particularly risks related to cybersecurity and the protection of personal information.

Risk and Trend	Description
Economic and geopolitical risk	The economic expansion in the United States, which was the longest since World War II, ended abruptly in the spring of 2020 as measures put in place to limit the spread of COVID-19 forced large swaths of the global economy to close. The result was a collapse in global output and unprecedented job losses. In June 2020, 32.4 million people in the U.S. were receiving unemployment insurance benefits from various support programs, compared to 1.6 million at the same date 12 months earlier. The deteriorating economic outlook, combined with lockdown measures on this side of the border, drove the unemployment rate up 8.1 percentage points to 13.7% in May 2020, compared to just 5.6% in February 2020. Public policy-makers responded quickly, sparing no effort in terms of the extent of the financial support provided to households and businesses. In both Canada and the United States, income support programs more than offset labour market losses in the second quarter. In addition, the central banks also drew on their arsenals to provide liquidity and ensure the smooth functioning of financial markets. Canadian households, which had become more indebted in recent years, have been able to benefit from debt service accommodations that have cushioned the impact of an uncertain situation. A total of 755,000 homeowners took advantage of mortgage payment deferrals, while 477,000 individuals benefited from payment deferrals on credit card debt. In the second quarter, Canadians' debt service (principal and interest) declined by an unprecedented 6.0%. In this context, and due to the easing of lockdown measures, the U.S. economy recovered from the shock of COVID-19 with a vigour that surprised many observers. Retail sales, new home sales, existing home sales, housing starts and durable goods orders have rallied sharply and are now comparable to pre-crisis levels. Nevertheless, in addition to a potential acceleration of COVID-19 outbreaks, the U.S. economy could suffer from a premature withdrawal of fiscal support measures. Several support programs expired on July 31, 2020, and many Americans who lost their jobs could experience a sharp drop in income if new support measures are delayed. It is also important to consider the risk of social unrest, as many countries have been shaken by social crises in recent years, creating economic and political uncertainty. In Canada, monthly indicators also point to a strong rally in economic activity following the abysmal low reached in April. However, due to stricter lockdown measures, the contraction of the Canadian economy was more pronounced and, despite the lifting of most restrictive measures, it is still lagging in terms of recovery. While the strong rebound in employment is impressive, the Canadian labour market is still considerably weaker than it was in February 2020, and the job losses are not limited to those sectors where physical distancing is an issue. The economy may face challenges in 2021 as mortgage payment deferrals come to an end and income assistance programs gradually become less generous at a time when the labour market continues to recover. In addition, the current slower pace of immigration in Canada may hobble the real estate sector. Until a vaccine or a drug that reduces the symptoms of the disease is discovered, the economic recovery may not be complete. By encouraging employees to work from home, companies are jeopardizing economic activity in large urban centres. Should working from home change the organization of work more permanently, this may also pose a challenge to the commercial real estate sector. If the pandemic returns in another major wave of infection, the price outlook for raw materials would be much less positive. Continued low energy prices would not bode well for the oil sector, which is struggling to emerge from a long period of difficult adjustments. While there may be a consensus that the pace of economic recovery in the coming months will depend heavily on developments in the COVID-19 pandemic and the social distancing measures needed to contain the spread of the virus, the central banks remain committed to supporting the recovery by maintaining accommodative monetary policies and programs involving large-scale purchases of financial assets. For now, the likelihood of inflation taking an undesirable turn upwards in the short term remains low. However, should interest rates remain low for the long term, there is a real risk that market participants will implement strategies involving excessive risk-taking. This could have negative repercussions if it leads to economic problems or an unanticipated increase in interest rates. In short, given the ongoing uncertainties in this environment, the Bank remains vigilant and continues to rely on its strong risk management framework to identify, assess, and mitigate risk and to remain within the risk appetite limits.

Risk and Trend	Description
Reliance on technology and third parties	The Bank is reliant on technology, as clients are seeking greater access to products and services on a variety of platforms that must support substantial data volumes. The fast pace of technological change combined with both client and competitive pressures require significant and sustained investment in technology. Inadequate implementation of technological improvements or new products or services could significantly affect the Bank's ability to serve and retain clients. Third parties provide essential components of the Bank's technological infrastructure such as Internet connections and access to network and other communications services. The Bank also relies on the services of third parties to support business processes and to handle certain IT activities. An interruption of these services or a breach of security could have an unfavourable impact on the Bank's ability to provide products and services to its customers and to conduct business, not to mention the impact it would have on the Bank's reputation. To mitigate this risk, the Bank has a third-party risk management framework wherein information security, financial health, and performance are validated before any agreements are reached and throughout the life of the agreements. It also includes business continuity plans, which are tested periodically to ensure their effectiveness in times of crisis. Despite these preventive measures and the efforts deployed by the Bank's teams to manage third parties, there remains a possibility that certain risks will materialize. In such cases, the Bank would then rely on the contingency and mitigation measures established in collaboration with the third parties. The Bank is aware of the significance of third-party-related risks and continues to develop its practices in this regard. Since the COVID-19 pandemic could affect the financial health, performance and business continuity of the Bank's third parties, it had to increase the frequency of its controls on them in fiscal 2020. In this context, the widespread phenomenon of working from home that is associated with lockdown measures has led to an increased use of digital channels as well as greater reliance on certain shared technological infrastructures.
Climate change	The risk associated with climate change represents the possibility that issues related to such events could result in a loss of financial or operational value for the Bank, damage its reputation, or affect its stakeholders. As such, the physical risks arising from the impacts of more frequent and more intense extreme weather events, as well as the transition risks resulting from a shift to a low-carbon economy, require particular attention in order to reduce the Bank's exposure to these negative externalities and, at the same time, seize new growth opportunities. The Bank, aware that it has a mobilizing role to play in environmental matters, announced in 2018 its support for the Financial Stability Board's Task Force on Climate-Related Financial Disclosures (TCFD). The Bank is committed to communicating, in addition to its performance reports, the information recommended by the group. In addition, the Bank of Canada noted in its annual report "Financial System Review – 2020" that it continues to analyze and conduct research on key financial system vulnerabilities not directly related to COVID-19. This includes work on climate change. The regulators' interest in the subject demonstrates the growing importance attached to this risk. Although no specific requirements have yet been published, the Bank will continue to closely monitor developments and any resulting implications. See the Environmental and Social Risk section of this MD&A for more information.
Technological innovation and competition	The Bank's financial performance depends on its ability to develop and market new and innovative products and services, adopt and develop new technologies that help differentiate its products and services and generate cost savings, and market these new products and services at the right time and at competitive prices. On the other hand, failure to properly review critical changes within the business before and during the implementation and deployment of key technological systems or failure to align client expectations with the Bank's client commitments and operating capabilities could adversely affect the Bank's business, operating results, financial position and reputation.

Other Factors That Can Affect the Bank's business, operating results, financial position and reputation

International Risks

Through the operations of some of its units (mainly its New York and London offices) and subsidiaries in Canada and abroad (in particular, Credigy Ltd., NBC Global Finance Limited, and Advanced Bank of Asia Limited), the Bank is exposed to risks arising from its presence in international markets and foreign jurisdictions. While these risks do not affect a significant proportion of the Bank's portfolios, their impact must not be overlooked, especially those that are of a legal or regulatory nature. Such risk can be particularly high when the exposure is in a territory where the enforceability of agreements signed by the Bank is uncertain, in countries and regions facing political or socio-economic disturbances, or in countries that may be subject to international sanctions. Generally speaking, there are many ways in which the Bank may be exposed to the risks posed by other countries, not the least of which being foreign laws and regulations. In all such situations, it is important to consider what is referred to as "country risk." Country risk affects not only the activities that the Bank carries out abroad but also the business that it conducts with non-resident clients as well as the services it provides to clients doing business abroad, such as electronic funds transfers, international products and transactions from Canada in foreign currencies.

As part of its activities, the Bank must adhere to anti-money laundering and anti-terrorist financing (AML/ATF) regulatory requirements in effect in each jurisdiction where it conducts business. It must also comply with the requirements pertaining to current international sanctions in these various jurisdictions. Money laundering and terrorist financing is a financial, regulatory and reputation risk. For additional information, see the Regulatory Compliance Risk Management section of this MD&A.

The Bank is exposed to financial risks outside Canada and the United States primarily through its interbank transactions on international financial markets or through international trade finance activities. This geographic exposure represents a moderate proportion of the Bank's total risk. The geographic exposure of loans is disclosed in the quarterly *Supplementary Financial Information* report available on the Bank's website at nbc.ca. To control country risk, the Bank sets credit concentration limits by country and reviews and submits them to the Board for approval upon renewal of the Credit Risk Management Policy. These limits are based on a percentage of the Bank's regulatory capital, in line with the level of risk represented by each country, particularly emerging countries. The risk is rated using a classification mechanism similar to the one used for credit default risk. In addition to the country limits, authorization caps and limits are established, as a percentage of capital, for the world's high-risk regions, i.e., essentially all regions except for North America, Western European countries and the developed countries of Asia.

Acquisitions

The Bank's ability to successfully complete an acquisition is often conditional on regulatory approval, and the Bank cannot be certain of the timing or conditions of regulatory decisions. Acquisitions could affect future results should the Bank experience difficulty integrating the acquired business. If the Bank does encounter difficulty integrating an acquired business, maintaining an appropriate governance level over the acquired business, or retaining key officers within the acquired business, these factors could prevent the Bank from realizing expected revenue growth, cost savings, market share gains and other projected benefits of the acquisition.

Intellectual Property

The Bank protects the intellectual property developed by its employees in connection with their duties. However, in some cases, it may have a more limited ability to acquire intellectual property rights. Moreover, the intellectual property rights acquired by the Bank provide no guarantees that they will be effective in deterring or preventing a third party from misappropriating intellectual property or providing a defense against the misappropriation of intellectual property. Moreover, the goods and services developed by the Bank are provided in a competitive market where third parties could hold intellectual property rights prior to those held by the Bank. In such circumstances, there is no guarantee that the Bank will successfully provide a defense against an infringement claim, that it will be able to modify its goods and services to avoid infringing upon third party rights or that it will obtain a licence with commercially acceptable conditions.

Ability to Attract and Retain Key Officers

The Bank's future performance depends largely on its ability to attract and retain key officers. There is intense competition for the best people in the financial services industry, and there is no assurance that the Bank, or any entity it acquires, will be able to continue to attract and retain key officers.

Judicial and Regulatory Proceedings

The Bank takes reasonable measures to comply with the laws and regulations in effect in the jurisdictions where it operates. Should these measures prove ineffective, the Bank could be subject to judicial or regulatory decisions resulting in fines, damages, or other costs or to restrictions likely to adversely affect its operating results or its reputation. The Bank may also be subject to litigation in the normal course of business. Although the Bank establishes provisions for the measures it is subject to under accounting requirements, actual losses resulting from such litigation could differ significantly from the recognized amounts, and unfavourable outcomes in such cases could have a significant adverse effect on the Bank's operating results. The resulting reputational damage could also affect the Bank's future business prospects. For additional information, see Note 26 to the consolidated financial statements.

Accounting Policies, Methods and Estimates Used by the Bank
The accounting policies and methods used by the Bank determine how the Bank reports its financial position and operating results and require management to make estimates or rely on assumptions about matters that are inherently uncertain. Any changes to these estimates and assumptions may have a significant impact on the Bank's operating results and financial position.

Additional Factors
Factors that could affect the Bank's business, operating results and reputation include amendments to tax legislation, unexpected changes in consumer spending and saving habits, the timely development and launch of new products and services, the ability to successfully align its organizational structure, resources and processes, the ability to activate a business continuity plan within a reasonable time, the potential impact of international conflicts, natural catastrophes or public health emergencies such as COVID-19 on the Bank's activities, operating results and reputation and the Bank's ability to foresee and effectively manage the risks associated with these factors through rigorous risk management.

Credit Risk

Credit risk is the risk of incurring a financial loss if an obligor does not fully honour its contractual commitments to the Bank. Obligors may be debtors, issuers, counterparties or guarantors. Credit risk is the most significant risk facing the Bank in the normal course of business. The Bank is exposed to credit risk not only through its direct lending activities and transactions but also through commitments to extend credit, letters of guarantee, letters of credit, over-the-counter derivatives trading, debt securities, securities purchased under reverse repurchase agreements, deposits with financial institutions, brokerage activities, and transactions carrying a settlement risk for the Bank such as irrevocable fund transfers to third parties via electronic payment systems.

Obligors have been affected by the difficult economic environment resulting from COVID-19 and its impact on the global and local economies. This exceptional situation has led to significant changes in the overall market environment, including business closures, temporary layoffs and lower oil prices. However, certain government measures have been implemented to assist retail and business clients affected by COVID-19.

Governance
A policy framework centralizes the governance of activities that generate credit risk for the Bank and is supplemented by a series of subordinate internal policies and standards. These policies and standards address specific management issues such as concentration limits by borrower group and sector, credit limits, collateral requirements and risk quantification or issues that provide more thorough guidance for given business segments.

For example, the institutional activities of the Bank and its subsidiaries on financial markets and international commercial transactions are governed by business unit directives that set out standards adapted to the specific environment of these activities. This also applies to retail brokerage subsidiaries. In isolated cases, a business unit or subsidiary may have its own credit policy, and that policy must always fall within the spirit of the Bank's policy framework and be reviewed and approved by the management of the Risk Management Group. The Risk Management Group defines the scope of the universe of subsidiaries carrying significant credit risks and the magnitude of the risks incurred.

Credit risk is controlled through a rigorous process that comprises the following elements:

- credit risk rating and assessment;
- economic capital assessment;
- stress testing and crisis scenarios;
- credit granting process;
- revision and renewal process;
- risk mitigation;
- follow-up of monitored accounts and recovery;
- counterparty risk assessment;
- settlement risk assessment;
- environmental risk assessment.

Reporting
Every quarter, an integrated risk management report is presented to senior management and the RMC. It presents changes in the credit portfolio and highlights on the following matters:

- credit portfolio volume growth by business segment;
- a breakdown of the credit portfolio according to various criteria for which concentration limits have been set;
- changes in provisions and allowances for credit losses;
- changes in impaired loans;
- follow-up of monitored accounts.

Credit Risk Rating and Assessment
Before a sound and prudent credit decision can be made, the obligor's or counterparty's credit risk must be accurately assessed. This is the first step in processing credit applications. Each application is analyzed and assigned one of 19 grades on a scale of 1 to 10 using a credit rating system developed by the Bank for all portfolios exposed to credit risk. As each grade corresponds to a debtor's, counterparty's or third party's probability of default, the Bank can estimate the credit risk. The credit risk assessment method varies according to portfolio type. There are two main methods for assessing credit risk, i.e., the Advanced Internal Rating-Based (AIRB) Approach and the Standardized Approach, as defined by the Basel Accord to determine minimum regulatory capital requirements for most of its portfolios.

The main parameters used to measure the credit risk of loans outstanding and undrawn amounts under the AIRB Approach are as follows:

- probability of default (PD), which is the probability of through-the-cycle 12-month default by the obligor, calibrated on a long-run average PD throughout a full economic cycle;
- loss given default (LGD), which represents the magnitude of the loss from the obligor's default that would be expected in an economic downturn and subject to certain regulatory floors, expressed as a percentage of exposure at default;
- exposure at default (EAD), which is an estimate of the amount drawn and of the expected use of any undrawn portion prior to default, and cannot be lower than the current balance.

The methodology as well as the data and the downturn periods used to estimate LGD are described below.

AIRB APPROACH	DATA(1)	DOWNTURN PERIOD(1)	METHODOLOGY FOR CALCULATING LGD
Retail	The Bank's internal historical data from 1996 to 2018	1996-1998 and 2008-2009	LGD based on the Bank's historical internal data on recoveries and losses
Corporate	The Bank's internal historical data from 2000 to 2018 Benchmarking results using: • Moody's observed default price of bonds, from 1983 to 2017 • Global Credit Data Consortium historical loss and recovery database from 1998 to 2018	2000-2003, 2008-2009 and 2015-2016	LGD based on the Bank's historical internal data on recoveries and losses
Sovereign	Moody's observed default price of bonds, from 1983 to 2015 S&P rating history from 1975 to 2016	1999-2001 and 2008-2012	Based on implied market LGD using observed bond price decreases following the issuer's default
Financial institutions	Global Credit Data Consortium historical loss and recovery database from 1991 to 2013	1991-1992, 1994, 1997-1998, 2001-2002 and 2008-2009	Model for predicting LGD based on different issue- and issuer-related risk drivers

(1) The performance of the models resulting from the AIRB Approach is measured quarterly, and the methodologies are validated by an independent third party annually. A report on model performance under the AIRB Approach is presented annually to the RMC. According to the most recent performance report, the models continue to perform well and do not require the addition of new data.

Personal Credit Portfolios
This category comprises portfolios of residential mortgage loans, consumer loans and loans to certain small businesses. To assess credit risk, AIRB models are in place for the main portfolios, particularly mortgage loans, home equity lines of credit, credit cards, budget loans, lines of credit and SME retail. A risk analysis based on loan grouping in pools of homogeneous obligor and product profiles is used for overall management of personal credit portfolios. This personal credit assessment approach, which has proven particularly effective for estimating credit defaults and losses, takes a number of factors into account, namely:

- behaviour scoring;
- loan product characteristics;
- collateral provided;
- the length of time on the Bank's balance sheet;
- loan status (active, delinquent or defaulted).

This mechanism provides adequate risk measurement inasmuch as it effectively differentiates risk levels by pool. Therefore, the results are periodically reviewed and, if necessary, adjustments are made to the models. Obligor migrations between pools are among the factors considered in the credit risk assessment.

Loan pools are also established based on PD, LGD, and EAD, which are measured based on the characteristics of the obligor and the transaction itself. The credit risk of these portfolios is estimated using credit scoring models that determine the obligor's PD. LGD is estimated based on transaction-specific factors such as loan product characteristics (for example, a line of credit versus a term loan), loan-to-value ratio and types of collateral.

Credit scoring models are also used to grant credit. These models use proven statistical methods that measure debtors' demand characteristics and history based on internal and external historical information to estimate the debtors' future credit behaviour and assign a probability of default. The underlying data include debtor information such as current and past employment, historical loan data in the Bank's management systems and information from external sources such as credit rating agencies.

The Bank also uses behaviour scoring models to manage and monitor current commitments. The risk assessment is based on statistical analyses of the past behaviour of obligors with which the Bank has a long-term relationship in an effort to predict their future behaviour. The underlying information includes the obligor's cash flows and borrowing trends. Information on characteristics that determine behaviour in these models also comes from both internal sources on current commitments and external sources. The table on the following page presents the PD categories and the credit quality of the associated personal credit portfolio.

Mortgage Loan Underwriting
In order to mitigate the impact of an economic slowdown and ensure the long-term quality of its portfolio, the Bank uses sound risk management when granting residential mortgages to confirm: (i) the obligor's intention to meet its financial obligations, (ii) the obligor's ability to repay its debts, and (iii) the quality of the collateral. In addition, in accordance with the applicable rules, the Bank takes a prudent approach to client qualification by using, for example, a higher interest rate to mitigate the risk of short- or medium-term rate increases.

Nonetheless, the risk of economic slowdown could adversely affect the profitability of the mortgage portfolio. In stress test analyses, the Bank considers a variety of scenarios to measure the impact of adverse market conditions. In such circumstances, our analyses show significantly higher credit losses, which would decrease profitability and reduce the Bank's capital ratios.

Business and Government Credit Portfolios
This category comprises business (other than some small businesses that are classified in personal credit portfolios), government and financial institution credit portfolios.

These credit portfolios are assigned a risk rating based on a detailed individual analysis of the financial and non-financial aspects of the obligor, including the obligor's financial strength, sector of economic activity, competitive ability, access to capital management quality and number of years in business. The Bank has risk-rating tools and models enabling it to specifically assess the risk represented by an obligor in relation to its industry and peers. The models used are adapted to the obligor's broad sector of activity. Models are in place for ten sectors: business/commercial, large business, financial institutions, sovereigns, investment funds, energy, real estate, agriculture, insurance, and public-private partnership project financing.

This risk assessment method assigns a default risk rating to an obligor that reflects its credit quality. To each default credit risk rating corresponds a PD (see the table below). Using this classification of obligor credit risk, the Bank can differentiate appropriately between the various assessments of an obligor's capacity to meet its contractual obligations. Default risk ratings are assigned according to an assessment of an obligor's commercial and financial risks based on a solvency review. Various risk quantification models, described below, are used to perform this assessment.

The business and government default risk rating scale used by the Bank is similar to the systems used by major external rating agencies. The following table presents a grouping of the ratings by major risk category and compares them with the ratings of two major rating agencies.

Internal Default Risk Ratings*

Description(1)	Personal credit portfolios	Business and government credit portfolios				
	PD (%) – Retail	Ratings	PD (%) – Corporate and financial institutions	PD (%) – Sovereign	Standard & Poor's	Moody's
Excellent	0.000–0.144	1–2.5	0.000–0.125	0.000–0.094	AAA to A-	Aaa to A3
Good	0.145–0.506	3–4	0.125–0.451	0.094–0.464	BBB+ to BBB-	Baa1 to Baa3
Satisfactory	0.507–2.681	4.5–6.5	0.451–4.743	0.464–6.607	BB+ to B	Ba1 to B2
Special mention	2.682–9.348	7–7.5	4.743–11.161	6.607–19.120	B- to CCC+	B3 to Caa1
Substandard	9.349–9.999	8–8.5	11.161–99.999	19.120–99.999	CCC & CCC-	Caa2 & Caa3
Default	1	9–10	100	100	CC, C & D	Ca, C & D

(1) Additional information is provided in Note 7 – *Loans and Allowances for Credit Losses* to the audited annual consolidated financial statements for the year ended October 31, 2020.

The Bank also uses individual assessment models by industry to assign a risk rating to the credit facility based on the collateral and guarantees the obligor is able to provide and, in some cases, based on other factors. The Bank consequently has a bi-dimensional risk-rating system that, using models and based on internal and external historical data, establishes a default risk rating for each obligor. In addition, the models assign, to each credit facility, an LGD risk rating that is independent of the default risk rating assigned to the obligor.

The Bank's default risk ratings and LGD risk ratings as well as the related risk parameters contribute directly to informed credit-granting, renewal and monitoring decisions. They are also used to determine and analyze risk-based pricing. In addition, from a credit portfolio management perspective, they are used to establish counterparty credit concentration limits and segment concentration limits as well as limits to decision-making power and to determine the credit risk appetite of these portfolios. Moreover, they represent an important component in estimating expected and unexpected losses, measuring minimum required economic capital, and measuring the minimum level of capital required, as prescribed by the regulatory authorities.

The credit risk of obligors and of their facilities is assessed with the PD and LGD parameters at least once a year or more often if significant changes (triggers) are observed when updating financial information or if another qualitative indicator of a deterioration in the obligor's solvency or in the collateral associated with the obligor's facilities is noted. A watchlist also exists that enables the Bank to more actively monitor the financial position of obligors whose default-risk rating is greater than or equal to 7.0. This process seeks to minimize an obligor's default risk and allows for proactive credit risk management.

Validation

The Risk Management Group monitors the effectiveness of the risk-rating systems and associated parameters, which are also reviewed regularly in accordance with the Bank's policies.

Backtesting is performed at regular intervals to validate the effectiveness of the models used to estimate PD, LGD, and EAD. For PD in particular, this backtesting takes the form of sequentially applied statistical tests designed to assess the following criteria:

- the model's discriminatory power;
- overrides;
- model calibration;
- the stability of the model's output.

The credit risk quantification models are developed and tested by a team of specialists and their performance is monitored by the applicable business units and related credit risk management services. Models are validated by a unit that is independent of both the specialists who developed the model and the concerned business units. Approvals of new models or changes to existing models are subject to an escalation process established by the model risk management policy. Furthermore, new models or changes to existing models that markedly impact regulatory capital must be approved by the Board before being submitted to the regulatory agencies, and a summary report of all changes to the models is submitted to the RMC once a year.

The facility and default risk-rating systems, methods and models are also subject to periodic independent validation as often as required given the inherent risk of the activity. Models that have a significant impact on regulatory capital must be reviewed regularly, thereby further raising the certainty that these quantification mechanisms are working as expected.

The key aspects to be validated are factors allowing accurate risk classification by level, adequate quantification of exposure, use of assessment techniques that include external factors such as economic conditions and credit status and, lastly, compliance with internal policies and regulatory provisions. Each year, the Risk Management Group presents a summary report on the validations to the RMC.

The Bank's credit risk assessment and rating systems are overseen by the Models Oversight Committee, the GRC and the RMC, and are an integral part of a comprehensive Bank-wide credit risk oversight framework. Along with the above-mentioned elements, the Bank documents and periodically reviews the policies, definitions of responsibilities, resource allocation and existing processes.

Assessment of Economic Capital

The assessment of the Bank's minimum required economic capital is based on the credit risk assessments of debtors. These two activities are therefore interlinked. The different models used to assess the credit risk of a given portfolio type also enable the Bank to determine the default correlation among debtors. This information is a critical component in the evaluation of potential losses for all portfolios carrying credit risk. Estimates of potential losses, whether expected or not, are based on historical loss experience, portfolio monitoring, market data and statistical modelling. Expected and unexpected losses are factors used in assessing the minimum required economic capital for all of the Bank's credit portfolios. The assessment of economic capital also considers the anticipated potential migrations of obligors' default risk during the remaining term of their credit commitments. The main risk factors that have an impact on economic capital are as follows:

- the obligor's PD;
- EAD;
- LGD;
- the PD correlation among obligors;
- the residual term of credit commitments;
- the impact of economic and sector-based cycles on asset quality.

Stress Testing and Crisis Scenarios

The Bank carries out stress tests to evaluate its sensitivity to crisis situations in certain activity sectors and key portfolios. A global stress test methodology covers most business, government, and personal credit portfolios to provide the Bank with an overview of the situation. By simulating specific scenarios, these tests enable the Bank to measure the level of regulatory capital needed to absorb potential losses and to determine the impact on its solvency. In addition, these tests contribute to portfolio management as they influence the determination of concentration limits by obligor, product or business sector.

Credit-Granting Process

Credit-granting decisions are based first and foremost on the results of the risk assessment. Aside from an obligor's solvency, credit-granting decisions are also influenced by factors such as available collateral, transaction compliance with policies, standards and procedures, and the Bank's overall risk-adjusted return objective. Each credit-granting decision is made by authorities within the risk management teams and management who are independent of the business units and are at a reporting level commensurate with the size of the proposed credit transaction and the associated risk.

Decision-making authority is determined in compliance with the delegation of authority set out in the Credit Risk Management Policy. A person in a senior position in the organization approves credit facilities that are substantial or carry a higher risk for the Bank. The GRC approves and monitors all substantial credit facilities. Credit applications that exceed management's latitudes are submitted to the Board for approval. The credit-granting process demands a high level of accountability from managers, who must proactively manage the credit portfolio.

Review and Renewal Processes

The Bank periodically reviews credit files. The review process enables the Bank to update information on the quality of the facilities and covers, among other things, risk ratings, compliance with credit conditions, and obligor behaviour. In the specific case of business credit portfolios, the credit risk of all obligors is reviewed at least once per year. After this periodic review, for on-demand or unused credit, the Bank decides whether to pursue its business relationship with the obligor and, if so, revises the credit conditions. For personal credit portfolios, the credit risk of all obligors is reviewed monthly.

Risk Mitigation

The Bank also controls credit risk using various risk mitigation techniques. In addition to the standard practice of requiring collateral to guarantee repayment of the credit it grants, the Bank also uses protection mechanisms such as credit derivative financial instruments, syndication and loan assignments as well as an orderly reduction in the amount of credit granted.

The most common method used to mitigate credit risk is to obtain quality collateral from obligors. Obtaining collateral cannot replace a rigorous assessment of an obligor's ability to meet its financial obligations, but, beyond a certain risk threshold, it is an essential complement. In certain circumstances it is not necessary to take guarantees. The need to take collateral depends upon the level of risk presented by the obligor and the type of loan granted. However, if the level of risk to the Bank is considered high, collateral will likely be required. The legal validity and enforceability of any collateral obtained and the Bank's ability to correctly and regularly measure the collateral's value are critical for this mechanism to play its proper role in risk mitigation.

The Bank has established specific requirements in its internal policies with respect to the appropriate legal documentation and assessment for the kinds of collateral that business units may require to guarantee the loans granted. The categories of eligible collateral and the lending value of the collateralized assets have also been defined by the Bank. For the most part, they include the following asset categories as well as guarantees (whether secured by collateral or unsecured) and government and bank guarantees:

- accounts receivable;
- inventories;
- machinery and equipment and rolling stock;
- residential and commercial real estate, office buildings and industrial facilities;
- cash and marketable securities.

Portfolio Diversification and Management

The Bank is exposed to credit risk, not only through outstanding loans and undrawn amounts of commitments to a particular obligor but also through the sectoral distribution of the outstanding loans and undrawn amounts and through the exposure of its various credit portfolios to geographical, concentration and settlement risks.

The Bank's approach to controlling these diverse risks begins with a diversification of exposures. Measures designed to maintain a healthy degree of diversification of credit risk in its portfolios are set out in the Bank's policies, standards and procedures. These instructions are mainly reflected in the application of various exposure limits: credit concentration limits by counterparty and credit concentration limits by business sector, country, region, product, and type of financial instrument. These limits are determined based on the Bank's credit risk appetite framework and are reviewed periodically. Compliance with these limits, particularly exceptions, is monitored through periodic reports submitted by the Risk Management Group's officers to the Board.

Continuous analyses are performed in order to anticipate problems with a sector or obligor before they materialize as defaulted payments.

Other Risk Mitigation Methods

Credit risk mitigation measures for transactions in derivative financial instruments, which are regularly used by the Bank, are described in detail in the Counterparty Risk section.

Credit Derivative Financial Instruments and Financial Guarantee Contracts

The Bank also reduces credit risk by using the protection provided by credit derivative financial instruments such as credit default swaps. When the Bank acquires credit protection, it pays a premium on the swap to the counterparty in exchange for the counterparty's commitment to pay if the underlying entity defaults or another event involving the underlying entity and covered by the legal agreement occurs. Since, like obligors, providers of credit protection must receive a default risk rating, the Bank's standards set out all the criteria under which a counterparty may be judged eligible to mitigate the Bank's credit risk. The Bank may also reduce its credit risk by entering into financial guarantee contracts whereby a guarantor indemnifies the Bank for a loss resulting from an obligor failing to make a payment when due in accordance with the contractual terms of a debt instrument.

Loan Syndication

The Bank has developed specific instructions on the appropriate objectives, responsibilities and documentation requirements for loan syndication.

Follow-Up of Monitored Accounts and Recovery

Credit granted and obligors are monitored on an ongoing basis and in a manner commensurate with the related risk. Loan portfolio managers use an array of intervention methods to conduct a particularly rigorous follow-up on files that show a high risk of default. When loans continue to deteriorate and there is an increase in risk to the point where monitoring has to be increased, a group specialized in managing problem accounts steps in to maximize collection of the disbursed amounts and tailor strategies to these accounts.

In these cases, loan portfolio managers prepare and submit, to the credit department, a detailed monitoring report (watchlist) each month to track the status of at-risk obligors and the corrective measures undertaken. The management of each department concerned performs follow-ups on the reports, and each quarter a credit monitoring committee meets to review the action plans and monitoring reports of obligors that have commitments of $3 million or more. The authority to approve allowances for credit losses is attributed using limits delegated on the basis of hierarchical level under the Credit Risk Management Policy.

Information on the recognition of impaired loans and allowances for credit losses is presented in Notes 1 and 7 to the consolidated financial statements.

Forbearance and Restructuring

Situations where a business or retail obligor begin showing clear signs of potential insolvency are managed on a case-by-case basis and require the use of judgment. The Loan Work Out Policy sets out the principles applicable in such situations to guide loan restructuring decisions and identify situations where distressed restructuring applies. A distressed restructuring situation occurs when the Bank, for economic or legal reasons related to the obligor's financial difficulties, grants the obligor a special concession that is contrary to the Bank's policies. Such concessions could include a lower interest rate, waiver of principal and extension of the maturity date.

The Bank has established a management framework for commercial and corporate obligors that represent higher-than-normal risk of default. It outlines the roles and responsibilities of loan portfolio managers with respect to managing high-risk accounts and the responsibilities of the Work Out units and other participants in the process. Lastly, the Credit Risk Management Policy and a management framework are used to determine the authorization limits for distressed restructuring situations. During fiscal years 2020 and 2019, the amount of distressed loan restructurings was not significant.

Counterparty Risk Assessment

Counterparty risk is a credit risk that the Bank incurs on various types of transactions involving financial instruments. The most significant risks are those it faces when it trades derivative financial instruments with counterparties on the over-the-counter market or when it purchases securities under reverse repurchase agreements or sells securities under repurchase agreements. Securities lending transactions and securities brokerage activities involving derivative financial instruments are also sources of counterparty risk. Note 16 to the consolidated financial statements provides a complete description of the credit risk for derivative financial instruments by type of traded product.

The Risk Management Group has developed models by type of counterparty through which it applies an advanced methodology for calculating the Bank's credit risk exposure and economic capital. The exposures are subject to limits. These two elements are established based on the potential volatility of the underlying assets until expiration of the contract.

Counterparty obligations related to the trading of contracts on derivative financial instruments, securities lending transactions and reverse repurchase agreements are frequently subject to credit risk mitigation measures. The mitigation techniques are somewhat different from those used for loans and advances and depend on the nature of the instrument or the type of contract traded. The most widely used measure is the signing of master agreements: the International Swaps & Derivatives Association, Inc. (ISDA) master agreement, the Global Master Repurchase Agreement (GMRA) and the Global Master Securities Lending Agreement (GMSLA). These agreements make it possible, in the event of default, insolvency or bankruptcy of one of the contracting parties, to apply full netting of the gross amounts of the market values for each of the transactions covered by the agreement in force at the time of default. The amount of the final settlement is therefore the net balance of gains and losses on each transaction, which reduces exposure when a counterparty defaults. The Bank's policies require that an ISDA, GMRA, or GMSLA agreement be signed with most trading counterparties to derivatives, foreign exchange forward contracts, securities lending transactions and reverse repurchase agreements.

Another mechanism for reducing credit risk on derivatives and foreign exchange forward contracts complements the ISDA master agreement in many cases and provides the Bank and its counterparty (or either of the parties, if need be) with the right to request collateral from the counterparty when the net balance of gains and losses on each transaction exceeds a threshold defined in the agreement. These agreements, also known as Credit Support Annexes (CSAs), are mandatory when financial institutions trade between each other in international financial markets since they limit credit risk while providing traders with additional flexibility to continue trading with the counterparty. The Bank always, when required by regulation, uses this type of legal documentation in transactions with financial institutions and governments. For business transactions, the Bank prefers to use internal mechanisms set out in the credit agreements. The Bank's internal policies set the conditions governing the implementation of such mitigation methods.

Requiring collateral as part of a securities lending transaction or reverse repurchase agreement is not solely the result of an internal credit decision. In fact, it is a mandatory market practice imposed by self-regulating organizations in the financial services sector such as the Investment Industry Regulatory Organization of Canada.

The Bank has identified circumstances in which it is likely to be exposed to wrong-way risk, which is generally associated with exposure to counterparty risk and characterized by higher risk for the Bank if a counterparty's PD increases (unfavourable positive correlation). A common wrong-way risk arises from the trading of derivatives contracts with counterparties where the underlying assets may include equity securities issued by those counterparties.

Assessment of Settlement Risk

Settlement risk potentially arises from transactions that feature reciprocal delivery of cash or securities between the Bank and a counterparty. Foreign exchange contracts are an example of transactions that can generate significant levels of settlement risk. However, the implementation of multilateral settlement systems that allow settlement netting among participating institutions has contributed greatly to reducing the risks associated with the settlement of foreign exchange transactions among banks. The Bank also uses financial intermediaries to gain access to established clearing houses in order to minimize settlement risk for certain financial derivative transactions. In some cases, the Bank may have direct access to established clearing houses for settling financial transactions such as repurchase agreements or reverse repurchase agreements. In addition, certain derivative financial instruments traded over the counter are settled directly or indirectly by central counterparties. For additional information, see the table that presents notional amounts in Note 16 to the consolidated financial statements.

There are several other types of transactions that may generate settlement risk, in particular the use of certain electronic fund transfer services. This risk refers to the possibility that the Bank may make a payment or settlement on a transaction without receiving the amount owed by the counterparty, and with no opportunity to recover the funds delivered (irrevocable settlement).

The ultimate means for completely eliminating such a risk is for the Bank to complete no payments or settlements before receiving the funds due from the counterparty. Such an approach cannot, however, be used systematically. For several electronic payment services, the Bank is able to implement mechanisms that allow it to make its transfers revocable or to debit the counterparty in the amount of the settlements before it makes its own transfer. On the other hand, the nature of transactions in financial instruments makes it impossible for such practices to be widely used. For example, on foreign exchange transactions involving a currency other than the U.S. dollar, time zone differentials impose strict payment schedules on the parties. The Bank cannot unduly postpone a settlement without facing significant penalties, due to the large size of amounts involved.

The most effective way for the Bank to control settlement risks, both for financial market transactions and irrevocable transfers, is to impose internal risk limits based on the counterparty's ability to pay.

The amounts shown in the following tables represent the Bank's maximum exposure to credit risk as at the financial reporting date without taking into account any collateral held or any other credit enhancements. These amounts do not take into account allowances for credit losses nor amounts pledged as collateral. The tables also exclude equity securities.

Maximum Credit Risk Exposure Under the Basel Asset Categories*

(millions of Canadian dollars)						As at October 31, 2020
	Drawn	Undrawn commitments	Repo-style transactions(1)	Derivative financial instruments	Other off-balance-sheet items(2)	Total
Retail						
Residential mortgage	57,062	9,751	–	–	–	66,813
Qualifying revolving retail	2,488	6,286	–	–	–	8,774
Other retail	14,394	2,314	–	–	32	16,740
	73,944	18,351	–	–	32	92,327
Non-retail						
Corporate	62,569	24,256	23,804	1	4,772	115,402
Sovereign	58,054	5,638	55,193	180	102	119,167
Financial institutions	3,534	399	66,120	2,350	514	72,917
	124,157	30,293	145,117	2,531	5,388	307,486
Trading portfolio	–	–	–	14,011	–	14,011
Securitization	2,247	–	–	–	3,807	6,054
Total – Gross credit risk	200,348	48,644	145,117	16,542	9,227	419,878
Standardized Approach	20,932	284	14,045	2,394	284	37,939
AIRB Approach	179,416	48,360	131,072	14,148	8,943	381,939
Total – Gross credit risk	200,348	48,644	145,117	16,542	9,227	419,878

(millions of Canadian dollars)						As at October 31, 2019
	Drawn	Undrawn commitments	Repo-style transactions(1)	Derivative financial instruments	Other off-balance-sheet items(2)	Total
Retail						
Residential mortgage	50,328	8,812	–	–	–	59,140
Qualifying revolving retail	2,540	3,046	–	–	–	5,586
Other retail	14,258	1,911	–	–	20	16,189
	67,126	13,769	–	–	20	80,915
Non-retail						
Corporate	56,002	20,527	21,524	1	4,103	102,157
Sovereign	31,308	5,222	36,208	190	148	73,076
Financial institutions	5,200	425	97,423	1,966	629	105,643
	92,510	26,174	155,155	2,157	4,880	280,876
Trading portfolio	–	–	–	12,015	–	12,015
Securitization	1,166	–	–	–	3,598	4,764
Total – Gross credit risk	160,802	39,943	155,155	14,172	8,498	378,570
Standardized Approach	17,166	601	28,571	1,951	119	48,408
AIRB Approach	143,636	39,342	126,584	12,221	8,379	330,162
Total – Gross credit risk	160,802	39,943	155,155	14,172	8,498	378,570

(1) Securities purchased under reverse repurchase agreements and sold under repurchase agreements as well as securities loaned and borrowed.
(2) Letters of guarantee, documentary letters of credit and securitized assets that represent the Bank's commitment to make payments in the event that an obligor cannot meet its financial obligations to third parties.

Market Risk

Market risk is the risk of losses arising from movements in market prices. Market risk comes from a number of factors, particularly changes to market variables such as interest rates, credit spreads, exchange rates, equity prices, commodity prices and implied volatilities. The Bank is exposed to market risk through its participation in trading, investment and asset/liability management activities. Trading activities involve taking positions, on various instruments such as bonds, shares, currencies, commodities or derivative financial instruments. The Bank is exposed to non-trading market risk through its asset/liability management and investment portfolios.

Because of COVID-19 and its impact on global and local economies, the Bank faces a volatile and challenging environment. This exceptional situation has led to significant changes in the overall market environment, including low interest rates, declining stock markets, and falling oil prices.

The trading portfolios include positions in financial instruments and commodities held either with trading intent or to hedge other elements of the trading book. Positions held with trading intent are those held for short-term resale and/or with the intent of taking advantage of actual or expected short-term price movements or to lock in arbitrage profits. These portfolios target one of the following objectives: market making, liquidating positions for clients or selling financial products to clients.

Non-trading portfolios include financial instruments intended to be held to maturity as well as those held for daily cash management or for the purpose of maintaining targeted returns or ensuring asset and liability management.

Governance

A market risk management policy governs global market risk management across the Bank's units and subsidiaries that are exposed to this type of risk. It is approved by the GRC. The policy sets out the principles for managing market risk and the framework that defines risk measures, control and monitoring activities; sets market risk limits; and reports on breaches.

The Financial Markets Risk Committee oversees all Financial Markets segment risks that could adversely affect the Bank's results, liquidity, or capital. This committee also oversees the Financial Markets segment's risk framework to ensure that controls are in place to contain risk in accordance with the Bank's risk appetite framework.

Market risk limits ensure the link and coherence between the Bank's market risk appetite targets and the day-to-day market risk management by all parties involved, notably senior management, business lines and market risk sector in its independent control function. The Bank's monitoring and reporting process consists of comparing market risk exposure to alert levels and market risk limits determined for all limit authorization and approval levels.

Assessing Market Risk

The Risk Management Group uses a variety of risk measures to estimate the size of potential losses under more or less severe scenarios, and using both short-term and long-term time horizons. For short-term horizons, the Bank's risk measures include Value-at-Risk (VaR), Stressed VaR (SVaR), and sensitivity metrics. For long-term horizons or sudden significant market moves, including those due to a lack of market liquidity, the risk measures include stress testing across an extensive range of scenarios.

VaR and SVaR Models

VaR is a statistical measure of risk that is used to quantify market risks by activity and by risk type. VaR is defined as the maximum loss at a specific confidence level over a certain horizon under normal market conditions. The VaR method has the advantage of providing a uniform measurement of financial instrument-related market risks based on a single statistical confidence level and time horizon.

For VaR, the Bank uses a historical price distribution to compute the probable loss levels at the 99% confidence level, using a two-year history of daily time series of risk factor changes. VaR is the maximum daily loss the Bank could incur, in 99 cases out of 100, in a given portfolio. In other words, the loss could exceed that amount in only one out of 100 cases.

The trading VaR is measured by assuming a holding period of one day for ongoing market risk management and a 10-day holding period for regulatory capital purposes. VaR is calculated on a daily basis both for major classes of financial instruments (including derivative financial instruments) and all trading portfolios in the Financial Markets segment and the Bank's Global Funding and Treasury Group.

In addition to the one-day trading VaR, the Bank calculates a trading SVaR, which is a statistical measure of risk that replicates the VaR calculation method but uses, instead of a two-year history of risk factor changes, a 12-month data period corresponding to a continuous period of significant financial stress that is relevant in terms of the Bank's portfolios.

VaR methodology techniques are well suited to measure risks under normal market conditions. VaR metrics are most appropriate as a risk measure for trading positions in liquid financial markets. However, there are limitations in measuring risks with this method when extreme and sudden market risk events occur, since they are likely to underestimate the Bank's market risk. VaR methodology limitations include the following:

- past changes in market risk factors may not always produce accurate predictions of the distribution and correlations of future market movements;
- a VaR with a daily time horizon does not fully capture the market risk of positions that cannot be liquidated or hedged within one day;
- the market risk factor historical database used for VaR calculation may not reflect potential losses that could occur under unusual market conditions (e.g., periods of extreme illiquidity) relative to the historical period used for VaR estimates;
- the use of a 99% VaR confidence level does not reflect the extent of potential losses beyond that percentile.

Given the limitations of VaR, this measure represents only one component of the Bank's risk management oversight, which also incorporates, among other measures, stress testing, sensitivity analysis, concentration and liquidity limits and analysis.

The Bank also conducts backtesting of the VaR model. It consists of comparing the profits and losses to the statistical VaR measure. Backtesting is essential to verifying the VaR model's capacity to adequately forecast the maximum risk of market losses and thus validate, retroactively, the quality and accuracy of the results obtained using the model. If the backtesting results present material discrepancies, the VaR model could be revised in accordance with the Bank's model risk management framework. All market risk models and their performance are subject to periodic independent validation by the model vetting group.

Controlling Market Risk

A comprehensive set of limits is applied to measures of market risk, and these limits are monitored and reported on a regular basis. Instances when limits are exceeded are reported to the appropriate management level. The risk profiles of our operations remain consistent with its risk appetite and the resulting limits, and are monitored and reported to traders, management of the applicable business unit, senior executives and Board committees.

The Bank also uses economic capital for market risk as an indicator for risk appetite and limits setting. This indicator measures the amount of capital that is required to absorb unexpected losses due to market risk events over a one-year horizon and with a determined confidence level. For additional information on economic capital, see the Capital Management section of this MD&A.

The following tables provide a breakdown of the Bank's Consolidated Balance Sheet into assets and liabilities by those that carry market risk and those that do not carry market risk, distinguishing between trading positions whose main risk measures are VaR and SVaR and non-trading positions that use other risk measures.

Reconciliation of Market Risk With Consolidated Balance Sheet Items

(millions of Canadian dollars)					As at October 31, 2020
		Market risk measures			
	Balance sheet	Trading(1)	Non-Trading(2)	Not subject to market risk	Non-traded risk primary risk sensitivity
Assets					
Cash and deposits with financial institutions	29,142	617	12,799	15,726	Interest rate(3)
Securities					
At fair value through profit or loss	78,326	75,279	3,047	–	Interest rate(3) and equity(4)
At fair value through other comprehensive income	12,726	–	12,726	–	Interest rate(3) and equity(5)
At amortized cost	11,079	–	11,079	–	Interest rate(3)
Securities purchased under reverse repurchase agreements and securities borrowed	14,512	–	14,512	–	Interest rate(3)(6)
Loans and acceptances, net of allowances	164,740	7,545	157,195	–	Interest rate(3)
Derivative financial instruments	13,422	13,207	215	–	Interest rate(7) and exchange rate(7)
Defined benefit asset	126	–	126	–	Other(8)
Other	7,552	–	–	7,552	
	331,625	96,648	211,699	23,278	
Liabilities					
Deposits	215,878	9,998	205,880	–	Interest rate(3)
Acceptances	6,866	–	6,866	–	Interest rate(3)
Obligations related to securities sold short	16,368	16,368	–	–	
Obligations related to securities sold under repurchase agreements and securities loaned	33,859	–	33,859	–	Interest rate(3)(6)
Derivative financial instruments	12,923	12,300	623	–	Interest rate(7) and exchange rate(7)
Liabilities related to transferred receivables	22,855	6,135	16,720	–	Interest rate(3)
Defined benefit liability	201	–	201	–	Other(8)
Other	5,517	–	64	5,453	Interest rate(3)
Subordinated debt	775	–	775	–	Interest rate(3)
	315,242	44,801	264,988	5,453	

(1) Trading positions whose risk measures are VaR and SVaR. For additional information, see the tables on the following pages that show the VaR and SVaR distributions of the trading portfolios by risk category as well as their correlation effect.
(2) Non-trading positions that use other risk measures.
(3) For additional information, see the tables on the following pages that show the VaR and SVaR distributions of the trading portfolios by risk category and their correlation effect as well as the interest rate sensitivity tables.
(4) For additional information, see Note 6 to the consolidated financial statements.
(5) The fair value of equity securities designated at fair value through other comprehensive income is presented in Notes 3 and 6 to the consolidated financial statements.
(6) These instruments are recorded at amortized cost and are subject to credit risk for capital management purposes. For trading-related transactions with maturities of more than one day, interest rate risk is included in the VaR and SVaR measures.
(7) For additional information, see Notes 16 and 17 to the consolidated financial statements.
(8) For additional information, see Note 23 to the consolidated financial statements.

(millions of Canadian dollars)					As at October 31, 2019
		Market risk measures			
	Balance sheet	Trading[(1)]	Non-trading[(2)]	Not subject to market risk	Non-traded risk primary risk sensitivity
Assets					
Cash and deposits with financial institutions	13,698	579	12,609	510	Interest rate[(3)]
Securities					
At fair value through profit or loss	61,823	58,170	3,653	–	Interest rate[(3)] and equity[(4)]
At fair value through other comprehensive income	10,648	–	10,648	–	Interest rate[(3)] and equity[(5)]
At amortized cost	9,755	–	9,755	–	Interest rate[(3)]
Securities purchased under reverse repurchase agreements and securities borrowed	17,723	–	17,723	–	Interest rate[(3)(6)]
Loans and acceptances, net of allowances	153,251	6,060	147,191	–	Interest rate[(3)]
Derivative financial instruments	8,129	7,134	995	–	Interest rate[(7)] and exchange rate[(7)]
Defined benefit asset	38	–	38	–	Other[(8)]
Other	6,393	–	–	6,393	
	281,458	71,943	202,612	6,903	
Liabilities					
Deposits	189,566	9,869	179,697	–	Interest rate[(3)]
Acceptances	6,893	–	6,893	–	Interest rate[(3)]
Obligations related to securities sold short	12,849	12,849	–	–	
Obligations related to securities sold under repurchase agreements and securities loaned	21,900	–	21,900	–	Interest rate[(3)(6)]
Derivative financial instruments	6,852	6,123	729	–	Interest rate[(7)] and exchange rate[(7)]
Liabilities related to transferred receivables	21,312	5,165	16,147	–	Interest rate[(3)]
Defined benefit liability	374	–	374	–	Other[(8)]
Other	5,803	24	911	4,868	Interest rate[(3)]
Subordinated debt	773	–	773	–	Interest rate[(3)]
	266,322	34,030	227,424	4,868	

(1) Trading positions whose risk measures are VaR and SVaR. For additional information, see the tables on the following pages that show the VaR and SVaR distributions of the trading portfolios by risk category as well as their correlation effect.
(2) Non-trading positions that use other risk measures.
(3) For additional information, see the tables on the following pages that show the VaR and SVaR distributions of the trading portfolios by risk category and their correlation effect as well as the interest rate sensitivity tables.
(4) For additional information, see Notes 6 to the consolidated financial statements.
(5) The fair value of equity securities designated at fair value through other comprehensive income is presented in Notes 3 and 6 to the consolidated financial statements.
(6) These instruments are recorded at amortized cost and are subject to credit risk for capital management purposes. For trading-related transactions with maturities of more than one day, interest rate risk is included in the VaR and SVaR measures.
(7) For additional information, see Notes 16 and 17 to the consolidated financial statements.
(8) For additional information, see Note 23 to the consolidated financial statements.

Trading Activities

The first table below shows the VaR distribution of trading portfolios by risk category as well as their correlation effect. The second table on the next page shows the SVaR distribution, i.e., the VaR of the Bank's current portfolios obtained following the calibration of risk factors over a 12-month stress period.

VaR of Trading Portfolios by Risk Category[(1)]*

Year ended October 31 (millions of Canadian dollars)				2020				2019
	Low	High	Average	Period end	Low	High	Average	Period end
Interest rate	(4.0)	(15.6)	(7.4)	(8.0)	(4.0)	(7.1)	(5.3)	(4.4)
Foreign exchange	(0.3)	(2.7)	(0.9)	(1.5)	(0.4)	(1.8)	(0.8)	(1.3)
Equity	(2.7)	(17.5)	(8.3)	(8.0)	(2.8)	(6.0)	(3.8)	(3.8)
Commodity	(0.6)	(2.1)	(1.0)	(0.8)	(0.5)	(1.5)	(1.0)	(1.2)
Correlation effect[(2)]	n.m.	n.m.	8.0	9.1	n.m.	n.m.	4.8	4.4
Total trading VaR	(4.6)	(19.6)	(9.6)	(9.2)	(3.8)	(8.9)	(6.1)	(6.3)

n.m. Computation of a correlation effect for the high and low is not meaningful, as highs and lows may occur on different days and be attributable to different types of risk.
(1) Amounts are presented on a pre-tax basis and represent one-day VaR using a 99% confidence level.
(2) The total trading VaR is less than the sum of the individual risk factor VaR results due to the correlation effect.

SVaR of Trading Portfolios by Risk Category[(1)]*

Year ended October 31 (millions of Canadian dollars)				2020				2019
	Low	High	Average	Period end	Low	High	Average	Period end
Interest rate	(4.7)	(23.2)	(13.5)	(15.1)	(11.8)	(26.6)	(16.4)	(15.1)
Foreign exchange	(0.3)	(9.1)	(1.3)	(1.6)	(0.6)	(4.1)	(1.4)	(2.0)
Equity	(4.8)	(36.1)	(13.1)	(8.4)	(4.5)	(14.4)	(7.3)	(8.9)
Commodity	(0.5)	(2.7)	(1.4)	(0.6)	(1.1)	(4.0)	(2.1)	(2.7)
Correlation effect[(2)]	n.m.	n.m.	12.2	7.8	n.m.	n.m.	14.2	13.4
Total trading SVaR	(6.9)	(39.9)	(17.1)	(17.9)	(9.0)	(17.8)	(13.0)	(15.3)

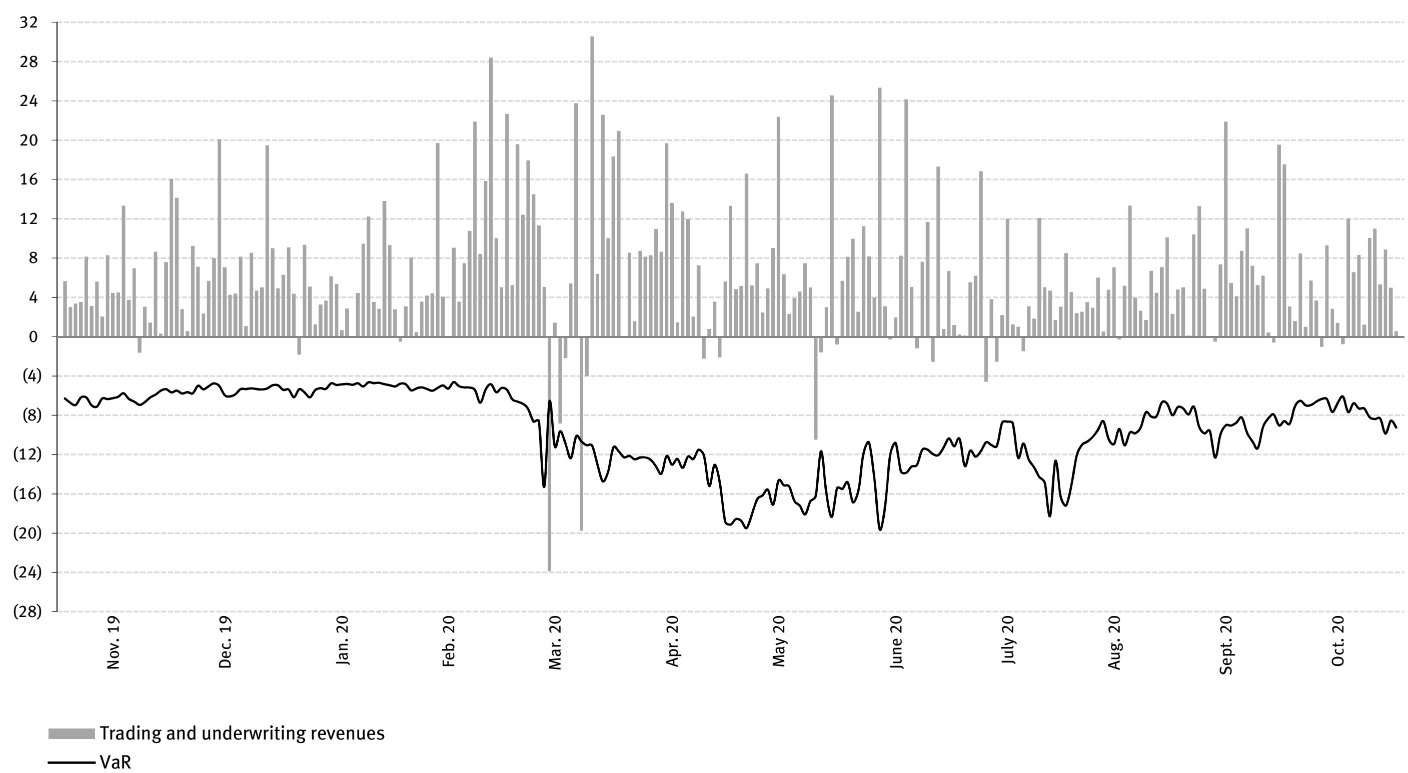
n.m. Computation of a correlation effect for the high and low is not meaningful, as highs and lows may occur on different days and be attributable to different types of risk.
(1) Amounts are presented on a pre-tax basis and represent one-day SVaR using a 99% confidence level.
(2) The total trading SVaR is less than the sum of the individual risk factor SVaR results due to the correlation effect.

The average total trading VaR increased from $6.1 million for fiscal year 2019 to $9.6 million for fiscal 2020. The average total trading SVaR was also up, rising to $17.1 million in fiscal 2020 from $13.0 million in fiscal 2019. These increases are mainly driven by an increase of equity risk caused by more pronounced market volatility related to the COVID-19 crisis in the second quarter of 2020, which also resulted in new tail scenarios being added to the two-year VaR history window. Moreover, in the third quarter of 2020, the Bank changed the SVaR simulation period to encompass the COVID-19 crisis.

The revenues generated by trading activities are compared with VaR as a backtesting assessment of the appropriateness of this risk measure as well as the financial performance of trading activities relative to the risk undertaken.

The table below shows daily trading and underwriting revenues and VaR. Daily trading and underwriting revenues were positive on 90% of the days for the year ended October 31, 2020. Daily trading and underwriting losses in excess of $1 million were recorded on 17 days, and on two of those days, the losses exceeded the VaR. Those two days of losses occurred in March 2020 as a result of significant market volatility caused by the COVID-19 crisis.

Daily Trading and Underwriting Revenues
(millions of Canadian dollars)



Stress Testing and Crisis Scenarios
Stress testing is a risk management technique that consists of estimating potential losses under abnormal market conditions and risk factor movements. This technique enhances transparency by exploring a range of severe but plausible events.

These crises scenarios simulate the results that the portfolios would generate if the extreme scenarios in question were to occur. The Bank's stress testing framework, which is applied to all positions generating market risk currently comprises the following range of different stress test scenarios:

- Historical scenarios based on past major disruption situations
- Hypothetical scenarios designed to be forward-looking in the face of potential market stresses
- Scenarios specific to asset classes, including:
  - sharp parallel increases/decreases in interest rates; non-parallel movements (flattening and steepening) and increases/decreases in credit spreads;
  - sharp stock market crash coupled with a significant increase in volatility; increase in stock prices associated with less volatility; increase in the volatility of the term structure coupled with a decrease in stock prices;
  - significant increases/decreases in commodity prices coupled with increases/decreases in volatility; short-term and long-term increases/decreases in commodity prices;
  - depreciation/appreciation of the U.S. dollar and of other currencies relative to the Canadian dollar.

Structural Interest Rate Risk
As part of its core banking activities, such as lending and deposit taking, the Bank is exposed to interest rate risk. Interest rate risk is the potential negative impact of interest rate fluctuations on the Bank's annual net interest income and economic value of equity. Activities related to hedging, investments and term funding are also exposed to structural interest rate risk. The Bank's main exposure to interest rate risk stems from a variety of sources:

- yield curve risk, which refers to changes in the level, slope and shape of the yield curve;
- repricing risk, which arises from timing differences in the maturity and repricing of on- and off-balance-sheet items;
- options risk, either implicit (e.g., prepayment of mortgage loans) or explicit (e.g., capped mortgages and rate guarantees) in balance sheet products;
- basis risk that is caused by imperfect correlation between different yield curves.

The Bank's exposure to structural interest rate risk is assessed and controlled mostly through the impact of stress scenarios and market shocks on the economic value of the Bank's equity and on 12-month net interest income projections. These metrics are based on cash flow projections prepared using a number of assumptions. Specifically, the Bank has developed key assumptions on loan prepayment levels, deposit redemptions, and the behaviour of customers that were granted rate guarantees. These specific assumptions were developed based on historical analyses and are reviewed frequently.

Funds transfer pricing is a process by which the Bank's business units are charged or paid according to their use or supply of funding. Through this mechanism, all funding activities as well as the interest rate risk and liquidity risk associated with those activities are centralized in the Global Funding and Treasury Group.

Active management of structural interest rate risk can significantly enhance the Bank's profitability and add to shareholder value. The Bank's goal is to maximize its economic value of equity and annual net interest income considering the Bank's risk appetite. This has to be accomplished within prescribed risk limits and is done primarily by implementing a policy framework approved by the Board, which establishes a risk tolerance threshold, monitoring structures controlled by the various committees, risk indicators, reporting procedures, delegation of responsibilities and segregation of duties. The Bank also prepares an annual funding plan that incorporates the expected growth of assets and liabilities.

Governance
Management of the Bank's structural interest rate risk is mandated to the Global Funding and Treasury Group. In this role, the executives and personnel of this group are responsible for the day-to-day management of the risks inherent to structural interest rate risk hedging decisions and operations. They act as the primary effective challenge function with respect to the execution of these activities. The Office of the President approves and endorses the structural interest rate exposure and strategies on the recommendation of the Global Funding and Treasury Group. The Risk Management Group is responsible for assessing structural interest rate risk, monitoring activities, and ensuring compliance with the structural interest rate risk policy. The Risk Management Group ensures that an appropriate risk management framework is in place and ensures compliance with the risk appetite framework and policy. Structural interest rate risk supervision is mainly provided by the Financial Markets Risk Committee. This committee reviews exposure to structural interest rate risk, the use of limits, and changes made to assumptions.

Stress Testing and Crisis Scenarios

Stress tests are performed on a regular basis to assess the impact of various scenarios on annual net interest income and on the economic value of equity in order to guide the management of structural interest rate risk. Crisis scenarios are performed where the yield curve level, slope and shape are shocked. Yield curve basis and volatility scenarios are also performed. All risk factors mentioned above are covered by specific scenarios and have Board-approved or GRC-approved risk limits.

Dynamic simulation is also used to project the Bank's future net interest income, future economic value and future structural interest rate risk exposure. These simulations project cash flows of assets, liabilities and off-balance-sheet products over a given investment horizon. Given their dynamic nature, they encompass assumptions pertaining to changes in volume, client term preference, prepayments of deposits and loans, and the yield curve.

The following tables present the potential before-tax impact of an immediate and sustained 100-basis-point increase or of an immediate and sustained 25-basis-point decrease in interest rates on the economic value of equity and on the net interest income of the Bank's non-trading portfolios for the next 12 months, assuming no further hedging is undertaken. In the current environment of very low interest rates, the Bank believes that a sensitivity analysis reflecting an immediate and sustained 25-basis-point decrease in interest rates provides more relevant information.

Interest Rate Sensitivity – Non-Trading Activities (Before Tax)*

As at October 31 (millions of Canadian dollars)			**2020**			2019
	Canadian dollar	**Other currencies**	**Total**	Canadian dollar	Other currencies	Total
Impact on equity						
100-basis-point increase in the interest rate	**(239)**	**15**	**(224)**	(178)	40	(138)
25-basis-point decrease in the interest rate	**49**	**(4)**	**45**	54	(1)	53
Impact on net interest income						
100-basis-point increase in the interest rate	**(31)**	**21**	**(10)**	(26)	42	16
25-basis-point decrease in the interest rate	**5**	**(5)**	**–**	19	(2)	17

Investment Governance

The Bank has created securities portfolios in liquid and less liquid securities for strategic, long-term investment and liquidity management purposes. These investments carry market risk, credit risk, liquidity risk and concentration risk.

The investment governance sets out the guiding principles and general management standards that must be followed by all those who manage portfolios of these securities included in the portfolios of the Bank and its subsidiaries. Under this investment governance, business units that are active in managing these types of portfolios must adopt internal investment policies that set, among other things, targets and limits for the allocation of assets in the portfolios concerned and internal approval mechanisms. The primary objective is to reduce concentration risk by industry, issuer, country, type of financial instrument and credit quality.

Overall limits in value and in proportion to the Bank's equity are set on the outstanding amount of liquid preferred shares, liquid equity securities excluding preferred shares, and instruments classified as illiquid securities in the securities portfolios. The overall exposure to common shares with respect to an individual issuer and the total outstanding amount invested in private equity funds, for investment banking services, are also subject to limits. Restrictions are also set on investments defined as special. Lastly, the Bank has a specific strategic investment policy, approved by the Board, which defines strategic investments as purchases of business assets or acquisitions of significant interests in an entity for purposes of acquiring control or creating a long-term relationship.

Structural Foreign Exchange Risk

The Bank's structural foreign exchange risk arises from investments in foreign operations denominated in currencies other than the Canadian dollar. This risk, predominantly in U.S. dollars, is measured by assessing the impact of currency fluctuations on net interest income and shareholders' equity. The Bank uses financial instruments (derivative and non-derivative) to hedge some of this risk. An adverse change in foreign exchange rates can also impact the Bank's capital ratios due to the amount of RWA denominated in a foreign currency. When the Canadian dollar depreciates relative to other currencies, unrealized translation gains on the Bank's net investments in foreign operations, net of related hedges, are reported in other comprehensive income in shareholders' equity. In addition, the Canadian-dollar equivalent of U.S.-dollar-denominated RWA and regulatory capital deductions increases. The reverse is true when the Canadian dollar appreciates relative to the U.S. dollar. The structural foreign exchange risk exposure is managed to ensure that the potential impacts on the capital ratios and net income are within tolerable limits set by risk policies.

Liquidity and Funding Risk

Liquidity and funding risk is the risk that the Bank will be unable to honour daily cash and financial obligations without resorting to costly and untimely measures. Liquidity and funding risk arises when sources of funds become insufficient to meet scheduled payments under the Bank's commitments. Liquidity risk stems from mismatched cash flows related to assets and liabilities as well as the characteristics of certain products such as credit commitments and non-fixed-term deposits.

The Bank's primary objective as a financial institution is to manage liquidity such that it supports the Bank's business strategy and allows it to honour its commitments when they come due, even in extreme conditions. This is done primarily by implementing a policy framework approved by the Board, which establishes a risk appetite, monitoring structures controlled by various committees, risk indicators, reporting procedures, delegation of responsibilities and segregation of duties. The Bank also prepares an annual funding plan that incorporates the expected growth of assets and liabilities.

COVID-19 has affected overall economic and market conditions. The Bank is facing a challenging and volatile environment, but its sound liquidity and funding management is helping it maintain an optimal balance between its sources of cash and anticipated payments.

Regulatory Environment

The Bank works closely with national and international regulators to implement regulatory liquidity standards. The Bank adapts its processes and policies to reflect the Bank's liquidity risk appetite towards these new requirements.

The *Liquidity Adequacy Requirements* are reviewed annually to reflect domestic and international regulatory changes. They constitute OSFI's proposed liquidity framework and include six chapters:

- overview;
- liquidity coverage ratio (LCR);
- net stable funding ratio (NSFR);
- net cumulative cash flow (NCCF);
- liquidity monitoring tools;
- intraday liquidity monitoring tools.

The LCR is used to ensure that banks can overcome severe short-term stress, while the NSFR is a structural ratio over a one-year horizon. The NCCF metric is defined as a monitoring tool that calculates a survival period. It is based on the assumptions of a stress scenario prescribed by OSFI that aims to represent a combined systemic and bank-specific crisis.

The Bank publishes the LCR on a quarterly basis. It is currently monitoring the NSFR ratio and will be compliant therewith as of the effective date of January 1, 2021. On April 11, 2019, OSFI published the final version of the *Net Stable Funding Ratio Disclosure Requirements* guideline, which sets out NSFR ratio disclosure requirements for D-SIBs. These requirements are applicable since January 1, 2020, but since OSFI introduced an additional year to implement the disclosure framework, they will take effect on January 1, 2021. On April 11, 2019, OSFI also issued a new version of its *Liquidity Adequacy Requirements* guideline, which came into effect on January 1, 2020. This version differs from the previous one and seeks to ensure that liquidity risk measuring and monitoring standards reflect current sound practices.

On March 27, 2020, OSFI took extraordinary measures in response to the operational difficulties caused by the spread of COVID-19. OSFI expects banks to draw on the unencumbered HQLA assets they hold within the liquidity coverage ratio (LCR) as a defense both against the potential onset of liquidity stress and during a period of liquidity stress. OSFI has also provided guidance on the treatment of new government facilities in the calculation of regulatory liquidity ratios. In addition, the Bank of Canada has taken more comprehensive measures to ensure that the financial system continues to play its role of providing credit where it is needed. For more information, see the section "COVID-19 Pandemic – Regulatory Flexibility Measures" of this MD&A on pages 20 and 21.

On April 9, 2020, OSFI issued a press release announcing regulatory flexibility measures related to COVID-19 efforts. The release refers to delaying the implementation of changes to specific regulatory returns to limit the impact on institutions, while ensuring that important data continues to be collected.

The Bank continues to closely monitor regulatory developments and actively participates in various consultation processes.

Governance

The Global Funding and Treasury Group is responsible for managing liquidity and funding risk. Although the day-to-day and strategic management of risks associated with liquidity, funding and pledging activities is assumed by the Global Funding and Treasury Group, the Risk Management Group is responsible for assessing liquidity risk and overseeing compliance with the resulting policy. The Risk Management Group ensures that an appropriate risk management framework is in place and ensures compliance with the risk appetite framework. This structure provides an independent oversight and effective challenge for the liquidity, funding and pledging decisions, strategy, and exposure.

The Bank's Liquidity, Funding and Pledging Governance policy requires review and approval by the RMC, based on recommendations from the GRC. The Bank has established two levels of limits. The first level of limits encompasses the Bank's overall liquidity position and is Board approved, while the second level of limits is more focused on specific elements of liquidity risk and is approved by the GRC. The Board not only approves the supervision of day-to-day risk management and governance but also backup plans in anticipation of emergency and liquidity crisis situations. If a limit has to be revised, the Risk Management Group with the support of the Global Funding and Treasury Group, submits the proposed revision to the GRC. If the latter approves the request, it is presented to the Board for approval only if a level-one limit is concerned.

Oversight of liquidity risk is entrusted mainly to the Financial Markets Risk Committee, whose members include representatives of the Financial Markets segment, the Global Funding and Treasury Group, the Risk Management Group, and Internal Audit.

The Bank also has policies and guidelines governing its own collateral pledged to counterparties, given the potential impact of such asset transfers on its liquidity. In accordance with its Liquidity, Funding & Pledging Policy, the Bank conducts simulations of potential counterparty collateral claims under the CSAs in effect in the event of a Bank downgrade or other unlikely occurrences. The simulations are based on various Bank downgrading scenarios or market value fluctuations of transactions covered by CSAs.

Through the Financial Markets Risk Committee, the Risk Management Group regularly reports changes in liquidity, funding and pledging indicators and compliance with regulatory, Board and GRC approved limits. If control reports indicate non-compliance with the limits and, generally, deterioration of liquidity indicators, the Global Funding and Treasury Group takes remedial action. According to the escalation process, problematic situations are reported to management and to the GRC and the RMC. An executive report on the Bank's liquidity and funding risk management, which describes the Bank's liquidity position and informs the Board of non-compliance with the limits and other rules observed during the reference period as well as remedial action taken, is submitted quarterly to the RMC.

Liquidity Management

The Bank performs liquidity management, funding and pledging operations not only from its head office and regional offices in Canada, but also through certain foreign centres. Although the volume of such operations abroad represents a sizable portion of global liquidity management, the Bank's liquidity management is centralized. By organizing liquidity management, funding and pledging activities within the Global Funding and Treasury Group, the Bank can better coordinate enterprise-wide funding and risk monitoring activities. All internal funding transactions between Bank entities are controlled by the Global Funding and Treasury Group.

This centralized structure streamlines the allocation and control of liquidity management, funding and pledging limits. Nonetheless, the Liquidity, Funding and Pledging Governance policy contains special provisions for the financial centres that are most active in terms of institutional funding and sets limits and monitoring thresholds for secured and unsecured short-term funding, both in absolute value and materiality.

The Bank's funds transfer pricing system prices liquidity by allocating the cost or income to the various business segments. Liquidity costs are allocated to liquidity-intensive activities, mainly long-term loans, and commitments to extend credit and less liquid securities as well as strategic investments. The liquidity compensation is credited to the suppliers of funds, primarily funding in the form of stable deposits from the Bank's distribution network.

Short-term day-to-day funding decisions are based on a daily cumulative net cash position, which is controlled using liquidity ratio limits. Among these ratios and metrics, the Bank pays particular attention to the funds obtained on the wholesale market and to cumulative cash flows over various time horizons.

Moreover, the Bank's collateral pledging activities are monitored in relation to the different limits set by the Bank and are subject to monthly stress tests using simulations. In particular, the Bank uses various scenarios to estimate the potential amounts of additional collateral that would be required in the event of a downgrade to the Bank's credit rating.

Liquidity risk can be assessed in many different ways using different liquidity indicators. One of the key monitoring tools of liquidity risk is the Bank's survival period based on contractual maturity and behavioural assumptions applied to balance sheet items as well as off-balance-sheet commitments.

Stress Testing and Crisis Scenarios

Using various simulations, survival period measures the number of months it would take to completely utilize the Bank's liquid assets if the Bank were to lose deposits prematurely or if funds from wholesale markets were not renewed at maturity. It is measured monthly using three scenarios, which were developed to assess sensitivity to a Bank-specific and/or systemic crisis. Deposit loss simulations are carried out based on their degree of stability, while the value of certain assets is encumbered by an amount reflecting their readiness for liquidation in a crisis. Appropriate scenarios and limits are included in the Bank's liquidity, funding and pledging governance policy.

The Bank maintains an up-to-date, comprehensive financial contingency and crisis recovery plan that describes the measures to be taken in the event of a critical liquidity situation. This plan is reviewed and approved annually by the Board as part of business continuity and recovery planning. For additional information, see the Regulatory Compliance Risk section of this MD&A.

Liquidity Risk Appetite

The Bank monitors and manages its risk appetite through liquidity limits, ratios and stress tests. The Bank's liquidity risk appetite is based on the following three principles:

- ensure the Bank has a sufficient amount of unencumbered liquid assets to cover its financial requirements, in both normal and stressed conditions;
- ensure the Bank keeps a liquidity buffer above the minimum regulatory requirement;
- ensure the Bank maintains diversified and stable sources of funding.

Liquid Assets

To protect depositors and creditors from unexpected crisis situations, the Bank holds a portfolio of unencumbered liquid assets that can be readily liquidated to meet financial obligations. The majority of unencumbered liquid assets are held in Canadian or U.S. dollars. Moreover, all assets that can be quickly monetized are considered liquid assets. The Bank's liquidity reserves do not factor in the availability of the central bank's emergency liquidity facilities. The following tables provide information on the Bank's encumbered and unencumbered assets.

Liquid Asset Portfolio

As at October 31 (millions of Canadian dollars)	2020 Bank-owned liquid assets(1)	Liquid assets received(2)	Total liquid assets	Encumbered liquid assets(3)	Unencumbered liquid assets	2019 Unencumbered liquid assets
Cash and deposits with financial institutions	29,142	–	29,142	5,871	23,271	9,596
Securities						
Issued or guaranteed by the Canadian government, U.S. Treasury, other U.S. agencies and other foreign governments	31,377	20,200	51,577	30,474	21,103	23,455
Issued or guaranteed by Canadian provincial and municipal governments	15,612	7,514	23,126	15,755	7,371	6,145
Other debt securities	5,722	1,440	7,162	1,830	5,332	5,581
Equity securities	49,420	31,406	80,826	47,480	33,346	26,968
Loans						
Securities backed by insured residential mortgages	9,510	–	9,510	5,560	3,950	2,926
As at October 31, 2020	140,783	60,560	201,343	106,970	94,373	
As at October 31, 2019	103,346	55,310	158,656	83,985		74,671

As at October 31 (millions of Canadian dollars)	2020	2019
Unencumbered liquid assets by entity		
National Bank (parent)	47,135	30,380
Domestic subsidiaries	21,928	14,815
Foreign subsidiaries and branches	25,310	29,476
	94,373	74,671

As at October 31 (millions of Canadian dollars)	2020	2019
Unencumbered liquid assets by currency		
Canadian dollar	50,568	39,172
U.S. dollar	26,099	19,356
Other currencies	17,706	16,143
	94,373	74,671

Liquid Asset Portfolio – Average(4)

Year ended October 31 (millions of Canadian dollars)	2020 Bank-owned liquid assets(1)	Liquid assets received(2)	Total liquid assets	Encumbered liquid assets(3)	Unencumbered liquid assets	2019 Unencumbered liquid assets
Cash and deposits with financial institutions	24,650	–	24,650	4,866	19,784	8,491
Securities						
Issued or guaranteed by the Canadian government, U.S. Treasury, other U.S. agencies and other foreign governments	30,704	22,269	52,973	33,383	19,590	22,995
Issued or guaranteed by Canadian provincial and municipal governments	13,671	7,646	21,317	15,355	5,962	4,442
Other debt securities	6,343	2,014	8,357	2,387	5,970	4,885
Equity securities	44,845	32,926	77,771	46,616	31,155	26,360
Loans						
Securities backed by insured residential mortgages	8,637	–	8,637	5,056	3,581	3,150
As at October 31, 2020	128,850	64,855	193,705	107,663	86,042	
As at October 31, 2019	102,816	62,434	165,250	94,927		70,323

(1) Bank-owned liquid assets include assets for which there are no legal or geographic restrictions.
(2) Securities received as collateral with respect to securities financing and derivative transactions and securities purchased under reverse repurchase agreements and securities borrowed.
(3) In the normal course of its funding activities, the Bank pledges assets as collateral in accordance with standard terms. Encumbered liquid assets include assets used to cover short sales, obligations related to securities sold under repurchase agreements and securities loaned, guarantees related to security-backed loans and borrowings, collateral related to derivative financial instrument transactions, asset-backed securities and liquid assets legally restricted from transfers.
(4) The average is based on the sum of the end-of-period balances of the 12 months of the year divided by 12.

Summary of Encumbered and Unencumbered Assets

(millions of Canadian dollars)						As at October 31, 2020
		Encumbered assets[1]		Unencumbered assets	Total	Encumbered assets as % of total assets
	Pledged as collateral	Other[2]	Available as collateral	Other[3]		
Cash and deposits with financial institutions	344	5,527	23,271	–	29,142	1.8
Securities	34,979	–	67,152	–	102,131	10.5
Securities purchased under reverse repurchase agreements and securities borrowed	–	14,512	–	–	14,512	4.4
Loans and acceptances, net of allowances	37,556	–	3,950	123,234	164,740	11.3
Derivative financial instruments	–	–	–	13,422	13,422	–
Investments in associates and joint ventures	–	–	–	409	409	–
Premises and equipment	–	–	–	1,155	1,155	–
Goodwill	–	–	–	1,414	1,414	–
Intangible assets	–	–	–	1,434	1,434	–
Other assets	–	–	–	3,266	3,266	–
	72,879	20,039	94,373	144,334	331,625	28.0

(millions of Canadian dollars)						As at October 31, 2019
		Encumbered assets[1]		Unencumbered assets	Total	Encumbered assets as % of total assets
	Pledged as collateral	Other[2]	Available as collateral	Other[3]		
Cash and deposits with financial institutions	143	3,959	9,596	–	13,698	1.4
Securities	24,950	–	57,276	–	82,226	8.9
Securities purchased under reverse repurchase agreements and securities borrowed	–	12,850	4,873	–	17,723	4.6
Loans and acceptances, net of allowances	31,835	–	2,926	118,490	153,251	11.3
Derivative financial instruments	–	–	–	8,129	8,129	–
Investments in associates and joint ventures	–	–	–	385	385	–
Premises and equipment	–	–	–	490	490	–
Goodwill	–	–	–	1,412	1,412	–
Intangible assets	–	–	–	1,406	1,406	–
Other assets	–	–	–	2,738	2,738	–
	56,928	16,809	74,671	133,050	281,458	26.2

(1) In the normal course of its funding activities, the Bank pledges assets as collateral in accordance with standard terms. Encumbered assets include assets used to cover short sales, obligations related to securities sold under repurchase agreements and securities loaned, guarantees related to security-backed loans and borrowings, collateral related to derivative financial instrument transactions, asset-backed securities, residential mortgage loans securitized and transferred under the Canada Mortgage Bond program, assets held in consolidated trusts supporting the Bank's funding activities and mortgage loans transferred under covered bond programs.
(2) Other encumbered assets include assets for which there are restrictions and therefore cannot be used for collateral or funding purposes as well as assets used to cover short sales.
(3) Other unencumbered assets are assets that cannot be used for collateral or funding purposes in their current form. This category includes assets that are potentially eligible as funding program collateral (e.g., mortgages insured by the Canada Mortgage and Housing Corporation that can be securitized into mortgage-backed securities under the *National Housing Act* (Canada)).

Liquidity Coverage Ratio (LCR)

The LCR was introduced primarily to ensure that banks could withstand periods of severe short-term stress. OSFI has been requiring Canadian banks to maintain a minimum LCR of 100%. An LCR above 100% ensures that banks are holding sufficient high-quality liquid assets (HQLA) to cover net cash outflows given a severe, 30-day liquidity crisis. The assumptions underlying the LCR scenario were established by the BCBS and OSFI.

The following table provides average LCR data calculated using the daily figures in the quarter. For the quarter ended October 31, 2020, the Bank's average LCR was 161%, well above the 100% regulatory requirement and demonstrating the Bank's solid liquidity position.

LCR Disclosure Requirements[1]

(millions of Canadian dollars)			For the quarter ended
		October 31, 2020	July 31, 2020
	Total unweighted value[2] (average)	Total weighted value[3] (average)	Total weighted value[3] (average)
High-quality liquid assets (HQLA)			
1 Total HQLA	n.a.	68,118	65,250
Cash outflows			
2 Retail deposits and deposits from small business customers, of which:	54,014	4,455	4,274
3 Stable deposits	26,554	797	765
4 Less stable deposits	27,460	3,658	3,509
5 Unsecured wholesale funding, of which:	93,815	51,234	48,995
6 Operational deposits (all counterparties)	17,419	4,205	3,756
7 Non-operational deposits (all counterparties)	68,173	38,806	36,370
8 Unsecured debt	8,223	8,223	8,869
9 Secured wholesale funding	n.a.	16,058	13,500
10 Additional requirements, of which:	43,352	12,056	11,881
11 Outflows related to derivative exposures and other collateral requirements	12,462	6,154	6,391
12 Outflows related to loss of funding on secured debt securities	1,464	1,464	1,258
13 Backstop liquidity and credit enhancement facilities and commitments to extend credit	29,426	4,438	4,232
14 Other contractual commitments to extend credit	3,081	1,497	925
15 Other contingent commitments to extend credit	93,133	1,579	1,584
16 Total cash outflows	n.a.	86,879	81,159
Cash inflows			
17 Secured lending (e.g., reverse repos)	104,438	16,953	18,082
18 Inflows from fully performing exposures	12,283	7,922	7,766
19 Other cash inflows	19,505	19,505	14,190
20 Total cash inflows	136,226	44,380	40,038
		Total adjusted value[4]	Total adjusted value[4]
21 Total HQLA	n.a.	68,118	65,250
22 Total net cash outflows	n.a.	42,499	41,121
23 Liquidity coverage ratio (%)[5]	n.a.	161 %	161 %

n.a. Not applicable
(1) OSFI prescribed a table format in order to standardize disclosure throughout the banking industry.
(2) Unweighted values are calculated as outstanding balances maturing or callable within 30 days (for inflows and outflows).
(3) Weighted values are calculated after the application of respective haircuts (for HQLA) or inflow and outflow rates.
(4) Total adjusted values are calculated after the application of both haircuts and inflow and outflow rates and any applicable caps.
(5) The data in this table has been calculated using averages of the daily figures in the quarter.

As at October 31, 2020, Level 1 liquid assets represented 83% of the Bank's HQLA, which includes cash, central bank deposits, and bonds issued or guaranteed by the Canadian government and Canadian provincial governments.

Cash outflows arise from the application of OSFI-prescribed assumptions on deposits, debt, secured funding, commitments and additional collateral requirements. The cash outflows are partly offset by cash inflows, which come mainly from secured loans and performing loans. The Bank expects some quarter-over-quarter variation between reported LCRs, and such variation may not be indicative of a trend. The variation between the quarter ended October 31, 2020 and the preceding quarter reflects exceptional measures taken by OSFI and the Bank of Canada in response to the operational issues caused by the spread of COVID-19. The Bank's liquid asset buffer is well in excess of its total net cash outflows.

The LCR assumptions differ from the assumptions used for the liquidity disclosures presented in the tables on the previous pages or those used for internal liquidity management rules. While the liquidity disclosure framework is prescribed by the EDTF, the Bank's internal liquidity metrics use assumptions that are calibrated according to its business model and experience.

Intraday Liquidity

The Bank manages its intraday liquidity in such a way that the amount of available liquidity exceeds its maximum intraday liquidity requirements. The Bank monitors its intraday liquidity on an hourly basis and the evolution is presented monthly to the Financial Markets Risk Committee.

Funding Risk

Funding risk is defined as the risk to the Bank's ongoing ability to raise sufficient funds to finance actual or proposed business activities on an unsecured or secured basis at an acceptable price. The Bank maintains a good balance of its funding through appropriate diversification of its unsecured funding vehicles, securitization programs and secured funding. The Bank also diversifies its funding by currency, geography and maturity. The funding management priority is to achieve an optimal balance between deposits, securitization, secured funding and unsecured funding. This brings optimal stability to the funding and reduces vulnerability to unpredictable events.

Funding and liquidity levels remained sound and robust over the year and the Bank does not foresee any event, commitment or demand that might have a significant impact on its funding and liquidity risk position. For additional information, see the table entitled Residual Contractual Maturities of Balance Sheet Items and Off-Balance-Sheet Commitments in Note 29 to the consolidated financial statements.

Credit Ratings

The credit ratings assigned by ratings agencies represent their assessment of the Bank's credit quality based on qualitative and quantitative information provided to them. Credit ratings may be revised at any time based on various factors, including macro-economic factors, methodologies used by ratings agencies, or the current and projected financial condition of the Bank. Credit ratings are one of the main factors that influence the Bank's ability to access financial markets at a reasonable cost. A downgrade in the Bank's credit ratings could adversely affect the cost, size and term of future funding and could also result in increased requirement to pledge collateral or decreased capacity to engage in certain collateralized business activities at a reasonable cost, including hedging and derivatives transactions.

Funding and liquidity levels remained sound and robust, and the Bank continues to enjoy excellent access to the market for its funding needs. The Bank received favourable credit ratings from all the agencies, reflecting the high quality of its debt instruments, and the Bank's objective is to maintain these strong ratings. On April 3, 2020, Fitch Ratings changed the trend on all the Bank's ratings and its related entities from "Stable" to "Negative" to reflect disruption to economic activity and financial markets from the COVID-19 pandemic and on April 30, 2020, DBRS Limited (DBRS) also changed the trend from "Positive" to "Stable" due to uncertainties regarding the negative impact of COVID-19. For Moody's and S&P, the outlook remains unchanged at "Stable." The following table presents the Bank's credit ratings according to four rating agencies as at October 31, 2020.

The Bank's Credit Ratings

				As at October 31, 2020
	Moody's	**S&P**	**DBRS**	**Fitch**
Short-term senior debt	P-1	A-1	R-1 (mid)	F1+
Canadian commercial paper		A-1 (mid)		
Long-term deposits	Aa3		AA (low)	AA-
Long-term non-bail-inable senior debt(1)	Aa3	A	AA (low)	AA-
Long-term senior debt(2)	A3	BBB+	A (high)	A+
NVCC subordinated debt	Baa2 (hyb)	BBB	BBB (high)	
NVCC limited recourse capital notes	Ba1 (hyb)	BB+	BBB	
NVCC preferred shares	Ba1 (hyb)	P-3 (high)	Pfd-2 (low)	
Counterparty risk(3)	Aa3/P-1			AA-
Covered bonds program	Aaa		AAA	AAA
Rating outlook	Stable	Stable	Stable	Negative

(1) Includes senior debt issued prior to September 23, 2018 and senior debt issued on or after September 23, 2018 which is excluded from the Bank Recapitalization (Bail-In) Regime.
(2) Subject to conversion under the Bank Recapitalization (Bail-In) Regime.
(3) Moody's uses the term Counterparty Risk Rating while Fitch uses the term Derivative Counterparty Rating.

Guarantees

As part of a comprehensive liquidity management framework, the Bank regularly reviews its contracts that stipulate that additional collateral could be required in the event of a downgrade of the Bank's credit rating. The Bank's liquidity position management approach already incorporates additional collateral requirements in the event of a one-notch to three-notch downgrade. The table below presents the additional collateral requirements in the event of a one-notch or three-notch credit rating downgrade.

(millions of Canadian dollars)	As at October 31, 2020	
	One-notch downgrade	Three-notch downgrade
Derivatives(1)	25	37

(1) Contractual requirements related to agreements known as Credit Support Annexes.

Funding Strategy

The main objective of the funding strategy is to support the Bank's organic growth while also enabling it to survive potentially severe and prolonged crises and to meet its regulatory obligations and financial targets.

The Bank's funding framework is summarized as follows:

- pursue a diversified deposit strategy to fund core banking activities through stable deposits coming from the networks of each of the Bank's major business segments;
- maintain a sound liquidity risk management through centralized expertise and management of liquidity metrics within predefined risk appetite;
- maintain active access to various markets to ensure a diversification of institutional funding in terms of source, geographic location, currency, instrument and maturity, whether or not funding is secured.

The funding strategy is implemented in accordance with the overall objectives of strengthening the Bank's franchise among market participants and consolidating its excellent reputation. The Bank continuously monitors and analyzes the possibilities for accessing less expensive and more flexible funding. The deposit strategy remains a priority for the Bank, which continues to prefer deposits to institutional funding.

The Bank actively monitors and controls liquidity risk exposures and funding needs within and across entities, business segments, and currencies. The process involves evaluating the liquidity position of individual business segments in addition to that of the Bank as a whole as well as the liquidity risk from raising unsecured and secured funding in foreign currencies. The funding strategy is implemented through the funding plan and deposit strategy, which are monitored, updated to reflect actual results and regularly evaluated.

Diversified Funding Sources

The primary purpose of diversification by source, geographic location, currency, instrument, maturity and depositor is to mitigate liquidity and funding risk by ensuring that the Bank maintains alternative sources of funds that strengthen its capacity to withstand a variety of severe yet plausible institution-specific and market-wide shocks. To meet this objective, the Bank:

- takes funding diversification into account in the business planning process;
- maintains a variety of funding programs to access different markets;
- sets limits on funding concentration;
- maintains strong relationships with fund providers;
- is active in various funding markets of all tenors and for various instruments;
- identifies and monitors the main factors that affect the ability to raise funds.

The Bank is active in the following funding and securitization platforms:

- Canadian dollar Senior Unsecured Debt;
- U.S. dollar Senior Unsecured Debt programs;
- Canadian Medium-Term Note Shelf;
- U.S. dollar Commercial Paper programs;
- U.S. dollar Certificates of Deposit;
- Euro Medium-Term Note program;
- Canada Mortgage and Housing Corporation securitization programs;
- Canadian Credit Card Trust II;
- Legislative Covered Bond program.

The table below presents the residual contractual maturities of the Bank's wholesale funding. The information has been presented in accordance with the categories recommended by the EDTF for comparison purposes with other banks.

Residual Contractual Maturities of Wholesale Funding(1)

(millions of Canadian dollars)								As at October 31, 2020
	1 month or less	Over 1 month to 3 months	Over 3 months to 6 months	Over 6 months to 12 months	Subtotal 1 year or less	Over 1 year to 2 years	Over 2 years	Total
Deposits from banks(2)	671	20	13	–	704	–	–	704
Certificates of deposit and commercial paper(3)	1,521	2,841	5,489	1,787	11,638	–	–	11,638
Senior unsecured medium-term notes(4)(5)	–	–	703	1,038	1,741	2,966	5,801	10,508
Senior unsecured structured notes	–	–	–	–	–	–	2,417	2,417
Covered bonds and asset-backed securities								
Mortgage securitization	–	2,138	311	2,247	4,696	3,430	14,729	22,855
Covered bonds	–	360	1,564	698	2,622	2,880	4,639	10,141
Securitization of credit card receivables	–	–	–	–	–	36	28	64
Subordinated liabilities(6)	–	–	–	–	–	–	775	775
	2,192	5,359	8,080	5,770	21,401	9,312	28,389	59,102
Secured funding	–	2,498	1,875	2,945	7,318	6,346	19,396	33,060
Unsecured funding	2,192	2,861	6,205	2,825	14,083	2,966	8,993	26,042
	2,192	5,359	8,080	5,770	21,401	9,312	28,389	59,102
As at October 31, 2019	3,187	6,098	7,217	6,925	23,427	9,362	30,746	63,535

(1) Bankers' acceptances are not included in this table.
(2) Deposits from banks include all non-negotiable term deposits from banks.
(3) Includes bearer deposit notes.
(4) Certificates of deposit denominated in euros are included in senior unsecured medium-term notes.
(5) Includes deposits subject to bank recapitalization (Bail-In) conversion regulations.
(6) Subordinated debt is presented in this table but the Bank does not consider it as part of its wholesale funding.

Operational Risk

Operational risk is the risk of loss resulting from an inadequacy or a failure ascribable to human resources, equipment, processes, technology or external events. Operational risk exists for every Bank activity. Theft, fraud, cyberattacks, unauthorized transactions, system errors, human error, amendments to or misinterpretation of laws and regulations, litigation or disputes with clients, inappropriate sales practice behaviour or property damage are just a few examples of events likely to cause financial loss, harm the Bank's reputation or lead to regulatory penalties or sanctions.

Although operational risk cannot be eliminated entirely, it can be managed in a thorough and transparent manner to keep it at an acceptable level. The Bank's operational risk management framework is built on the concept of three lines of defence and provides a clear allocation of responsibilities to all levels of the organization, as mentioned below.

Operational Risk Management Framework

The operational risk management framework is described in the Operational Risk Management Policy, which is derived from the Risk Management Policy. The operational risk management framework is aligned with the Bank's risk appetite and is made up of policies, standards, and procedures specific to each operational risk, which fall under the responsibility of specialized groups.

The segments use several operational risk management tools and methods to identify, assess, and monitor their operational risks and control measures. With these tools and methods, the segments can:

- recognize and understand the inherent and residual risks to which their activities and operations are exposed;
- identify how to manage and monitor the identified risks to keep them at an acceptable level;
- proactively and continuously manage risks.

Operational Risk Management Tools and Methods

Collection and Analysis of Data on Operational Events

The Operational Risk Unit applies a process, across the Bank and its subsidiaries, for identifying, collecting and analyzing data on internal operational events. This process includes determining the Bank's exposure to the operational risks and operational losses incurred and assessing the effectiveness of internal controls. It also helps limit operational events, keep losses at an acceptable level and, as a result, reduce potential capital charges and lower the likelihood of damage to the Bank's reputation. These data are processed and saved in a centralized database and are periodically the subject of a quality assurance exercise. During fiscal years 2020 and 2019, there were no material losses resulting from an operational risk event.

Analysis and Lessons Learned From Operational Events Observed in Other Large Businesses

By collecting and analyzing media-reported information about significant operational events, in particular events related to fraud, information security and theft of personal information experienced by other organizations, the Bank can assess the effectiveness of its own operational risk management practices and reinforce them, if necessary.

Operational Risk Self-Assessment Program

The operational risk self-assessment program gives each business unit and corporate unit the means to proactively identify and assess new or major operational risks to which they are exposed, evaluate the effectiveness of mitigating controls, and develop action plans to keep such risks at acceptable levels. As such, the program makes it possible to anticipate certain factors that could hinder performance or the achievement of objectives.

Key Risk Indicators

Key risk indicators are used to monitor the drivers of exposure to major operational risks and track changes in risks to proactively manage them. The business units and corporate units define key indicators associated with their main operational risks and assign tolerance thresholds to them. These indicators are monitored periodically, and when they show a significant increase in risk or when a tolerance threshold is exceeded, they are sent to the appropriate level in the hierarchy and action plans are implemented as required.

Scenario Analysis

Scenario analysis, which is part of a Bank-wide stress testing program, is an important and useful tool for assessing the potential impacts related to potentially serious events. It is used to define the risk appetite, set risk exposure limits, and engage in business planning. More specifically, scenario analysis provides management with a better understanding of the risks faced by the Bank, and helps it make appropriate management decisions to mitigate potential operational risks that are inconsistent with the Bank's risk appetite.

Insurance Program

In order to protect itself against any material losses related to its exposure to unforeseeable operational risks, the Bank also has adequate insurance, the nature and amount of which meet its coverage requirements.

Operational Risk Reports and Disclosures

Operational events for which the financial impact exceeds the tolerance thresholds or that have a significant regulatory or reputation impact are submitted to the decision-making levels concerned. Management is obligated to report on its management process and to remain alert to current and future issues. Reports on the Bank's risk profile, highlights, and emerging risks are periodically submitted, on a timely basis, to the Operational Risk Management Committee, the GRC and the RMC. This reporting enhances the transparency and proactive management of the main operational risk factors.

Regulatory Compliance Risk

Regulatory compliance risk is the risk of the Bank failing to comply with the regulatory requirements in effect where it does business, both in Canada and internationally. Regulatory compliance risk is present in all of the daily operations of each Bank segment. A situation of regulatory non-compliance can adversely affect the Bank's reputation and result in penalties and sanctions or increased oversight by regulators.

Organizational Structure of Compliance
Compliance is an independent oversight function within the Bank. The Senior Vice-President, Chief Compliance Officer and Chief Anti-Money Laundering Officer serves as both chief compliance officer (CCO) and chief anti-money laundering officer (CAMLO). She is responsible for implementing and updating the Bank's programs for regulatory compliance management, regulatory requirements related to AML/ATF, international sanctions, and the fight against corruption. The CCO and CAMLO has a direct reporting relationship with the Chair of the RMC and meets with him at least once every quarter. She can also communicate directly with senior management, officers and directors of the Bank and of its subsidiaries and foreign centres.

Regulatory Compliance Framework
The Bank operates in a highly regulated industry. To ensure sound management of regulatory compliance, the Bank favours proactive approaches and incorporates regulatory requirements into its day-to-day operations.

Such proactive management also provides reasonable assurance that the Bank is in compliance, in all material respects, with the regulatory requirements in effect where it does business, both in Canada and internationally.

The implementation of a regulatory compliance risk management framework across the Bank is entrusted to the Compliance Service, which has the following mandate:

- make sure that policies and standards that ensure compliance with the regulatory requirements are in effect, including those related to AML/ATF, to international sanctions, and to the fight against corruption;
- develop compliance and AML/ATF training programs for Bank employees, officers, and directors;
- exercise independent oversight and monitor the programs, policies, and procedures implemented by the Bank, its subsidiaries, and foreign centres to ensure that the control mechanisms are sufficient, respected, and effective;
- report relevant compliance and AML/ATF matters to the Bank's Board and inform it of any significant changes in the effectiveness of the Bank's risk management framework.

The Bank holds itself to high regulatory compliance risk management standards in order to earn the trust of its clients, its shareholders, the market and the general public.

Described below are the main regulatory developments that have been monitored over the past year.

<u>Consumer Protection</u>
The past year was marked by several regulatory changes, including the *Code of Conduct for the Delivery of Banking Services to Seniors*, Bill C-86 amending the *Bank Act* (Canada), Bill C-81 (*Accessible Canada Act*), the *Canada Deposit Insurance Corporation Act* and the *Consumer Protection Act*. The purpose of these regulatory changes is to ensure that consumers are protected in terms of, among other things, disclosures, building access and employee training. The Bank continuously monitors the regulatory environment to ensure that its practices comply with regulatory changes, as well as with those of the industry. For this reason, it participates in various events that bring together actors in the financial services ecosystem.

<u>Anti-Money Laundering and Anti-Terrorist Financing (AML/ATF) Activities</u>
On July 10, 2019, the Government of Canada published amendments to the regulations under the *Proceeds of Crime (Money Laundering) and Terrorist Financing Act* (2019), which will come into force in two stages. Certain amendments, of which the methods of identification and the delay to submit a suspicious transaction report with Financial Transactions and Reports Analysis Centre of Canada (FINTRAC), came into force in June 2020, and others will come into force in June 2021.

<u>Privacy and Data Protection</u>
Due to changes in technologies and in society at large, privacy and data protection is a topical issue in Canada. In Europe, the new General Data Protection Regulation (GDPR) has been in force since May 2018, and several companies have received substantial penalties for contravening this regulation. In the United States, the state of California was the first to adopt its own stringent *California Consumer Privacy Act* in January 2020. The government of Quebec recently tabled a bill aimed at fostering transparency, increasing the level of data confidentiality and better regulating the collection and use of personal information. A federal bill aimed at modernizing privacy law was also tabled in November 2020 and aims, among other things, to reform the framework for the protection of personal information held by the private sector.

<u>Canada Deposit Insurance Corporation (CDIC)</u>
Changes in the Government of Canada's deposit insurance framework have been published concerning information on co-owned accounts and accounts held in trust as well as on the insurability of certain deposits. Since April 30, 2020, coverage has been extended to insurable deposits in foreign currencies and to term deposits with maturities exceeding five years. In addition, as of April 30, 2022, separate coverage will be granted for Registered Education Savings Plans and Registered Disability Savings Plans. New requirements will also be established for the coverage of deposits in trust, particularly nominee-brokered deposits.

Recovery and Resolution Planning
As part of the regulatory measures used to manage systemic risks, D-SIBs are required to have in place recovery and resolution plans. A recovery plan is essentially a road map that guides the recovery of a bank in the event of severe financial stress; conversely, a resolution plan guides its orderly wind-down in the event of failure when recovery is no longer an option. The Bank improves and periodically updates its recovery and resolution plans to prepare for these high-risk, but low-probability events. In addition, the Bank and other D-SIBs continue to work with the CDIC to develop a comprehensive settlement plan that would ensure orderly winding down of the Bank's operations. These plans are approved by the Board and submitted to the national regulatory bodies.

Section 871(m) – Dividend Equivalent Payments
Section 871(m) of the U.S. Internal Revenue Code aims to ensure that non-U.S. persons pay tax on payments that can be considered dividends on U.S. shares, when these payments are made on certain derivative instruments. The derivative instruments for which the underlyings are U.S. shares or "non-qualified indices" concluded as of January 1, 2017 are subject to the withholding and reporting requirements. The effective date for certain components of this regulation has been deferred to January 1, 2023. Some of the obligations of a qualified derivatives dealer, established under section 871(m) of the IRC and the qualified intermediary agreement have also been deferred to January 1, 2023.

Common Reporting Standard - Foreign Account Tax Compliance Act
The *Foreign Account Tax Compliance Act* (FATCA), an American law, and the Common Reporting Standard (CRS), an international standard, the principles of which have been incorporated into the *Income Tax Act* (Canada), are intended to counter tax evasion by taxpayers through the international exchange of tax information through financial institutions. In order to comply with these regulatory requirements, the Bank and its subsidiaries are required to establish the classification and the status, as the case may be, of the entity that holds the account with the Bank. New Canada Revenue Agency (CRA) rules came into force on January 1, 2020. CRA has published the final version of the guidelines, but the industry is planning to make suggestions to CRA, including deferring the application of the new penalties scheduled for January 1, 2021.

Client-Centered Reforms - Amendments to National Instrument 31-103
On October 3, 2019, the CSA published the final version of amendments to National Instrument 31-103, Registration Requirements, Exemptions and Ongoing Registrant Obligations. Changes related to the client-focused reforms will come into force on December 31, 2021, and they include requirements on the relationship disclosure. Only the conflict-of-interest obligations will come into force on June 30, 2021.

Reform of Benchmark Interest Rates
The reform of benchmark interest rates is a global initiative that is being coordinated and led by central banks and governments around the world, including Canada. The objective is to improve benchmarks by ensuring that they meet robust international standards. The initiative introduces other benchmarks as recommended rates (risk-free rates, such as Secured Overnight Financing Rate (SOFR), Canadian Overnight Repo Rate Average (CORRA) and Europe Short-Term Rate (ESTR)) to replace the Interbank Offered Rate (IBOR), which are the benchmark rates used by the world's major banks for short-term lending in the interbank market. These rates, in particular LIBOR (London Interbank Offered Rates), are widely used around the world as benchmarks for derivative financial instruments, bonds and other variable-rate instruments. To ensure an ordered transition to the risk-free rates recommended for derivatives, the industry has proposed a solution through ISDA (International Swaps and Derivatives Association) via a protocol (2020 IBOR Fallbacks Protocol), as well as a supplement to the 2006 definitions, which come into force on January 25, 2021. For certain other types of contracts, contractual amendments are expected by the end of 2021, at which time certain current rates (in this case, LIBOR rates) are expected to be withdrawn.

Reputation Risk

Reputation risk is the risk that the Bank's operations or practices will be judged negatively by the public, whether that judgment is with or without basis, thereby adversely affecting the perception, image or trademarks of the Bank, potentially resulting in costly litigation or loss of income. Reputation risk generally arises from a deficiency in managing another risk. The Bank's reputation may, for example, be adversely affected by non-compliance with laws and regulations or by process failures. All risks must therefore be managed effectively in order to protect the Bank's reputation.

The Bank seeks to ensure that its employees are constantly aware of the potential repercussions of their actions on the Bank's reputation and image. In addition to its operational risk management initiatives mentioned above, the Bank has a variety of mechanisms to support sound reputation risk management, including codes of professional conduct applicable to all employees, policies regarding ethics and corporate governance and appropriate training programs. The Bank also has a crisis management framework including effective intervention, communication and behavioural parameters in order to minimize the impact on its activities, clients and employees.

The Bank also has a reputation risk policy, approved by the RMC, that covers all of the Bank's practices and activities. The policy sets the reputation risk management principles and rules for clients, employees and communities, all of which are stakeholders of the Bank. The policy is complemented by the special provisions of the new products and activities policy, which determines the approvals required by the various committees that assess risk whenever new products or activities are introduced within the business units. These provisions are intended, among other things, to provide oversight for the management of reputation risk, which may be material for such products or activities. The new products and activities policy requires that any new product or activity for which reputation risk is determined to be high be submitted to the GRC for approval. The activities of the Compliance Service, Legal Affairs Department, Communications and Corporate Social Responsibility Department and Investor Relations Department complete the reputation risk management framework.

Strategic Risk

Strategic risk is the risk of a loss arising from inappropriate strategic orientations, improper execution or ineffective response to economic, financial, or regulatory changes. The corporate strategic plan is developed by the Office of the President, in alignment with the Bank's overall risk appetite, and approved by the Board. Once approved, the initiatives of the strategic plan are monitored regularly to ensure that they are progressing. If not, strategies could be reviewed or adjusted if deemed appropriate.

In addition, the Bank has a specific Board-approved policy for strategic investments, which are defined as purchases of business assets or acquisitions of significant interests in an entity for the purposes of acquiring control or creating a long-term relationship. As such, acquisition projects and other strategic investments are analyzed through a due diligence process to ensure that these investments are aligned with the corporate strategic plan and the Bank's risk appetite.

Environmental and Social Risk

Environmental and social risk represents the potential for environmental or social issues to provoke a financial or operational loss for the Bank and damage to its reputation or impacts on its stakeholders. The Bank is exposed to these risks directly through its operations and indirectly through the activities of clients.

With this in mind, the Bank has adopted environmental, social and governance (ESG) principles that demonstrate the importance it attaches to sustainable development and to maintaining the best balance of interests between societal stakeholders. The Bank has supported various sustainable development initiatives, and continues to implement several initiatives aimed at integrating environmental and social issues into its business and operational decisions. This also implies a continuous and stronger adaptation in the event of major crises, such as natural disasters or health crises such as the COVID-19 crisis, that can considerably affect the global economy and society over an extended period of time. Our Report on Environmental, Social and Governance Advances for 2019, available on the Bank's website at nbc.ca, provides more detailed information on how the Bank identifies and manages these risks.

Disclosure related to the Task Force on Climate-Related Financial Disclosures (TCFD)

In recent years, environmental and climate issues have often been brought front and centre. Mindful of its mobilizing role on environmental issues, in 2018 the Bank announced its support for the Financial Stability Board's TCFD and undertook to communicate the information recommended by this group. In connection with these recommendations, the Bank has identified two types of relevant climate-related risks, i.e., physical risks and transition risks, which it has added to its monitoring of the main risks. The Bank defines physical risks as the potential impacts of increased and intensified extreme weather events that could lead to, among other things, food, energy and resource supply problems, and potentially depreciate the Bank's physical and financial assets. The Bank defines transition risks as the impacts from moving toward a low-emission economy, such as technological changes or public policy directions that could lead to revaluations of the Bank's assets, resulting in new costs or opportunities. The Bank also includes market risk and reputational risk within transition risks.

The TCFD's recommendations are organized into four main pillars representing the operational foundations of an organization: governance, strategy, risk management, and metrics and targets. These four broad categories of recommendations are intended to provide a framework for climate-related financial reporting so that institutional investors can make informed choices about their exposure to climate-related risks and opportunities. The Bank has defined a roadmap for implementing the TCFD's recommendations and is enhancing disclosures related to climate risk management. The Bank is also working with various industry partners to identify and implement sound management practices aimed at promoting the development of a low-carbon economy. The Bank recently published its first report on advances for the Task Force on Climate-Related Financial Disclosure 2020 – TFCD Report, available on the Bank's website at nbc.ca. This report provides detailed information on how it is managing climate-related risks.

Given that climate risk is associated with credit risk and operational risk, the Bank recognizes the importance of integrating several additional control measures into its existing risk management processes and implementing appropriate strategies to mitigate them. To this end, an environmental policy has been implemented that applies to activities and decisions across the Bank. This policy clearly sets out the principles established to identify and limit environmental and climate risks as well as impacts on the community and the Bank's business lines. In the interests of proactively ensuring the strategic positioning of its entire portfolio, the Bank continues to express its desire to support the energy transition toward a lower-carbon economy.

In order to continue to foster economically and socially sustainable development, the Bank has emphasized various measures to combat climate change. The Bank can point to a series of achievements over the past year in response to the four priorities identified in its 2019 Annual Report.

Priority	Achievements	Prospects for the Future
Grow the proportion of its renewable-energy-related funding assets at a faster pace than those related to non-renewable energy	> The renewable energy loan portfolio grew by 107% in the period from 2014 to 2020, while the non-renewable energy loan portfolio declined by 33%.	> Maintain our medium- and long-term commitment. > Incorporate at least one climate-related indicator into our risk appetite framework for fiscal 2021.
Support clients in their energy transitions	> Expansion of the mandate of the renewable energy business development team in 2019. > Financing granted with conditions related to the achievement of climate objectives.	> Continue our dialogue with customers to broaden the sustainable product offering. > Continue to support clients in their energy transitions.
Develop indicators for effectively monitoring the Bank's sustainable development performance	> Adoption, in 2020, of a target for reducing the Bank's own greenhouse gas (GHG) emissions by 25% from 2019 levels by 2025. > Annual calculation of the carbon footprint. > Optimization of energy consumption.	> Achieve our reduction target by following our action plan.
Strengthen the Bank's partnerships with the industry's main change agents in order to meet its commitments	> The Bank as well as the other major Canadian banks are involved in the working committees of various groups, such as the Canadian Bankers Association, Finance Montréal and the Canadian Standards Association. > The Bank is a member of the United Nations Environment Programme Finance Initiative (UNEP FI). > The Bank is a founding signatory of the UN Principles for Responsible Banking and one of the first financial institutions in North America to adopt them.	> Maintain an open dialogue with all our stakeholders to accelerate the transition to a low-carbon economy.

Critical Accounting Policies and Estimates

A summary of the significant accounting policies used by the Bank is presented in Note 1 to the consolidated financial statements of this Annual Report. The accounting policies discussed below are considered critical given their importance to the presentation of the Bank's financial position and operating results and require subjective and complex judgments and estimates on matters that are inherently uncertain. Any change in these judgments and estimates could have a significant impact on the Bank's consolidated financial statements.

COVID-19 Pandemic Considerations

On March 11, 2020, COVID-19 was declared a global pandemic by the World Health Organization. As a result of the heightened uncertainty associated with the unprecedented nature of the COVID-19 pandemic, developing reliable estimates and applying judgment has become even more challenging. ECL accounting has become particularly difficult in the current circumstances and requires significant judgment. The ECL model is forward-looking and is based on a probability-weighted approach. Measurement of ECLs at each reporting period reflects reasonable and supportable information about past events, current conditions, and forecasts of future events and economic conditions. During this period of greater economic uncertainty, it is very difficult to forecast future events and the macroeconomic inputs used in ECL modelling. Determining macroeconomic scenarios and assigning probabilities to these scenarios requires significant judgment. Consideration is given both to the effects of COVID-19 and the significant government support measures. The Bank applies expert credit judgment to adjust modelled ECL results when it becomes evident that known or expected risk factors and information were not considered in the credit rating and modelling process. As a result of COVID-19 and the recent economic downturn, significant measurement uncertainty exists in determining ECLs, and measurement is subject to significant judgment. The uncertainty regarding key inputs used in measuring ECLs is outlined in Note 7 to the consolidated financial statements.

In response to the economic impact of COVID-19, the Canadian government has established, among other financial relief programs, the Canada Emergency Business Account (CEBA) program to provide interest-free loans of up to $40,000 for small and medium-sized businesses and non-profit organizations. The Bank and several other financial institutions are authorized to implement the CEBA program in cooperation with Export Development Canada. This program is guaranteed by the Government of Canada and aims to help businesses cope with the economic challenges resulting from the COVID-19 crisis. Loans made by the Bank to its business clients under CEBA are not recognized on the Bank's Consolidated Balance Sheet, since the conditions of a qualifying pass-through arrangement have been met and the Bank has determined that substantially all the risks and rewards of ownership of the loans have been transferred to the Canadian government. The Bank receives an administration fee as reimbursement for the costs of administering this Canadian government program and this fee is recognized in the Consolidated Statement of Income as a reduction of *Non-interest expenses – Other*. As at October 31, 2020, loans of $1.2 billion had been granted to the Bank's clients under the CEBA program.

Classification of Financial Instruments

At initial recognition, all financial instruments are recorded at fair value on the Consolidated Balance Sheet. At initial recognition, financial assets must be classified as subsequently measured at fair value through other comprehensive income, at amortized cost, or at fair value through profit or loss. The Bank determines the classification based on the contractual cash flow characteristics of the financial assets and on the business model it uses to manage these financial assets. At initial recognition, financial liabilities are classified as subsequently measured at amortized cost, or at fair value through profit or loss.

For the purpose of classifying a financial asset, the Bank must determine whether the contractual cash flows associated with the financial asset are solely payments of principal and interest on the principal amount outstanding. The principal is generally the fair value of the financial asset at initial recognition. The interest consists of consideration for the time value of money, for the credit risk associated with the principal amount outstanding during a particular period, and for other basic lending risks and costs as well as of a profit margin. If the Bank determines that the contractual cash flows associated with a financial asset are not solely payments of principal and interest, the financial assets must be classified as measured at fair value through profit or loss.

When classifying financial assets, the Bank determines the business model used for each portfolio of financial assets that are managed together to achieve a same business objective. The business model reflects how the Bank manages its financial assets and the extent to which the financial asset cash flows are generated by the collection of the contractual cash flows, the sale of the financial assets, or both. The Bank determines the business model using scenarios that it reasonably expects to occur. Consequently, the business model determination is a matter of fact and requires the use of judgment and consideration of all the relevant evidence available at the date of determination.

A financial asset portfolio falls within a "hold to collect" business model when the Bank's primary objective is to hold these financial assets in order to collect contractual cash flows from them and not to sell them. When the Bank's objective is achieved both by collecting contractual cash flows and by selling the financial assets, the financial asset portfolio falls within a "hold to collect and sell" business model. In this type of business model, collecting contractual cash flows and selling financial assets are both integral components to achieving the Bank's objective for this financial asset portfolio. Financial assets are mandatorily measured at fair value through profit or loss if they do not fall within either a "hold to collect" business model or a "hold to collect and sell" business model.

Fair Value of Financial Instruments

The fair value of a financial instrument is the price that would be received to sell a financial asset or paid to transfer a financial liability in an orderly transaction in the principal market at the measurement date under current market conditions (i.e., an exit price).

Unadjusted quoted prices in active markets, based on bid prices for financial assets and offered prices for financial liabilities, provide the best evidence of fair value. A financial instrument is considered quoted in an active market when prices in exchange, dealer, broker or principal-to-principal markets are accessible at the measurement date. An active market is one where transactions occur with sufficient frequency and volume to provide quoted prices on an ongoing basis.

When there is no quoted price in an active market, the Bank uses another valuation technique that maximizes the use of relevant observable inputs and minimizes the use of unobservable inputs. The chosen valuation technique incorporates all the factors that market participants would consider when pricing a transaction. Judgment is required when applying a large number of acceptable valuation techniques and estimates to determine fair value. The estimated fair value reflects market conditions on the valuation date and, consequently, may not be indicative of future fair value.

The best evidence of the fair value of a financial instrument at initial recognition is the transaction price, i.e., the fair value of the consideration received or paid. If there is a difference between the fair value at initial recognition and the transaction price, and the fair value is determined using a valuation technique based on observable market inputs or, in the case of a derivative, if the risks are fully offset by other contracts entered into with third parties, this difference is recognized in the Consolidated Statement of Income. In other cases, the difference between the fair value at initial recognition and the transaction price is deferred on the Consolidated Balance Sheet. The amount of the deferred gain or loss is recognized over the term of the financial instrument. The unamortized balance is immediately recognized in net income when (i) observable market inputs can be obtained and support the fair value of the transaction, (ii) the risks associated with the initial contract are substantially offset by other contracts entered into with third parties, (iii) the gain or loss is realized through a cash receipt or payment, or (iv) the transaction matures or is cancelled before maturity.

In certain cases, measurement adjustments are recognized to address factors that market participants would use at the measurement date to determine fair value but that are not included in the measurement technique due to system limitations or uncertainty surrounding the measure. These factors include, but are not limited to, the unobservable nature of inputs used in the valuation model, assumptions about risk such as market risk, credit risk, or risk related to the valuation model and future administration costs. The Bank may also consider market liquidity risk when determining the fair value of financial instruments when it believes these instruments could be disposed of for a consideration below the fair value otherwise determined due to a lack of market liquidity or an insufficient volume of transactions in a given market. The measurement adjustments also include the funding valuation adjustment applied to derivative financial instruments to reflect the market implied cost or benefits of funding collateral for uncollateralized or partly collateralized transactions.

IFRS establishes a fair value hierarchy that classifies the inputs used in financial instrument fair value measurement techniques according to three levels. The fair value hierarchy has the following levels:

Level 1
Inputs corresponding to unadjusted quoted prices in active markets for identical assets and liabilities and accessible to the Bank at the measurement date. These instruments consist primarily of equity securities, derivative financial instruments traded in active markets, and certain highly liquid debt securities actively traded in over-the-counter markets.

Level 2
Valuation techniques based on inputs, other than the quoted prices included in Level 1 inputs, that are directly or indirectly observable in the market for the asset or liability. These inputs are quoted prices of similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; inputs other than quoted prices used in a valuation model that are observable for that instrument; and inputs that are derived principally from or corroborated by observable market inputs by correlation or other means. These instruments consist primarily of certain loans, certain deposits, derivative financial instruments traded in over-the-counter markets, certain debt securities, certain equity securities whose value is not directly observable in an active market, liabilities related to transferred receivables as well as certain other liabilities.

Level 3
Valuation techniques based on one or more significant inputs that are not observable in the market for the asset or liability. The Bank classifies financial instruments in Level 3 when the valuation technique is based on at least one significant input that is not observable in the markets. The valuation technique may also be partly based on observable market inputs. Financial instruments whose fair values are classified in Level 3 consist of investments in hedge funds, certain derivative financial instruments, equity and debt securities of private companies, certain loans, and certain deposits (structured deposit notes).

Establishing fair value is an accounting estimate and has an impact on *Securities at fair value through profit or loss*, certain *Loans*, *Securities at fair value through other comprehensive income*, *Obligations related to securities sold short*, *Derivative financial instruments*, financial instruments designated at fair value through profit or loss, and financial instruments designated at fair value through other comprehensive income on the Consolidated Balance Sheet. This estimate also has an impact on *Non-interest income* in the Consolidated Statement of Income of the Financial Markets segment and of the *Other* heading. Lastly, this estimate has an impact on *Other comprehensive income* in the Consolidated Statement of Comprehensive Income. For additional information on the fair value determination of financial instruments, see Notes 3 and 6 to the consolidated financial statements.

Impairment of Financial Assets

At the end of each reporting period, the Bank applies a three-stage impairment approach to measure the expected credit losses (ECL) on all debt instruments measured at amortized cost or at fair value through other comprehensive income and on loan commitments and financial guarantees that are not measured at fair value. ECLs are a probability-weighted estimate of credit losses over the remaining expected life of the financial instrument. The ECL model is forward looking. Measurement of ECLs at each reporting period reflects reasonable and supportable information about past events, current conditions, and forecasts of future events and economic conditions. Judgment is required in making assumptions and estimates, determining movements between the three stages, and applying forward-looking information. Any changes in assumptions and estimates, as well as the use of different, but equally reasonable, estimates and assumptions, could have an impact on the allowances for credit losses and the provisions for credit losses for the year. All business segments are affected by this accounting estimate. For additional information, see Note 7 to the consolidated financial statements.

Determining the Stage

The ECL three-stage impairment approach is based on the change in the credit quality of financial assets since initial recognition. If, at the reporting date, the credit risk of non-impaired financial instruments has not increased significantly since initial recognition, these financial instruments are classified in Stage 1, and an allowance for credit losses that is measured, at each reporting date, in an amount equal to 12-month expected credit losses is recorded. When there is a significant increase in credit risk since initial recognition, these non-impaired financial instruments are migrated to Stage 2, and an allowance for credit losses that is measured, at each reporting date, in an amount equal to lifetime expected credit losses is recorded. In subsequent reporting periods, if the credit risk of the financial instrument improves such that there is no longer a significant increase in credit risk since initial recognition, the ECL model requires reverting to Stage 1, i.e., recognition of 12-month expected credit losses. When one or more events that have a detrimental impact on the estimated future cash flows of a financial asset have occurred, the financial asset is considered credit-impaired and is migrated to Stage 3, and an allowance for credit losses equal to lifetime expected losses continues to be recorded or the financial asset is written off. Interest income is calculated on the gross carrying amount for financial assets in Stages 1 and 2 and on the net carrying amount for financial assets in Stage 3.

Assessment of Significant Increase in Credit Risk

In determining whether credit risk has increased significantly, the Bank uses an internal credit risk grading system, external risk ratings, and forward-looking information to assess deterioration in credit quality of a financial instrument. To assess whether or not the credit risk of a financial instrument has increased significantly, the Bank compares the probability of default (PD) occurring over its expected life as at the reporting date with the PD occurring over its expected life on the date of initial recognition and considers reasonable and supportable information indicative of a significant increase in credit risk since initial recognition. The Bank includes relative and absolute thresholds in the definition of significant increase in credit risk and a backstop of 30 days past due. All financial instruments that are 30 days past due are migrated to Stage 2 even if other metrics do not indicate that a significant increase in credit risk has occurred. The assessment of a significant increase in credit risk requires significant judgment.

Measurement of Expected Credit Losses

ECLs are measured as the probability-weighted present value of all expected cash shortfalls over the remaining expected life of the financial instrument, and reasonable and supportable information about past events, current conditions and forecasts of future events and economic conditions is considered. The estimation and application of forward-looking information requires significant judgment. The cash shortfall is the difference between all contractual cash flows owed to the Bank and all the cash flows that the Bank expects to receive.

The measurement of ECLs is primarily based on the product of the financial instrument's probability of default (PD), loss given default (LGD) and exposure at default (EAD). Forward-looking macroeconomic factors such as unemployment rates, housing price indices, interest rates, and gross domestic product (GDP) are incorporated into the risk parameters. The estimate of expected credit losses reflects an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes. The Bank incorporates three forward-looking macroeconomic scenarios in its ECL calculation process: a base scenario, an upside scenario and a downside scenario. Probability weights are attributed to each scenario. The scenarios and probability weights are reassessed quarterly and are subject to management review. The Bank applies experienced credit judgment to adjust the modelled ECL results when it becomes evident that known or expected risk factors and information were not considered in the credit risk rating and modelling process.

ECLs for all financial instruments are recognized in *Provisions for credit losses* in the Consolidated Statement of Income. In the case of debt instruments measured at fair value through other comprehensive income, ECLs are recognized in *Provisions for credit losses* in the Consolidated Statement of Income, and a corresponding amount is recognized in *Other comprehensive income* with no reduction in the carrying amount of the asset on the Consolidated Balance Sheet. As for debt instruments measured at amortized cost, they are presented net of the related allowances for credit losses on the Consolidated Balance Sheet. Allowances for credit losses for off-balance-sheet credit exposures that are not measured at fair value are included in *Other liabilities* on the Consolidated Balance Sheet.

Purchased or Originated Credit-Impaired Financial Assets
On initial recognition of a financial asset, the Bank determines whether the asset is credit-impaired. For financial assets that are credit-impaired upon purchase or origination, the lifetime expected credit losses are reflected in the initial fair value. In subsequent reporting periods, the Bank recognizes only the cumulative changes in these lifetime ECLs since initial recognition as an allowance for credit losses. The Bank recognizes changes in ECLs in *Provisions for credit losses* in the Consolidated Statement of Income, even if the lifetime ECLs are less than ECLs that were included in the estimated cash flows on initial recognition.

Definition of Default
The definition of default used by the Bank to measure ECLs and transfer financial instruments between stages is consistent with the definition of default used for internal credit risk management purposes. The Bank considers a financial asset, other than a credit card receivable, to be credit-impaired when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred or when contractual payments are 90 days past due. Credit card receivables are considered credit-impaired and are fully written off at the earlier of the following: when a notice of bankruptcy is received, a settlement proposal is made, or contractual payments are 180 days past due.

Write-Offs
A financial asset and its related allowance for credit losses are normally written off in whole or in part when the Bank considers the probability of recovery to be non-existent and when all guarantees and other remedies available to the Bank have been exhausted or if the borrower is bankrupt or winding up and balances owing are not likely to be recovered.

Impairment of Non-Financial Assets

Premises and equipment and intangible assets with finite useful lives are tested for impairment when events or changes in circumstances indicate that their carrying value may not be recoverable. At the end of each reporting period, the Bank determines whether there is an indication that premises and equipment or intangible assets with finite useful lives may be impaired. Goodwill and intangible assets that are not yet available for use or that have indefinite useful lives are tested for impairment annually or more frequently if there is an indication that the asset might be impaired.

An asset is tested for impairment by comparing its carrying amount with its recoverable amount. The recoverable amount must be estimated for the individual asset. Where it is not possible to estimate the recoverable amount of an individual asset, the recoverable amount of the cash-generating unit (CGU) to which the asset belongs will be determined. Goodwill is always tested for impairment at the level of a CGU or a group of CGUs. A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The Bank uses judgment to identify CGUs.

An asset's recoverable amount is the higher of fair value less costs to sell and the value in use of the asset or CGU. Value in use is the present value of expected future cash flows from the asset or CGU. The recoverable amount of the CGU is determined using valuation models that consider various factors such as projected future cash flows, discount rates and growth rates. The use of different estimates and assumptions in applying the impairment tests could have a significant impact on income. If the recoverable amount of an asset or a CGU is less than its carrying amount, the carrying amount is reduced to its recoverable amount and an impairment loss is recognized in *Non-interest expenses* in the Consolidated Statement of Income.

Management exercises judgment when determining whether there is objective evidence that premises and equipment or intangible assets with finite useful lives may be impaired. It also uses judgment in determining to which CGU or group of CGUs an asset or goodwill is to be allocated. Moreover, for impairment assessment purposes, management must make estimates and assumptions regarding the recoverable amount of non-financial assets, CGUs or a group of CGUs. For additional information on the estimates and assumptions used to calculate the recoverable amount of an asset or CGU, see Note 11 to the consolidated financial statements.

Any changes to these estimates and assumptions may have an impact on the recoverable amount of a non-financial asset and, consequently, on impairment testing results. These accounting estimates have an impact on *Premises and equipment*, *Intangible assets* and *Goodwill* reported on the Consolidated Balance Sheet. The aggregate impairment loss, if any, is recognized as a non-interest expense for the corresponding segment and presented in the *Other* item.

Employee Benefits – Pension Plans and Other Post-Employment Benefits

Pension plan and other post-employment plan expenses and obligations are actuarially determined using the projected benefit method prorated on service. The calculations incorporate management's best estimates of various actuarial assumptions such as discount rates, rates of compensation increase, health care cost trend rates, mortality rates and retirement age.

Remeasurements of these plans result in actuarial gains and losses related to the defined benefit obligation and the actual return on plan assets, excluding the net interest determined by applying a discount rate to the net asset or liability of the plans. Remeasurements are immediately recognized in *Other comprehensive income* and will not be subsequently reclassified to net income; these cumulative gains and losses are reclassified to *Retained earnings*.

The use of different assumptions could have a significant impact on the defined benefit asset (liability) presented in *Other assets (Other liabilities)* on the Consolidated Balance Sheet, on the pension plan and other post-employment benefit plan expenses presented in *Compensation and employee benefits* in the Consolidated Statement of Income, as well as on *Remeasurements of pension plans and other post-employment benefit plans* presented in *Other comprehensive income*. All business segments are affected by this accounting estimate. For additional information, including the significant assumptions used to determine the Bank's pension plan and other post-employment benefit plan expenses and the sensitivity analysis for significant plan assumptions, see Note 23 to the consolidated financial statements.

Income Taxes

The Bank makes assumptions to estimate income taxes as well as deferred tax assets and liabilities. This process includes estimating the actual amount of income taxes payable and evaluating tax loss carryforwards and temporary differences arising from differences between the values of the items reported for accounting and for income tax purposes. Deferred tax assets and liabilities, presented in *Other assets* and *Other liabilities* on the Consolidated Balance Sheet, are calculated according to the tax rates to be applied in future periods. Previously recorded deferred tax assets and liabilities must be adjusted when the date of the future event is revised based on current information. The Bank periodically evaluates deferred tax assets to assess recoverability. In the Bank's opinion, based on the information at its disposal, it is probable that all deferred tax assets will be realized prior to their expiration.

This accounting estimate affects *Income taxes* in the Consolidated Statement of Income for all business segments. For additional information on income taxes, see Notes 1 and 24 to the consolidated financial statements.

Contingent Liabilities

Maple Financial Group Inc.
The Bank has a 24.9% equity interest in Maple Financial Group Inc. (Maple), a privately owned Canadian company that operated through direct and indirect wholly owned subsidiaries in Canada, Germany, the United Kingdom and the United States.

Maple Bank GmbH (Maple GmbH), an indirect wholly owned subsidiary of Maple, has been the subject of an investigation into alleged tax irregularities by German prosecutors since September 2015, and the investigation was focusing on selected trading activities by Maple GmbH and some of its former employees, primarily during taxation years 2006 to 2010. The German authorities have alleged that these trading activities, often referred to as "cum/ex trading," violated German tax laws. Neither the Bank nor its employees were involved in these trading activities and, to the Bank's knowledge, are not the subject of this investigation. At that time, the Bank announced that if it were determined that portions of the dividends it received from Maple could be reasonably attributed to tax fraud by Maple GmbH, arrangements would be made to repay those amounts to the relevant authority.

On February 6, 2016, the German Federal Financial Supervisory Authority, BaFin, placed a moratorium on the business activities of Maple GmbH preventing it from carrying out its normal business activities. In August 2016, Maple filed for bankruptcy protection under applicable Canadian laws, and a trustee was appointed to administer the company. Similar proceedings were initiated for each of Maple's other material subsidiaries in their home jurisdictions. In light of the situation, the Bank wrote off the carrying value of its equity interest in Maple in an amount of $164 million ($145 million net of income taxes) during the first quarter of 2016. The $164 million write-off of the equity interest in this associate was recognized in the *Non-interest income – Other* item of the Consolidated Statement of Income for the year ended October 31, 2016 and was reported in the Financial Markets segment.

While there has not yet been a determination of tax fraud on the part of Maple GmbH or its employees, in the insolvency proceedings of Maple GmbH the German finance office issued a declaration about the result of the tax audit at Maple GmbH and about the relevant tax consequences of the cum/ex trading and concluded a final tax claim of the tax authorities against the insolvency administrator. This claim was approved by the Maple GmbH creditor assembly.

The Bank has been in contact with the German prosecutors, who have confirmed that, in their view based upon the evidence they have considered since the occurrence of the insolvency, the Bank was not involved in any respect with the alleged tax fraud undertaken by Maple GmbH nor was it negligent in failing to identify that alleged fraud. Further to discussions between the Bank and the German prosecutors concerning the amounts deemed attributable to the alleged tax fraud, the Bank paid 7.7 million euros to the German tax authorities on November 19, 2019. As at October 31, 2019, an $11 million provision was recorded to reflect this adjusting event after the Consolidated Balance Sheet date.

In December 2019, the Bank, together with the other principal Maple shareholders, reached an agreement with the bankruptcy and insolvency administrator of Maple GmbH to settle any potential claims that might be asserted against them by or on behalf of Maple GmbH. In connection with the settlement, the Bank agreed to pay 8.7 million euros for the benefit of Maple GmbH's creditors and, during the first quarter of 2020, recorded a $13 million charge in the *Non-interest expenses – Other* item presented in the *Other* heading of segment results. During the third quarter of 2020, by virtue of the finalization of this agreement, all material liabilities associated with the Bank's ownership of Maple have been resolved.

Litigation

In the normal course of business, the Bank and its subsidiaries are involved in various claims relating, among other matters, to loan portfolios, investment portfolios and supplier agreements, including court proceedings, investigations or claims of a regulatory nature, class actions or other legal remedies of varied natures.

More specifically, the Bank is involved as a defendant in class actions instituted by consumers contesting, *inter alia*, certain transaction fees or who wish to avail themselves of certain legislative provisions relating to consumer protection. The recent developments in the main legal proceedings involving the Bank are as follows:

Watson
In 2011, a class action was filed in the Supreme Court of British Columbia against Visa Corporation Canada (Visa) and MasterCard International Incorporated (MasterCard) (the Networks) as well as National Bank and a number of other Canadian financial institutions. A similar action was also initiated in Quebec, Ontario, Alberta and Saskatchewan. In each of the actions, the Networks and financial institutions are alleged to have been involved in a price-fixing system to maintain and increase the fees paid by merchants on transactions executed using the credit cards of the Networks. In so doing, they would notably be in breach of the *Competition Act*. An unspecified amount of compensatory and punitive damages is being claimed. In 2017, a settlement was reached with the plaintiffs; in 2018 it was approved by the trial courts in each of the five jurisdictions where the action was initiated. The rulings approving the settlement are now the subject of appeal proceedings in multiple jurisdictions.

Defrance
On January 21, 2019, the Quebec Superior Court authorized a class action against the National Bank and several other Canadian financial institutions. The originating application was served to the Bank on April 23, 2019. The class action was initiated on behalf of consumers residing in Quebec. The plaintiffs allege that non-sufficient funds charges, billed by all of the defendants when a payment order is refused due to non-sufficient funds, are illegal and prohibited by the *Consumer Protection Act*. The plaintiffs are claiming, in the form of damages, the repayment of these charges as well as punitive damages.

It is impossible to determine the outcome of the claims instituted or which may be instituted against the Bank and its subsidiaries. The Bank estimates, based on the information at its disposal, that while the amount of contingent liabilities pertaining to these claims, taken individually or in the aggregate, could have a material impact on the Bank's consolidated results of operation for a particular period, it would not have a material adverse impact on the Bank's consolidated financial position.

Provisions are liabilities of uncertain timing and amount. A provision is recognized when the Bank has a present obligation (legal or constructive) arising from a past event, when it is probable that an outflow of economic resources will be required to settle the obligation and when the amount of the obligation can be reliably estimated. Provisions are based on the Bank's best estimates of the economic resources required to settle the present obligation, given all relevant risks and uncertainties, and, when it is significant, the effect of the time value of money.

The recognition of a litigation provision requires the Bank's management to assess the probability of loss and estimate any potential monetary impact. The Bank examines each litigation provision individually by considering the development of each case, its past experience in similar transactions and the opinion of its legal counsel. Each new piece of information can alter the Bank's assessment as to the probability and estimated amount of the loss and the extent to which it adjusts the recorded provision. Moreover, the actual settlement cost of these litigations can be significantly higher or lower than the amounts recognized.

Structured Entities

In the normal course of business, the Bank enters into arrangements and transactions with structured entities. Structured entities are entities designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when voting rights relate solely to administrative tasks and the relevant activities are directed by means of contractual arrangements. A structured entity is consolidated when the Bank concludes, after evaluating the substance of the relationship and its right or exposure to variable returns, that it controls that entity. Management must exercise judgment in determining whether the Bank controls an entity. Additional information is provided in the Securitization and Off-Balance-Sheet Arrangements section of this MD&A and in Note 27 to the consolidated financial statements.

Future Accounting Policy Changes

The Bank closely monitors both new accounting standards and amendments to existing accounting standards issued by the IASB. The following standards have been issued but are not yet effective. The Bank is currently assessing the impact of the application of these standards on the consolidated financial statements.

Effective Date – November 1, 2020
Conceptual Framework for Financial Reporting
On March 29, 2018, the IASB published *Conceptual Framework for Financial Reporting* to replace its 2010 conceptual framework. For the IASB, the revised conceptual framework has been in effect since its publication date.

Effective Date – November 1, 2021
Interest Rate Benchmark Reform – Phase 2
In August 2020, the IASB finalized its response to the ongoing reform of interbank offered rates (IBOR) and other interest rate benchmarks by issuing amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 – *Insurance Contracts* and IFRS 16. The amendments complement those issued in 2019 and focus on the effects on financial statements once existing benchmark rates are replaced with alternative benchmark rates. The amendments in this final phase relate to changes to contractual cash flows, hedge accounting, and disclosures. The effective date for the amendments will be annual periods beginning on or after January 1, 2021, with early application permitted.

To prepare for the interest rate benchmark reform, the Bank developed an enterprise-wide project, put together a dedicated team and established a formal governance structure. Several committees were created to ensure the success of the project and to prepare for the benchmark interest rate reform. The project team is made up of qualified resources from different fields of expertise to ensure an in-depth analysis of all aspects of the changes as well as the financial, operational and technological impacts. Many of these experts, who have in-depth knowledge of accounting standards and reform-related activities, are involved in the Canadian Bankers Association's working group where representatives of the major Canadian banks discuss the issues and interpretations of the reform. The Bank also participates in meetings with the OSFI to discuss these same issues and interpretations. Furthermore, workshops are held to analyze the impact of the reform's implementation, ensuring that information is disseminated to stakeholders affected by this reform; information-sharing meetings are held with all stakeholders affected by the reform, and participants in various industry committees share the latest developments. The project team regularly reports on the project's progress to the project steering committee and the Financial Markets Risk Committee, committees made up of members of management and experts from all departments involved. Finally, a training plan for staff, management and board members has been created.

Effective Date – November 1, 2023
IFRS 17 – Insurance Contracts
In May 2017, the IASB issued IFRS 17 – *Insurance Contracts* (IFRS 17), a new standard that replaces IFRS 4, the current insurance contract accounting standard. IFRS 17 introduces a new accounting framework that will improve the comparability and quality of financial information. IFRS 17 provides guidance on the recognition, measurement, presentation and disclosure of insurance contracts. In June 2020, amendments to IFRS 17 were issued and included a two-year deferral of the effective date along with other changes aimed at addressing concerns and implementation challenges identified after IFRS 17 was published in 2017. IFRS 17, as amended, is effective retrospectively for annual periods beginning on or after January 1, 2023, with earlier application permitted. If full retrospective application to a group of insurance contracts is impractical, the modified retrospective approach or the fair value approach may be used.

Additional Financial Information

Table 1 – Quarterly Results

(millions of Canadian dollars, except per share amounts)					2020
	Total	Q4	Q3	Q2	Q1
Statement of income data					
Net interest income	4,255	1,124	1,096	1,105	930
Non-interest income[1]	3,672	876	872	931	993
Total revenues	7,927	2,000	1,968	2,036	1,923
Non-interest expenses[2]	4,545	1,259	1,074	1,121	1,091
Income before provisions for credit losses and income taxes	3,382	741	894	915	832
Provisions for credit losses	846	110	143	504	89
Income taxes	453	139	149	32	133
Net income	2,083	492	602	379	610
Non-controlling interests	42	2	13	11	16
Net income attributable to the Bank's shareholders and holders of other equity instruments	2,041	490	589	368	594
Earnings per common share					
Basic	$ 5.73	$ 1.37	$ 1.67	$ 1.01	$ 1.69
Diluted	5.70	1.36	1.66	1.01	1.67
Dividends (per share)					
Common	$ 2.84	$ 0.71	$ 0.71	$ 0.71	$ 0.71
Preferred					
Series 30	1.0063	0.2516	0.2516	0.2515	0.2516
Series 32	0.9636	0.2400	0.2399	0.2399	0.2438
Series 34	1.4000	0.3500	0.3500	0.3500	0.3500
Series 36	1.3500	0.3375	0.3375	0.3375	0.3375
Series 38	1.1125	0.2781	0.2781	0.2782	0.2781
Series 40	1.1500	0.2875	0.2875	0.2875	0.2875
Series 42	1.2375	0.3094	0.3093	0.3094	0.3094
Return on common shareholders' equity	14.9 %	13.7 %	17.0 %	10.7 %	18.0 %
Total assets		331,625	322,453	316,950	289,191
Long-term financial liabilities[3]		775	777	779	774
Net impaired loans[4]		465	453	479	436
Number of common shares outstanding *(thousands)*					
Average – Basic	335,508	335,859	335,552	335,603	335,020
Average – Diluted	337,580	338,264	337,231	337,317	338,113
End of period		335,998	335,666	335,400	335,818
Per common share					
Book value		$ 39.97	$ 38.91	$ 38.74	$ 37.58
Share price					
High	$ 74.79	72.85	65.54	74.79	74.22
Low	38.73	62.99	51.38	38.73	68.25
Number of employees – Worldwide		26,517	26,544	26,589	26,314
Number of branches in Canada		403	409	413	416

(1) For fiscal 2020, the *Non-interest income* item includes a foreign currency loss on disposal of subsidiaries of $24 million (2019: $79 million gain on disposal of Fiera Capital Corporation shares, a $50 million gain on disposal of premises and equipment, and a $33 million loss resulting from the fair value measurement of an investment).
(2) For fiscal 2020, the *Non-interest expenses* item includes $71 million in impairment losses on premises and equipment and on intangible assets (2019: $57 million), $48 million in severance pay (2019: $10 million), a $13 million charge related to Maple (2019: $11 million). An amount of $45 million in provisions for onerous contracts was also recorded in 2019.
(3) Subordinated debt.
(4) All loans classified in Stage 3 of the expected credit loss model are impaired loans; the net impaired loans presented in this table exclude POCI loans.

				2019					2018
Total	Q4	Q3	Q2	Q1	Total	Q4	Q3	Q2	Q1
3,596	936	855	942	863	3,382	826	837	885	834
3,836	979	1,093	828	936	3,784	988	955	869	972
7,432	1,915	1,948	1,770	1,799	7,166	1,814	1,792	1,754	1,806
4,301	1,095	1,154	1,026	1,026	4,063	1,036	1,011	992	1,024
3,131	820	794	744	773	3,103	778	781	762	782
347	89	86	84	88	327	73	76	91	87
462	127	100	102	133	544	139	136	124	145
2,322	604	608	558	552	2,232	566	569	547	550
66	14	17	19	16	87	16	23	25	23
2,256	590	591	539	536	2,145	550	546	522	527
$ 6.39	$ 1.68	$ 1.68	$ 1.52	$ 1.51	$ 6.01	$ 1.53	$ 1.54	$ 1.46	$ 1.48
6.34	1.67	1.66	1.51	1.50	5.94	1.52	1.52	1.44	1.46
$ 2.66	$ 0.68	$ 0.68	$ 0.65	$ 0.65	$ 2.44	$ 0.62	$ 0.62	$ 0.60	$ 0.60
1.0156	0.2515	0.2516	0.2562	0.2563	1.0250	0.2562	0.2563	0.2562	0.2563
0.9750	0.2437	0.2438	0.2437	0.2438	0.9750	0.2437	0.2438	0.2437	0.2438
1.4000	0.3500	0.3500	0.3500	0.3500	1.4000	0.3500	0.3500	0.3500	0.3500
1.3500	0.3375	0.3375	0.3375	0.3375	1.3500	0.3375	0.3375	0.3375	0.3375
1.1125	0.2781	0.2781	0.2782	0.2781	1.1125	0.2781	0.2781	0.2782	0.2781
1.1500	0.2875	0.2875	0.2875	0.2875	0.9310	0.2875	0.2875	0.3560	–
1.2375	0.3094	0.3093	0.3094	0.3094	0.5323	0.5323	–	–	–
18.0 %	18.2 %	18.7 %	17.8 %	17.2 %	18.4 %	17.8 %	18.4 %	18.6 %	18.7 %
	281,458	276,312	269,106	263,355		262,471	257,637	256,259	251,065
	773	773	772	764		747	753	755	8
	450	420	379	373		404	413	382	371
335,104	334,393	334,843	335,478	335,716	339,372	337,508	339,160	339,885	340,950
337,630	336,900	337,768	338,515	338,585	343,240	341,395	343,280	343,900	345,458
	334,172	334,210	335,116	335,500		335,071	337,441	339,348	340,390
	$ 36.89	$ 36.12	$ 35.49	$ 34.85		$ 34.40	$ 33.91	$ 32.64	$ 31.75
$ 68.02	68.02	64.16	63.82	61.80	$ 65.63	65.63	64.29	64.08	65.35
54.97	60.38	60.71	60.31	54.97	58.69	58.93	61.26	58.69	62.33
	25,487	24,881	24,137	23,960		23,450	23,029	22,359	21,868
	422	429	428	428		428	428	428	429

Table 2 – Overview of Results

Year ended October 31 (taxable equivalent basis)[1] (millions of Canadian dollars)	2020	2019	2018	2017	2016
Net interest income on a taxable equivalent basis	**4,463**	3,791	3,526	3,645	3,436
Non-interest income on a taxable equivalent basis[2]	**3,729**	3,971	3,885	3,208	2,639
Total revenues on a taxable equivalent basis	**8,192**	7,762	7,411	6,853	6,075
Non-interest expenses[3]	**4,545**	4,301	4,063	3,857	3,875
Income before provisions for credit losses and income taxes on a taxable equivalent basis[1]	**3,647**	3,461	3,348	2,996	2,200
Provisions for credit losses	**846**	347	327	244	484
Income before income taxes on a taxable equivalent basis	**2,801**	3,114	3,021	2,752	1,716
Income taxes on a taxable equivalent basis	**718**	792	789	728	460
Net income	**2,083**	2,322	2,232	2,024	1,256
Non-controlling interests	**42**	66	87	84	75
Net income attributable to the Bank's shareholders and holders of other equity instruments	**2,041**	2,256	2,145	1,940	1,181
Average assets	**318,199**	286,162	265,940	248,351	235,913

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(2) For fiscal 2020, the *Non-interest income* item includes a foreign currency translation loss on disposal of subsidiaries of $24 million (2019: $79 million gain on disposal of Fiera Capital Corporation shares, $50 million gain on disposal of premises and equipment, and $33 million loss resulting from the fair value measurement of an investment).
(3) For fiscal 2020, the *Non-interest expenses* item includes $71 million in impairment losses on premises and equipment and on intangible assets (2019: $57 million), $48 million in severance pay (2019: $10 million), $13 million charge related to Maple (2019: $11 million). An amount of $45 million in provisions for onerous contracts was also recorded in 2019.

Table 3 – Changes in Net Interest Income

Year ended October 31[1] (taxable equivalent basis)[2] (millions of Canadian dollars)	2020	2019	2018	2017	2016
Personal and Commercial					
Net interest income	**2,445**	2,384	2,276	2,127	2,011
Average assets	**117,338**	112,798	106,857	102,139	97,741
Average interest-bearing assets	**111,488**	106,995	101,446	97,339	92,660
Net interest margin[3]	**2.19 %**	2.23 %	2.24 %	2.19 %	2.17 %
Wealth Management					
Net interest income on a taxable equivalent basis	**442**	455	426	351	291
Average assets	**5,917**	6,219	6,167	5,947	5,612
Financial Markets					
Net interest income on a taxable equivalent basis	**946**	474	409	772	938
Average assets	**123,943**	112,493	100,721	94,991	87,491
USSF&I					
Net interest income	**807**	656	584	466	284
Average assets	**14,336**	10,985	9,270	7,519	5,319
Other					
Net interest income on a taxable equivalent basis	**(177)**	(178)	(169)	(71)	(88)
Average assets	**56,665**	43,667	42,925	37,755	39,750
Total					
Net interest income on a taxable equivalent basis	**4,463**	3,791	3,526	3,645	3,436
Average assets	**318,199**	286,162	265,940	248,351	235,913

(1) For fiscal years prior to 2020, certain amounts have been reclassified.
(2) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(3) Net interest margin is calculated by dividing net interest income by average interest-bearing assets.

Table 4 – Non-Interest Income

Year ended October 31 (taxable equivalent basis)(1) (millions of Canadian dollars)	2020	2019	2018	2017	2016
Underwriting and advisory fees	**397**	314	388	349	376
Securities brokerage commissions	**195**	178	195	216	235
Mutual fund revenues	**477**	449	438	412	364
Trust service revenues	**675**	609	587	518	453
Credit fees	**147**	134	126	130	110
Revenues from acceptances, letters of credit and guarantee	**320**	283	277	231	236
Card revenues	**138**	175	159	132	119
Deposit and payment service charges	**262**	271	280	279	258
Trading revenues (losses) on a taxable equivalent basis	**661**	964	941	409	154
Gains (losses) on available-for-sale securities, net				140	70
Gains (losses) on non-trading securities, net	**93**	77	77		
Insurance revenues, net	**128**	136	121	117	114
Foreign exchange revenues, other than trading	**104**	96	95	81	81
Share in the net income of associates and joint ventures	**28**	34	28	35	15
Other(2)	**104**	251	173	159	54
	3,729	3,971	3,885	3,208	2,639
Canada	**3,631**	3,780	3,589	3,027	2,434
United States	**5**	85	108	136	124
Other countries	**93**	106	188	45	81
Non-interest income on a taxable equivalent basis as a % of total revenues on a taxable equivalent basis(1)	**45.5 %**	51.2 %	52.4 %	46.8 %	43.4 %
Non-interest income on a taxable equivalent basis and excluding specified items as a % of total revenues on a taxable equivalent basis and excluding specified items(1)	**45.7 %**	50.5 %	52.4 %	46.8 %	45.0 %

(1) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.
(2) For fiscal 2020, other revenues include a foreign currency translation loss on disposal of subsidiaries of $24 million (2019: $79 million gain on disposal of Fiera Capital Corporation shares, $50 million gain on disposal of premises and equipment, and $33 million loss resulting from the fair value measurement of an investment).

Table 5 – Trading Activity Revenues(1)

Year ended October 31(2) (taxable equivalent basis)(3) (millions of Canadian dollars)	2020	2019	2018	2017	2016
Financial markets					
Equities	**706**	621	575	506	450
Fixed-income	**430**	285	263	290	256
Commodities and foreign exchange	**132**	126	130	107	121
	1,268	1,032	968	903	827
Other segments	**198**	160	176	97	80
	1,466	1,192	1,144	1,000	907

(1) Includes net interest income on a taxable equivalent basis and non-interest income on a taxable equivalent basis.
(2) For fiscal years prior to 2020, certain amounts have been reclassified.
(3) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Table 6 – Non-Interest Expenses

Year ended October 31 (millions of Canadian dollars)	2020	2019	2018	2017	2016
Compensation and employee benefits[1]	**2,713**	2,532	2,466	2,358	2,161
Occupancy[2]	**151**	254	193	195	195
Technology	**433**	372	375	364	367
Amortization – Premises and equipment	**140**	44	43	41	38
Amortization – Technology[3]	**372**	332	245	204	220
Communications	**58**	62	63	61	67
Professional fees	**244**	249	244	254	276
Restructuring charge[4]	**–**	–	–	–	131
Travel and business development	**103**	128	128	122	120
Capital and payroll taxes	**73**	70	79	73	71
Other[5]	**258**	258	227	185	229
Total	**4,545**	4,301	4,063	3,857	3,875
Canada	**4,124**	3,931	3,750	3,571	3,601
United States	**209**	210	205	209	235
Other countries	**212**	160	108	77	39
Non-interest expenses as a % of total revenues on a taxable equivalent basis[6]	**55.5 %**	55.4 %	54.8 %	56.3 %	63.8 %
Non-interest expenses as a % of total revenues on a taxable equivalent basis and excluding specified items[6]	**53.7 %**	54.5 %	54.8 %	56.3 %	58.6 %

(1) For fiscal 2020, compensation and employee benefits include $48 million in severance pay (2019: $10 million).
(2) For fiscal 2019, occupancy expense had included $45 million in provisions for onerous contracts.
(3) For fiscal 2020, the *Amortization – Technology* expense includes $71 million in impairment losses on premises and equipment and on intangible assets (2019: $57 million; 2016: $44 million).
(4) The fiscal 2016 restructuring charge had included $129 million in compensation and employee benefits and $2 million in occupancy expenses.
(5) For fiscal 2020, other expenses include a $13 million charge related to Maple (2019: $11 million); the fiscal 2016 other expenses had included $25 million in litigation charges.
(6) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Table 7 – Provisions for Credit Losses[1]

Year ended October 31 (millions of Canadian dollars)	2020	2019	2018	2017[2]	2016[2]
Personal Banking[3]					
Stage 3	**147**	166	158	153	156
Stages 1 and 2	**121**	8	9	–	–
	268	174	167	153	156
Commercial Banking					
Stage 3	**110**	35	40	43	73
Stages 1 and 2[4]	**139**	28	21	(40)	250
	249	63	61	3	323
Wealth Management					
Stage 3	**4**	–	–	–	1
Stages 1 and 2	**3**	–	1	–	–
	7	–	1	–	1
Financial Markets					
Stage 3	**65**	18	–	–	–
Stages 1 and 2	**174**	12	4	–	–
	239	30	4	–	–
USSF&I					
Stage 3	**46**	94	126	48	4
Stages 1 and 2	**41**	(24)	(3)	–	–
POCI loans	**(7)**	10	(29)	–	–
	80	80	94	48	4
Other					
Stage 3	**–**	–	–	–	–
Stages 1 and 2[5]	**3**	–	–	40	–
	3	–	–	40	–
Total provisions for credit losses	**846**	347	327	244	484
Average loans and acceptances	**159,275**	148,765	139,603	130,882	122,559
Provisions for credit losses on impaired loans[1] as a % of average loans and acceptances	**0.23 %**	0.21 %	0.23 %	0.19 %	0.19 %
Provisions for credit losses as a % of average loans and acceptances	**0.53 %**	0.23 %	0.23 %	0.19 %	0.39 %

(1) Given the adoption of IFRS 9, all loans classified in Stage 3 of the expected credit loss model are impaired loans. Under IAS 39, loans were considered impaired according to different criteria. Provisions for credit losses on impaired loans presented in this table exclude provisions for credit losses on POCI loans.
(2) These figures are presented in accordance with IAS 39.
(3) Includes credit card receivables.
(4) During fiscal 2017, the Bank recorded a $40 million reversal of the sectoral provision on non-impaired loans that had been taken collectively for the oil and gas producer and service company loan portfolio. In addition, the fiscal 2016 provisions for credit losses had included a $250 million amount related to the initial recording of this sectoral provision.
(5) During fiscal 2017, the provisions for credit losses had included a $40 million increase in the collective allowance for credit risk on non-impaired loans, which was established taking into account the Bank's overall credit portfolio, except for loans covered by the sectoral allowance and POCI loans.

Table 8 – Change in Average Volumes

Year ended October 31[1] (taxable equivalent basis)[2] (millions of Canadian dollars)	2020		2019		2018		2017		2016	
	Average volume $	Rate %	Average volume $	Rate %	Average volume $	Rate %	Average volume $	Rate %	Average volume $	Rate %
Assets										
Deposits with financial institutions	**16,083**	**0.55**	13,149	1.64	16,282	1.27	15,802	0.72	14,079	0.46
Securities	**97,025**	**1.84**	85,772	1.97	75,923	1.64	66,591	1.75	60,784	1.98
Securities purchased under reverse repurchase agreements and securities borrowed	**16,408**	**1.39**	22,472	1.60	20,090	1.09	19,878	1.03	19,038	0.75
Residential mortgage loans	**59,801**	**3.13**	54,493	3.30	51,509	3.07	50,218	2.82	44,908	2.78
Personal loans	**36,273**	**3.68**	35,816	4.25	35,041	3.98	33,298	3.65	31,781	3.30
Credit card receivables	**1,995**	**14.62**	2,221	14.06	2,165	13.69	2,209	13.09	2,107	12.88
Business and government loans	**53,325**	**3.37**	47,986	4.42	42,803	4.09	37,794	3.33	34,227	2.98
POCI loans	**1,073**	**16.45**	1,386	13.37	1,486	13.12	1,238	15.18	1,545	14.01
Interest-bearing assets	**281,983**	**2.69**	263,295	3.12	245,299	2.81	227,028	2.58	208,469	2.50
Other assets	**36,216**		22,867		20,641		21,323		27,444	
Total assets	**318,199**	**2.39**	286,162	2.87	265,940	2.60	248,351	2.36	235,913	2.12
Liabilities and equity										
Personal deposits	**63,634**	**0.87**	58,680	1.22	53,179	1.08	50,878	0.99	46,815	1.09
Deposit-taking institutions	**6,494**	**0.63**	5,987	1.80	5,985	1.45	7,567	0.69	12,469	0.39
Other deposits	**137,253**	**1.26**	119,793	2.06	108,012	1.66	95,809	1.21	83,568	1.12
	207,381	**1.12**	184,460	1.79	167,176	1.47	154,254	1.11	142,852	1.04
Subordinated debt	**759**	**3.25**	758	3.25	564	3.20	423	3.81	1,047	3.16
Obligations other than deposits	**49,671**	**0.65**	47,404	1.35	47,762	1.20	44,204	0.74	38,804	0.31
Interest-bearing liabilities	**257,811**	**1.23**	232,622	1.90	215,502	1.57	198,881	1.11	182,703	0.98
Other liabilities	**44,702**		38,827		36,492		36,722		41,627	
Equity	**15,686**		14,713		13,946		12,748		11,583	
Liabilities and equity	**318,199**	**1.00**	286,162	1.55	265,940	1.27	248,351	0.89	235,913	0.76
Net interest margin		**1.39**		1.32		1.33		1.47		1.36

(1) For fiscal years prior to 2020, certain amounts have been reclassified.
(2) See the Financial Reporting Method section on pages 22 and 23 for additional information on non-GAAP financial measures.

Table 9 – Distribution of Gross Loans and Acceptances by Borrower Category Under Basel Asset Classes

As at October 31 (millions of Canadian dollars)	2020		2019		2018		2017		2016	
	$	%	$	%	$	%	$	%	$	%
Residential mortgage[1][2]	**81,543**	**49.2**	74,448	48.4	70,591	48.1	66,398	48.4	58,265	45.2
Qualifying revolving retail	**3,599**	**2.2**	4,099	2.7	4,211	2.9	4,217	3.1	4,178	3.2
Other retail	**11,569**	**7.0**	11,606	7.5	12,246	8.3	12,150	8.9	10,316	8.0
Agriculture	**6,696**	**4.0**	6,308	4.1	5,759	3.9	4,923	3.6	4,599	3.6
Oil and gas, and pipelines	**5,052**	**3.0**	4,329	2.8	4,056	2.8	3,364	2.5	3,595	2.8
Mining	**756**	**0.5**	758	0.5	1,032	0.7	470	0.3	582	0.5
Utilities	**4,352**	**2.6**	3,372	2.2	2,715	1.9	2,347	1.7	1,814	1.4
Non-real-estate construction[3]	**1,079**	**0.7**	1,168	0.8	1,049	0.7	1,336	1.0	1,147	0.9
Manufacturing	**5,545**	**3.3**	6,303	4.1	5,303	3.6	4,274	3.1	3,561	2.8
Wholesale	**2,206**	**1.3**	2,221	1.4	2,163	1.5	2,066	1.5	2,021	1.6
Retail	**2,955**	**1.8**	3,289	2.1	3,069	2.1	3,431	2.5	2,911	2.3
Transportation	**1,528**	**0.9**	1,682	1.1	1,452	1.0	1,425	1.0	1,565	1.2
Communications	**1,184**	**0.7**	1,614	1.0	1,597	1.1	1,662	1.2	1,578	1.2
Finance and insurance	**4,347**	**2.6**	4,335	2.8	4,732	3.2	4,932	3.6	3,872	3.0
Real estate and real-estate-construction[4]	**14,171**	**8.6**	11,635	7.6	11,629	7.9	10,418	7.6	9,458	7.3
Professional services	**1,490**	**0.9**	1,846	1.2	1,582	1.1	1,416	1.0	1,374	1.1
Education and health care	**3,800**	**2.3**	3,520	2.3	3,284	2.2	2,886	2.1	2,738	2.1
Other services	**5,296**	**3.2**	4,937	3.2	4,715	3.2	4,762	3.5	4,647	3.6
Government	**1,160**	**0.7**	1,071	0.7	1,445	1.0	1,452	1.1	1,201	0.9
Other[2]	**6,715**	**4.0**	4,222	2.7	2,534	1.7	1,233	0.9	7,537	5.9
POCI loans	**855**	**0.5**	1,166	0.8	1,576	1.1	1,990	1.4	1,846	1.4
	165,898	**100.0**	153,929	100.0	146,740	100.0	137,152	100.0	128,805	100.0

(1) Includes residential mortgage loans on one to four-unit dwellings (Basel definition) and home equity lines of credit.
(2) Since November 1, 2016, the loans acquired by the Financial Markets segment for securitization purposes, and reported in the *Other* category, are now being reported in the *Residential mortgage* category. Figures as at October 31, 2016 were not adjusted to reflect those modifications.
(3) Includes civil engineering loans, public-private partnership loans, and project finance loans.
(4) Includes residential mortgages on dwellings of five or more units and SME loans.

Table 10 – Impaired Loans[1]

As at October 31 (millions of Canadian dollars)	2020	2019	2018	2017[2]	2016[2]
Net impaired loans[3]					
Personal Banking	**206**	187	199	81	89
Commercial Banking	**206**	222	187	121	190
Wealth Management	**2**	3	3	1	1
Financial Markets	**21**	23	–	–	–
USSF&I	**30**	15	15	3	1
Other	**–**	–	–	–	–
Total net impaired loans	**465**	450	404	206	281
Gross impaired loans	**817**	684	630	380	492
Allowances for credit losses on impaired loans	**352**	234	226		
Individual and collective allowances on impaired loans				174	211
Net impaired loans[3]	**465**	450	404	206	281
Provisioning rate	**43.1 %**	34.2 %	35.9 %	45.8 %	42.9 %
As a % of loans and acceptances	**0.3 %**	0.3 %	0.3 %	0.2 %	0.2 %

(1) Given the adoption of IFRS 9, all loans classified in Stage 3 of the expected credit loss model are impaired loans. Under IAS 39, loans were considered impaired according to different criteria. The impaired loans presented in this table exclude POCI loans.
(2) These figures are presented in accordance with IAS 39.
(3) Net impaired loans are presented net of allowances for credit losses on Stage 3 loan amounts drawn.

Table 11 – Allowances for Credit Losses

Year ended October 31 (millions of Canadian dollars)	2020	2019	2018	2017[1]	2016[1]
Balance at beginning	**755**	714	735	769	555
Provisions for credit losses	**846**	347	327	244	484
Write-offs	**(294)**	(351)	(367)	(320)	(282)
Disposals	**–**	(1)	(24)	–	–
Recoveries	**44**	52	45	13	13
Exchange and other movements	**(8)**	(6)	(2)	(11)	(1)
Balance at end	**1,343**	755	714	695	769
Composition of allowances:					
Allowances for credit losses on impaired loans[2]	**352**	234	226	174	211
Allowances for credit losses on non-impaired loans	**872**	501	498		
Allowances for credit losses on off-balance-sheet commitments and other assets	**185**	77	56		
Allowances for credit losses on POCI loans	**(66)**	(57)	(66)	(24)	(12)
Sectoral allowance on non-impaired loans – Oil and gas[3]				139	204
Collective allowance on non-impaired loans[4]				406	366

(1) These figures are presented in accordance with IAS 39.
(2) Given the adoption of IFRS 9, all loans classified in Stage 3 of the expected credit loss model are impaired loans. Under IAS 39, loans were considered impaired according to different criteria. Allowances for credit losses on impaired loans presented in this table exclude allowances for credit losses on POCI loans.
(3) The sectoral allowance on non-impaired loans – oil and gas was established collectively for the portfolio of loans to producers and service companies in the oil and gas sector.
(4) The collective allowance for credit risk on non-impaired loans was established taking into account the Bank's overall credit portfolio, except for loans covered by the sectoral allowance and POCI loans.

Table 12 – Deposits

As at October 31 (millions of Canadian dollars)	2020		2019		2018		2017		2016	
	$	**%**	$	%	$	%	$	%	$	%
Personal	**67,499**	**31.3**	60,065	31.7	55,688	32.6	52,175	33.3	51,163	36.0
Business and government	**143,787**	**66.6**	125,266	66.1	110,321	64.6	99,115	63.3	85,263	60.0
Deposit-taking institutions	**4,592**	**2.1**	4,235	2.2	4,821	2.8	5,381	3.4	5,640	4.0
Total	**215,878**	**100.0**	189,566	100.0	170,830	100.0	156,671	100.0	142,066	100.0
Canada	**195,730**	**90.7**	172,764	91.1	156,054	91.4	145,288	92.8	131,869	92.8
United States	**8,126**	**3.7**	6,907	3.7	6,048	3.5	5,825	3.7	4,442	3.1
Other countries	**12,022**	**5.6**	9,895	5.2	8,728	5.1	5,558	3.5	5,755	4.1
Total	**215,878**	**100.0**	189,566	100.0	170,830	100.0	156,671	100.0	142,066	100.0
Personal deposits as a % of total assets		**20.4**		21.3		21.2		21.2		22.0

Audited Consolidated Financial Statements

Management's Responsibility for Financial Reporting

The consolidated financial statements of National Bank of Canada (the Bank) have been prepared in accordance with section 308(4) of the *Bank Act* (Canada), which states that, except as otherwise specified by the Office of the Superintendent of Financial Institutions (Canada) (OSFI), the financial statements are to be prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB). IFRS represent Canadian generally accepted accounting principles (GAAP). None of the OSFI accounting requirements are exceptions to IFRS.

Management maintains the accounting and internal control systems needed to discharge its responsibility, which is to provide reasonable assurance that the financial accounts are accurate and complete and that the Bank's assets are adequately safeguarded. Controls that are currently in place include quality standards on staff hiring and training; the implementation of organizational structures with clear divisions of responsibility and accountability for performance; the *Code of Professional Conduct*; and the communication of operating policies and procedures.

As Chief Executive Officer and as Chief Financial Officer, we have overseen the evaluation of the design and operation of the Bank's internal controls over financial reporting in accordance with *National Instrument 52-109 Certification of Disclosure in Issuers' Annual and Interim Filings* released by the Canadian Securities Administrators. Based on the evaluation work performed, we have concluded that the internal controls over financial reporting and the disclosure controls and procedures were effective as at October 31, 2020 and that they provide reasonable assurance that the financial information is reliable and that the Bank's consolidated financial statements have been prepared in accordance with IFRS.

The Board of Directors (the Board) is responsible for reviewing and approving the financial information contained in the Annual Report. Acting through the Audit Committee, the Board also oversees the presentation of the consolidated financial statements and ensures that accounting and control systems are maintained. Composed of directors who are neither officers nor employees of the Bank, the Audit Committee is responsible, through Internal Audit, for performing an independent and objective review of the Bank's internal control effectiveness, i.e., governance processes, risk management processes and control measures. Furthermore, the Audit Committee reviews the consolidated financial statements and recommends their approval to the Board.

The control systems are further supported by the presence of the Compliance Service, which exercises independent oversight and evaluation in order to assist managers in effectively managing regulatory compliance risk and to obtain reasonable assurance that the Bank is compliant with regulatory requirements.

Both the Senior Vice-President, Internal Audit and the Senior Vice-President, Chief Compliance Officer and Chief Anti-Money Laundering Officer have a direct functional link to the Chair of the Audit Committee and to the Chair of the Risk Management Committee. They both also have direct access to the President and Chief Executive Officer.

In accordance with the *Bank Act* (Canada), OSFI is mandated to protect the rights and interests of the depositors. Accordingly, OSFI examines and enquires into the business and affairs of the Bank, as deemed necessary, to ensure that the provisions of the *Bank Act* (Canada) are being satisfied and that the Bank is in sound financial condition.

The independent auditor, Deloitte LLP, whose report follows, was appointed by the shareholders on the recommendation of the Board. The auditor has full and unrestricted access to the Audit Committee to discuss audit and financial reporting matters.

Louis Vachon
President and Chief Executive Officer

Ghislain Parent
Chief Financial Officer and Executive Vice-President, Finance

Montreal, Canada, December 1, 2020

Independent Auditor's Report

To the Shareholders of National Bank of Canada,

Opinion

We have audited the consolidated financial statements of National Bank of Canada (the Bank), which comprise the consolidated balance sheets as at October 31, 2020 and 2019, and the consolidated statements of income, the consolidated statements of comprehensive income, the consolidated statements of changes in equity and the consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies (collectively referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Bank as at October 31, 2020 and 2019, and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board (IFRS).

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards (Canadian GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Bank in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information

Management is responsible for the other information. The other information comprises:

- Management's Discussion and Analysis;
- The information, other than the financial statements and our auditor's report thereon, in the Annual Report.

Our opinion on the financial statements does not cover the other information and we do not and will not express any form of assurance conclusion thereon. In connection with our audit of the 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 financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

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

Responsibilities of Management and Those Charged With Governance for the Financial Statements

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

In preparing the financial statements, management is responsible for assessing the Bank's ability to continue as a going concern, disclosing, as applicable, matters related to a 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 Financial Statements

Our objectives are to obtain reasonable assurance about whether the 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 GAAS 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 financial statements.

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

- Identify and assess the risks of material misstatement of the 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 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 financial statements, including the note disclosures, and whether the 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 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 Carl Magnan.

/s/ Deloitte LLP[1]

December 1, 2020
Montreal, Quebec

[1] CPA auditor, CA, public accountancy permit No. A121501

(millions of Canadian dollars)

Consolidated Balance Sheets

As at October 31		2020	2019
Assets			
Cash and deposits with financial institutions		29,142	13,698
Securities	Notes 3, 4 and 6		
At fair value through profit or loss		78,326	61,823
At fair value through other comprehensive income		12,726	10,648
At amortized cost		11,079	9,755
		102,131	82,226
Securities purchased under reverse repurchase agreements and securities borrowed		14,512	17,723
Loans	Note 7		
Residential mortgage		64,959	57,171
Personal		37,613	36,944
Credit card		2,038	2,322
Business and government		54,422	50,599
		159,032	147,036
Customers' liability under acceptances		6,866	6,893
Allowances for credit losses		(1,158)	(678)
		164,740	153,251
Other			
Derivative financial instruments	Note 16	13,422	8,129
Investments in associates and joint ventures	Note 9	409	385
Premises and equipment	Note 10	1,155	490
Goodwill	Note 11	1,414	1,412
Intangible assets	Note 11	1,434	1,406
Other assets	Note 12	3,266	2,738
		21,100	14,560
		331,625	281,458
Liabilities and equity			
Deposits	Notes 4 and 13	215,878	189,566
Other			
Acceptances		6,866	6,893
Obligations related to securities sold short		16,368	12,849
Obligations related to securities sold under repurchase agreements and securities loaned(1)	Note 8	33,859	21,900
Derivative financial instruments	Note 16	12,923	6,852
Liabilities related to transferred receivables	Notes 4 and 8	22,855	21,312
Other liabilities	Note 14	5,718	6,177
		98,589	75,983
Subordinated debt	Note 15	775	773
Equity			
Equity attributable to the Bank's shareholders and holders of other equity instruments	Notes 18 and 22		
Preferred shares and other equity instruments		2,950	2,450
Common shares		3,057	2,949
Contributed surplus		47	51
Retained earnings		10,444	9,312
Accumulated other comprehensive income		(118)	16
		16,380	14,778
Non-controlling interests	Note 19	3	358
		16,383	15,136
		331,625	281,458

The accompanying notes are an integral part of these audited consolidated financial statements.

(1) As at October 31, 2020, *Obligations related to securities sold under repurchase agreements and securities loaned* include term repurchase transactions with the Bank of Canada, for which the underlying asset is a Bank issued security such as bearer deposit notes and covered bonds.

Louis Vachon
President and Chief Executive Officer

Karen Kinsley
Director

(millions of Canadian dollars)

Consolidated Statements of Income

Year ended October 31		2020	2019
Interest income			
Loans		5,915	6,468
Securities at fair value through profit or loss		1,140	1,086
Securities at fair value through other comprehensive income		224	195
Securities at amortized cost		211	210
Deposits with financial institutions		88	215
		7,578	8,174
Interest expense			
Deposits		2,552	3,468
Liabilities related to transferred receivables		392	444
Subordinated debt		19	25
Other		360	641
		3,323	4,578
Net interest income[1]		4,255	3,596
Non-interest income			
Underwriting and advisory fees		397	314
Securities brokerage commissions		195	178
Mutual fund revenues		477	449
Trust service revenues		675	609
Credit fees		467	417
Card revenues		138	175
Deposit and payment service charges		262	271
Trading revenues (losses)	Note 21	604	829
Gains (losses) on non-trading securities, net		93	77
Insurance revenues, net		128	136
Foreign exchange revenues, other than trading		104	96
Share in the net income of associates and joint ventures	Note 9	28	34
Other	Note 10	104	251
		3,672	3,836
Total revenues		7,927	7,432
Non-interest expenses			
Compensation and employee benefits		2,713	2,532
Occupancy	Note 14	291	298
Technology	Notes 10 and 11	805	704
Communications		58	62
Professional fees		244	249
Other		434	456
		4,545	4,301
Income before provisions for credit losses and income taxes		3,382	3,131
Provisions for credit losses	Note 7	846	347
Income before income taxes		2,536	2,784
Income taxes	Note 24	453	462
Net income		2,083	2,322
Net income attributable to			
Preferred shareholders and holders of other equity instruments		118	116
Common shareholders		1,923	2,140
Bank shareholders and holders of other equity instruments		2,041	2,256
Non-controlling interests		42	66
		2,083	2,322
Earnings per share *(dollars)*	Note 25		
Basic		5.73	6.39
Diluted		5.70	6.34
Dividends per common share *(dollars)*	Note 18	2.84	2.66

The accompanying notes are an integral part of these audited consolidated financial statements.

(1) *Net interest income* includes dividend income. For additional information, see Note 1 to these audited consolidated financial statements.

(millions of Canadian dollars)

Consolidated Statements of Comprehensive Income

Year ended October 31	2020	2019
Net income	**2,083**	2,322
Other comprehensive income, net of income taxes		
Items that may be subsequently reclassified to net income		
Net foreign currency translation adjustments		
Net unrealized foreign currency translation gains (losses) on investments in foreign operations	**43**	(9)
Net foreign currency translation (gains) losses on investments in foreign operations reclassified to net income	**56**	(2)
Impact of hedging net foreign currency translation gains (losses)	**(14)**	4
Impact of hedging net foreign currency translation (gains) losses reclassified to net income	**(20)**	–
	65	(7)
Net change in debt securities at fair value through other comprehensive income		
Net unrealized gains (losses) on debt securities at fair value through other comprehensive income	**240**	54
Net (gains) losses on debt securities at fair value through other comprehensive income reclassified to net income	**(155)**	(53)
Change in allowances for credit losses on debt securities at fair value through other comprehensive income reclassified to net income	**2**	–
	87	1
Net change in cash flow hedges		
Net gains (losses) on derivative financial instruments designated as cash flow hedges	**(271)**	(137)
Net (gains) losses on designated derivative financial instruments reclassified to net income	**(6)**	(20)
	(277)	(157)
Share in the other comprehensive income of associates and joint ventures	**3**	3
Items that will not be subsequently reclassified to net income		
Remeasurements of pension plans and other post-employment benefit plans	**238**	(135)
Net gains (losses) on equity securities designated at fair value through other comprehensive income	**(2)**	(21)
Net fair value change attributable to credit risk on financial liabilities designated at fair value through profit or loss	**(44)**	5
	192	(151)
Total other comprehensive income (loss), net of income taxes	**70**	(311)
Comprehensive income	**2,153**	2,011
Comprehensive income attributable to		
Bank shareholders and holders of other equity instruments	**2,099**	1,946
Non-controlling interests	**54**	65
	2,153	2,011

The accompanying notes are an integral part of these audited consolidated financial statements.

(millions of Canadian dollars)

Consolidated Statements of Comprehensive Income (cont.)

Income Taxes – Other Comprehensive Income

The following table presents the income tax expense or recovery for each component of other comprehensive income.

Year ended October 31	2020	2019
Net foreign currency translation adjustments		
Net unrealized foreign currency translation gains (losses) on investments in foreign operations	(13)	3
Net foreign currency translation (gains) losses on investments in foreign operations reclassified to net income	6	(1)
Impact of hedging net foreign currency translation gains (losses)	(4)	2
Impact of hedging net foreign currency translation (gains) losses reclassified to net income	(18)	2
	(29)	6
Net change in debt securities at fair value through other comprehensive income		
Net unrealized gains (losses) on debt securities at fair value through other comprehensive income	86	19
Net (gains) losses on debt securities at fair value through other comprehensive income reclassified to net income	(56)	(19)
Change in allowances for credit losses on debt securities at fair value through other comprehensive income reclassified to net income	1	–
	31	–
Net change in cash flow hedges		
Net gains (losses) on derivative financial instruments designated as cash flow hedges	(97)	(50)
Net (gains) losses on designated derivative financial instruments reclassified to net income	(2)	(7)
	(99)	(57)
Share in the other comprehensive income of associates and joint ventures	1	–
Remeasurements of pension plans and other post-employment benefit plans	86	(48)
Net gains (losses) on equity securities designated at fair value through other comprehensive income	–	(6)
Net fair value change attributable to credit risk on financial liabilities designated at fair value through profit or loss	(16)	2
	(26)	(103)

The accompanying notes are an integral part of these audited consolidated financial statements.

(millions of Canadian dollars)

Consolidated Statements of Changes in Equity

Year ended October 31		2020	2019
Preferred shares and other equity instruments at beginning	Note 18	2,450	2,450
Issuances of preferred shares and other equity instruments		500	–
Preferred shares and other equity instruments at end		2,950	2,450
Common shares at beginning	Note 18	2,949	2,822
Issuances of common shares pursuant to the Stock Option Plan		111	122
Repurchases of common shares for cancellation		(5)	(40)
Impact of shares purchased or sold for trading		2	45
Common shares at end		3,057	2,949
Contributed surplus at beginning		51	57
Stock option expense	Note 22	9	11
Stock options exercised		(13)	(15)
Other		–	(2)
Contributed surplus at end		47	51
Retained earnings at beginning		9,312	8,472
Impact of adopting IFRS 15 on November 1, 2018		–	(4)
Net income attributable to the Bank's shareholders and holders of other equity instruments		2,041	2,256
Dividends on preferred shares and distributions on other equity instruments	Note 18	(119)	(116)
Dividends on common shares	Note 18	(953)	(892)
Premium paid on common shares repurchased for cancellation	Note 18	(25)	(241)
Issuance expenses for shares and other equity instruments, net of income taxes		(5)	–
Remeasurements of pension plans and other post-employment benefit plans		238	(135)
Net gains (losses) on equity securities designated at fair value through other comprehensive income		(2)	(21)
Net fair value change attributable to the credit risk on financial liabilities designated at fair value through profit or loss		(44)	5
Impact of a financial liability resulting from put options written to non-controlling interests		–	(12)
Other		1	–
Retained earnings at end		10,444	9,312
Accumulated other comprehensive income at beginning		16	175
Net foreign currency translation adjustments		53	(6)
Net change in unrealized gains (losses) on debt securities at fair value through other comprehensive income		87	1
Net change in gains (losses) on cash flow hedges		(277)	(157)
Share in the other comprehensive income of associates and joint ventures		3	3
Accumulated other comprehensive income at end		(118)	16
Equity attributable to the Bank's shareholders and holders of other equity instruments		16,380	14,778
Non-controlling interests at beginning	Note 19	358	379
Purchase of the non-controlling interest of the Advanced Bank of Asia Limited subsidiary		–	(30)
Redemption of trust units issued by NBC Asset Trust		(350)	–
Net income attributable to non-controlling interests		42	66
Other comprehensive income attributable to non-controlling interests		12	(1)
Distributions to non-controlling interests		(59)	(56)
Non-controlling interests at end		3	358
Equity		16,383	15,136

Accumulated Other Comprehensive Income

As at October 31	2020	2019
Accumulated other comprehensive income		
Net foreign currency translation adjustments	61	8
Net unrealized gains (losses) on debt securities at fair value through other comprehensive income	101	14
Net gains (losses) on instruments designated as cash flow hedges	(283)	(6)
Share in the other comprehensive income of associates and joint ventures	3	–
	(118)	16

The accompanying notes are an integral part of these audited consolidated financial statements.

(millions of Canadian dollars)

Consolidated Statements of Cash Flows

Year ended October 31		2020	2019
Cash flows from operating activities			
Net income		2,083	2,322
Adjustments for			
Provisions for credit losses		846	347
Depreciation of premises and equipment, including right-of-use assets		196	104
Amortization of intangible assets		252	224
Gain on disposal of shares of Fiera Capital Corporation	Note 6	–	(79)
Remeasurement at fair value of an investment	Note 6	–	33
Provisions for onerous contracts	Note 14	–	45
Gain on disposal of premises and equipment	Note 10	–	(50)
Impairment losses on premises and equipment and on intangible assets	Notes 10 and 11	71	57
Foreign currency translation loss on disposal of subsidiaries	Note 30	24	–
Deferred taxes		(158)	(207)
Losses (gains) on sales of non-trading securities, net		(93)	(77)
Share in the net income of associates and joint ventures		(28)	(34)
Stock option expense		9	11
Change in operating assets and liabilities			
Securities at fair value through profit or loss		(16,503)	(6,006)
Securities purchased under reverse repurchase agreements and securities borrowed		3,211	436
Loans and acceptances, net of securitization		(10,883)	(6,221)
Deposits		26,312	18,736
Obligations related to securities sold short		3,519	(4,931)
Obligations related to securities sold under repurchase agreements and securities loaned		11,959	1,902
Derivative financial instruments, net		778	1,295
Securitization – Credit cards		(846)	1
Interest and dividends receivable and interest payable		(156)	(41)
Current tax assets and liabilities		(167)	(7)
Other items		(445)	420
		19,981	8,280
Cash flows from financing activities			
Issuances of preferred shares and other equity instruments		500	–
Issuances of common shares (including the impact of shares purchased for trading)		100	152
Repurchases of common shares for cancellation		(30)	(281)
Purchase of the non-controlling interest of the Advanced Bank of Asia Limited subsidiary		–	(84)
Redemption of trust units issued by NBC Asset Trust	Note 19	(350)	–
Repayments of lease liabilities		(88)	–
Issuance expenses for shares and other equity instruments		(5)	–
Dividends paid on shares and distributions on other equity instruments		(1,300)	(992)
Distributions to non-controlling interests		(59)	(56)
		(1,232)	(1,261)
Cash flows from investing activities			
Disposal of shares of Fiera Capital Corporation	Note 6	–	128
Disposal of premises and equipment, excluding right-of-use assets	Note 10	–	187
Net change in investments in associates and joint ventures		(4)	(16)
Purchases of non-trading securities		(16,247)	(16,355)
Maturities of non-trading securities		1,873	1,893
Sales of non-trading securities		11,543	8,413
Net change in premises and equipment, excluding right-of-use assets		(182)	(144)
Net change in intangible assets		(332)	(359)
		(3,349)	(6,253)
Impact of currency rate movements on cash and cash equivalents		44	176
Increase (decrease) in cash and cash equivalents		15,444	942
Cash and cash equivalents at beginning		13,698	12,756
Cash and cash equivalents at end(1)		29,142	13,698
Supplementary information about cash flows from operating activities			
Interest paid		3,535	4,545
Interest and dividends received		7,634	8,100
Income taxes paid		536	520

The accompanying notes are an integral part of these audited consolidated financial statements.

(1) This item is the equivalent of Consolidated Balance Sheet item *Cash and deposits with financial institutions*. It includes an amount of $5.9 billion as at October 31, 2020 ($4.1 billion as at October 31, 2019) for which there are restrictions.

Notes to the Audited Consolidated Financial Statements

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies

National Bank of Canada (the Bank) is a financial institution incorporated and domiciled in Canada and whose shares are listed on the Toronto Stock Exchange. Its head office is located at 600 De La Gauchetière Street West in Montreal, Quebec, Canada. The Bank is a chartered bank under Schedule 1 of the *Bank Act* (Canada) and is regulated by the Office of the Superintendent of Financial Institutions Canada (OSFI).

National Bank of Canada offers financial services to individuals, businesses, institutional clients and governments throughout Canada as well as specialized services at the international level. It operates four business segments, namely, the Personal and Commercial segment, the Wealth Management segment, the Financial Markets segment, and the U.S. Specialty Finance and International (USSF&I) segment. Its full line of services includes banking and investing solutions for individuals and businesses, corporate banking and investment banking services, securities brokerage, insurance, and wealth management.

On December 1, 2020, the Board of Directors (the Board) authorized the publication of the Bank's audited annual consolidated financial statements (the consolidated financial statements) for the year ended October 31, 2020.

Basis of Presentation

The Bank's consolidated financial statements are prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB). The financial statements also comply with section 308(4) of the *Bank Act* (Canada), which states that, except as otherwise specified by the Office of the Superintendent of Financial Institutions (Canada) (OSFI), the consolidated financial statements are to be prepared in accordance with IFRS. IFRS represent Canadian generally accepted accounting principles (GAAP). None of the OSFI accounting requirements are exceptions to IFRS.

The accounting policies covered in the Summary of Significant Accounting Policies section have been applied consistently to all periods presented except for the changes described hereafter in the Accounting Policy Changes section, which have been applied since November 1, 2019 following adoption of IFRS 16 – *Leases* (IFRS 16) as well as its early adoption of amendments to IFRS 7 – *Financial Instruments: Disclosures* (IFRS 7) and IAS 39 – *Financial Instruments: Recognition and Measurement* (IAS 39) arising from the first phase of the interest benchmark reform project. As permitted by IFRS 16, the Bank did not restate comparative consolidated financial statements.

During the year ended October 31, 2020, the Bank modified the presentation of the Consolidated Statement of Income by adding the subtotal *Income before provisions for credit losses and income taxes*. Following this change, the Provisions for credit losses item was moved below this new subtotal and the comparative figures for the year ended October 31, 2019 were adjusted accordingly.

Unless otherwise indicated, all amounts are expressed in Canadian dollars, which is the Bank's functional and presentation currency.

(millions of Canadian dollars)

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Accounting Policy Changes

The Bank adopted the following new and amended standards on November 1, 2019.

IFRS 16 – Leases

Effective November 1, 2019, the Bank adopted IFRS 16, which replaces IAS 17 – *Leases* (IAS 17) and related interpretations. The standard prescribes new guidance for identifying a lease as well as the recognition, measurement, presentation and disclosure of leases. IFRS 16 introduces a single on-balance-sheet accounting model for lessees. The distinction between operating and financing leases no longer applies. As for lessors, IFRS 16 substantially carries forward the lessor accounting in the previous accounting standard, with the distinction between operating leases and finance leases being retained. IFRS 16 requires a lessee to recognize a right-of-use asset representing its right to use the leased asset and a corresponding lease liability representing its obligation to make lease payments for all leases.

The Bank elected to adopt IFRS 16 using a modified retrospective approach and, accordingly, the information presented for 2019 remains as previously reported under IAS 17.

Impact of Transition to IFRS 16

On November 1, 2019, the Bank recognized right-of-use assets of $648 million ($668 million reduced by provisions for onerous lease contracts of $20 million previously recorded in *Other liabilities – Other items* as at October 31, 2019) and lease liabilities of $668 million.

The Bank used the following practical expedients when applying IFRS 16 to leases previously classified as operating leases. The Bank:

- excluded initial direct costs from the measurement of the right-of-use assets at the date of initial application;
- relied on previous assessments of whether or not a lease is an onerous contract;
- did not separate lease components and non-lease components and treated them as a single lease component;
- applied the recognition exemption to leases for which the lease term ends within 12 months of the transition date and to leases for which the underlying asset is of low value; and
- elected not to apply IFRS 16 to leases of intangible assets.

The following table presents a reconciliation of the Bank's operating lease commitments as at October 31, 2019 to the lease liabilities recognized as at November 1, 2019.

Operating lease commitments as at October 31, 2019	691
Extension and termination options reasonably certain to be exercised	70
Impact of discounting using the Bank's incremental borrowing rate as at November 1, 2019	(93)
Lease liabilities recognized as at November 1, 2019	668

For additional information regarding leases, refer to the Summary of Significant Accounting Policies section and to Note 10 to the consolidated financial statements.

Interest Rate Benchmark Reform

Phase 1

In September 2019, in response to uncertainty arising from the phasing-out of benchmark interest rates such as interbank offered rates (IBORs), the IASB issued amendments to its new and former financial instrument standards, IFRS 9 – *Financial Instruments* (IFRS 9) and IAS 39 as well as to the related standard on disclosures, IFRS 7. On November 1, 2019, the Bank early adopted the amendments to IFRS 7 and IAS 39. When the Bank had adopted IFRS 9 on November 1, 2017, it had made an accounting policy choice to continue applying the IAS 39 hedge accounting requirements.

The amendments to IAS 39 provide temporary relief from applying specific hedge accounting requirements to all hedging relationships directly affected by interest rate benchmark reform. A hedging relationship is directly affected by interest rate benchmark reform only if the reform gives rise to uncertainties about (a) the interest rate benchmark (contractually or non-contractually specified) designated as a hedged risk; and/or (b) the timing or the amount of interest rate benchmark-based cash flows of the hedged item or of the hedging instrument. The amendments modify specific hedge accounting requirements so that entities would apply those hedge accounting requirements assuming that the interest rate benchmark is not altered as a result of the interest rate benchmark reform, thereby allowing hedge accounting to continue during the period of uncertainty prior to the transition to alternative benchmark rates. Mandatory application of the amendments ends at the earlier of the following: when the uncertainty arising from interest rate benchmark reform is no longer present and when the hedging relationship is discontinued. For additional information, refer to the Summary of Significant Accounting Policies section – Derivative Financial Instruments Designated as Hedging Instruments and to Note 17 to the consolidated financial statements.

For the Bank, the effective date of these amendments is November 1, 2020. However, early adoption is permitted. For additional information on Interest Rate Benchmark Reform – Phase 2, refer to Note 2 to the consolidated financial statements.

Summary of Significant Accounting Policies

Judgments, Estimates and Assumptions

In preparing consolidated financial statements in accordance with IFRS, management must exercise judgment and make estimates and assumptions that affect the reporting date carrying amounts of assets and liabilities, net income, and related information. Furthermore, certain accounting policies require complex judgments and estimates because they apply to matters that are inherently uncertain, in particular accounting policies applicable to the following: the fair value determination of financial instruments, the impairment of financial assets, the impairment of non-financial assets, pension plans and other post-employment benefits, income taxes, provisions, the consolidation of structured entities, and the classification of debt instruments. Descriptions of these judgments and estimates are provided in each of the notes related thereto in the consolidated financial statements. Actual results could therefore differ from these estimates, in which case the impacts are recognized in the consolidated financial statements of future fiscal periods. The accounting policies described in this note provide greater detail about the use of estimates and assumptions and reliance on judgment.

COVID-19 Pandemic Considerations

On March 11, 2020, COVID-19 was declared a global pandemic by the World Health Organization. As a result of the heightened uncertainty associated with the unprecedented nature of the COVID-19 pandemic, developing reliable estimates and applying judgment has become even more challenging. Accounting for expected credit losses (ECL) has become particularly difficult in the current circumstances and requires significant judgment. The ECL model is forward-looking and is based on a probability-weighted approach. Measurement of ECLs at each reporting period reflects reasonable and supportable information about past events, current conditions, and forecasts of future events and economic conditions. During this period of greater economic uncertainty, it is very difficult to forecast future events and the macroeconomic inputs used in ECL modelling. Determining macroeconomic scenarios and assigning probabilities to these scenarios requires significant judgment. Consideration is given both to the effects of COVID-19 and the significant government support measures. The Bank applies expert credit judgment to adjust modelled ECL results when it becomes evident that known or expected risk factors and information were not considered in the credit rating and modelling process. As a result of COVID-19 and the recent economic downturn, significant measurement uncertainty exists in determining ECLs, and measurement is subject to significant judgment. The uncertainty regarding key inputs used in measuring ECLs is outlined in Note 7 to the consolidated financial statements.

In response to the economic impact of COVID-19, the Canadian government has established, among other financial relief programs, the Canada Emergency Business Account (CEBA) program to provide interest-free loans of up to $40,000 for small and medium-sized businesses and non-profit organizations. The Bank and several other financial institutions are authorized to implement the CEBA program in cooperation with Export Development Canada. This program is guaranteed by the Government of Canada and aims to help businesses cope with the economic challenges resulting from the COVID-19 crisis. Loans made by the Bank to its business clients under CEBA are not recognized on the Bank's Consolidated Balance Sheet, since the conditions of a qualifying pass-through arrangement have been met and the Bank has determined that substantially all the risks and rewards of ownership of the loans have been transferred to the Canadian government. The Bank receives an administration fee as reimbursement for the costs of administering this Canadian government program and this fee is recognized in the Consolidated Statement of Income as a reduction of *Non-interest expenses – Other.* As at October 31, 2020, loans of $1.2 billion had been provided to the Bank's clients under the CEBA program.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Basis of Consolidation

Subsidiaries

These consolidated financial statements include all the assets, liabilities, operating results and cash flows of the Bank and its subsidiaries, after elimination of intercompany transactions and balances. Subsidiaries are entities, including structured entities, controlled by the Bank. A structured entity is an entity created to accomplish a narrow and well-defined objective and is designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when voting rights relate solely to administrative tasks and the relevant activities are directed by means of contractual arrangements.

Management must exercise judgment in determining whether the Bank must consolidate an entity. The Bank controls an entity only if the following three conditions are met:

- it has decision-making authority regarding the entity's relevant activities;
- it has exposure or rights to variable returns from its involvement with the entity; and
- it has the ability to use its power to affect the amount of the returns.

When determining decision-making authority, the Bank considers many factors, including the existence and effect of actual and potential voting rights held by the Bank that can be exercised as well as the holding of instruments that are convertible into voting shares. In addition, the Bank must determine whether, as an investor with decision-making rights, it acts as a principal or agent.

Based on these principles, an assessment of control is performed at the inception of a relationship between any entity and the Bank. When performing this assessment, the Bank considers all facts and circumstances, and it must reassess whether it still controls an investee if facts and circumstances indicate that there are changes to one or more of the three conditions of control.

The Bank consolidates the entities it controls from the date on which control is obtained and ceases to consolidate them from the date control ceases. The Bank uses the acquisition method to account for the acquisition of a subsidiary from a third party on the date control is obtained.

Non-Controlling Interests

Non-controlling interests in subsidiaries represent the equity interests held by third parties in the Bank's subsidiaries and are presented in total *Equity,* separately from *Equity attributable to the Bank's shareholders and holders of other equity instruments.* The non-controlling interests' proportionate shares of the net income and other comprehensive income of the Bank's subsidiaries are presented separately in the Consolidated Statement of Income and in the Consolidated Statement of Comprehensive Income, respectively.

With respect to units issued to third parties by mutual funds and certain other funds that are consolidated, they are presented at fair value in *Other liabilities* on the Consolidated Balance Sheet. Lastly, changes in ownership interests in subsidiaries that do not result in a loss of control are recognized as equity transactions. The difference between the adjustment in the carrying value of the non-controlling interest and the fair value of the consideration paid or received is recognized directly in *Equity attributable to the Bank's shareholders and holders of other equity instruments*.

Investments in Associates and Joint Ventures

The Bank exercises significant influence over an entity when it has the power to participate in the financial and operating policy decisions of the investee. The Bank has joint control when there's a contractually agreed sharing of control of an arrangement, and joint control exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

Investments in associates, i.e., entities over which the Bank exercises significant influence, and investments in joint ventures, i.e., entities over which the Bank has rights to the net assets and exercises joint control, are accounted for using the equity method. Under the equity method, the investment is initially recorded at cost and, following acquisition, the Bank's shares in the net income and in the other comprehensive income are recognized, respectively, in *Non-interest income* in the Consolidated Statement of Income and in *Other comprehensive income* in the Consolidated Statement of Comprehensive Income. The carrying value of the investment is adjusted by an equivalent amount on the Consolidated Balance Sheet and reduced by distributions received.

Translation of Foreign Currencies

The consolidated financial statements are presented in Canadian dollars, which is the Bank's functional and presentation currency. Each foreign operation of the Bank determines its own functional currency, and the items reported in the financial statements of each foreign operation are measured using that currency.

Monetary items and non-monetary items measured at fair value and denominated in foreign currencies are translated into the functional currency at exchange rates prevailing at the Consolidated Balance Sheet date. Non-monetary items not measured at fair value are translated into the functional currency at historical rates. Revenues and expenses denominated in foreign currencies are translated at the average exchange rates for the period. Translation gains and losses are recognized in *Non-interest income* in the Consolidated Statement of Income, except for equity instruments designated at fair value through other comprehensive income, for which unrealized gains and losses are recorded in *Other comprehensive income* and will not be subsequently reclassified to net income.

In the consolidated financial statements, the assets and liabilities of all foreign operations are translated into the Bank's functional currency at the exchange rates prevailing at the Consolidated Balance Sheet date, whereas the revenues and expenses of such foreign operations are translated into the Bank's functional currency at the average exchange rates for the period. Any goodwill resulting from the acquisition of a foreign operation that does not have the same functional currency as the parent company, and any fair value adjustments to the carrying amounts of assets and liabilities resulting from the acquisition, are treated as assets and liabilities of the foreign operation and translated at the exchange rates prevailing at the Consolidated Balance Sheet date. Unrealized translation gains and losses relating to foreign operations, along with the impact of hedges and income taxes on the related results, are presented in *Other comprehensive income*. On disposal of a foreign operation, any accumulated translation gains and losses, along with the related hedges, recorded in the *Accumulated other comprehensive income* item of this foreign operation, are reclassified to *Non-interest income* in the Consolidated Statement of Income.

Classification and Measurement of Financial Instruments

At initial recognition, all financial instruments are recorded at fair value on the Consolidated Balance Sheet. At initial recognition, financial assets must be classified as subsequently measured at fair value through other comprehensive income, at amortized cost, or at fair value through profit or loss. The Bank determines the classification based on the contractual cash flow characteristics of the financial assets and on the business model it uses to manage these financial assets. At initial recognition, financial liabilities are classified as subsequently measured at amortized cost or as at fair value through profit or loss.

For the purpose of classifying a financial asset, the Bank must determine whether the contractual cash flows associated with the financial asset are solely payments of principal and interest on the principal amount outstanding. The principal is generally the fair value of the financial asset at initial recognition. The interest consists of consideration for the time value of money, for the credit risk associated with the principal amount outstanding during a particular period, and for other basic lending risks and costs as well as of a profit margin. If the Bank determines that the contractual cash flows associated with a financial asset are not solely payments of principal and interest, the financial assets must be classified as measured at fair value through profit or loss.

When classifying financial assets, the Bank determines the business model used for each portfolio of financial assets that are managed together to achieve a same business objective. The business model reflects how the Bank manages its financial assets and the extent to which the financial asset cash flows are generated by the collection of the contractual cash flows, the sale of the financial assets, or both. The Bank determines the business model using scenarios that it reasonably expects to occur. Consequently, the business model determination is a matter of fact and requires the use of judgment and consideration of all the relevant evidence available at the date of determination.

A financial asset portfolio falls within a "hold to collect" business model when the Bank's primary objective is to hold these financial assets in order to collect contractual cash flows from them and not to sell them. When the Bank's objective is achieved both by collecting contractual cash flows and by selling the financial assets, the financial asset portfolio falls within a "hold to collect and sell" business model. In this type of business model, collecting contractual cash flows and selling financial assets are both integral components to achieving the Bank's objective for this financial asset portfolio. Financial assets are mandatorily measured at fair value through profit or loss if they do not fall within either a "hold to collect" business model or a "hold to collect and sell" business model.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Financial Instruments Designated at Fair Value Through Profit or Loss

A financial asset may be irrevocably designated at fair value through profit or loss at initial recognition if certain conditions are met. The Bank may apply this option if, consistent with a documented risk management strategy, doing so eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring financial assets or liabilities or recognizing gains and losses on them on different bases and if the fair values are reliable. Financial assets thus designated are recognized at fair value, and any change in fair value is recorded in *Non-interest income* in the Consolidated Statement of Income. Interest income arising from these financial instruments designated at fair value through profit or loss is recorded in *Net interest income* in the Consolidated Statement of Income.

A financial liability may be irrevocably designated at fair value through profit or loss when it is initially recognized. Financial liabilities thus designated are recognized at fair value, and any changes in fair value attributable to changes in the Bank's own credit risk are recognized in *Other comprehensive income* unless these changes offset the amounts recognized in *Net income.* Fair value changes not attributable to the Bank's own credit risk are recognized in *Non-interest income* in the Consolidated Statement of Income. The amounts recognized in *Other comprehensive income* will not be subsequently reclassified to *Net income*. Interest expense arising from these financial liabilities designated at fair value through profit or loss is recorded in the *Net interest income* item of the Consolidated Statement of Income. The Bank may use this option in the following cases:

- if, consistent with a documented risk management strategy, using this option allows the Bank to eliminate or significantly reduce a measurement or recognition inconsistency that would otherwise arise from measuring financial assets or liabilities on different bases, and if the fair values are reliable.
- if a group of financial assets and financial liabilities to which an instrument belongs is managed and its performance is evaluated on a fair value basis, in accordance with the Bank's documented risk management or investment strategy, and information is provided on that basis to senior management. Consequently, the Bank may use this option if it has implemented a documented risk management strategy to manage a group of financial instruments together on the fair value basis, if it can demonstrate that significant financial risks are eliminated or significantly reduced, and if the fair values are reliable.
- for hybrid financial instruments with one or more embedded derivatives that would significantly modify the cash flows of the financial instruments and that would otherwise be bifurcated and accounted for separately.

Financial Instruments Designated at Fair Value Through Other Comprehensive Income

At initial recognition, an investment in an equity instrument that is neither held for trading nor a contingent consideration recognized in a business combination may be irrevocably designated as being at fair value through other comprehensive income. In accordance with this designation, any change in fair value is recognized in *Other comprehensive income* with no subsequent reclassification to net income. Dividend income is recorded in *Interest income* in the Consolidated Statement of Income.

Securities Measured at Fair Value Through Other Comprehensive Income

Securities measured at fair value through other comprehensive income include: (i) debt securities for which the contractual terms of the financial asset give rise, on specified dates, to cash flows that are solely payments of principal and interest on the principal amount outstanding and that fall within a "hold to collect and sell" business model and (ii) equity securities designated at fair value through other comprehensive income with no subsequent reclassification of gains and losses to net income.

The Bank recognizes securities transactions at fair value through other comprehensive income on the trade date, and the transaction costs are capitalized. Interest income and dividend income are recognized in *Interest income* in the Consolidated Statement of Income.

Debt Securities Measured at Fair Value Through Other Comprehensive Income

Debt securities measured at fair value through other comprehensive income are recognized at fair value. Unrealized gains and losses are recognized, net of expected credit losses and income taxes, and provided that they are not hedged by derivative financial instruments in a fair value hedging relationship, in *Other comprehensive income*. When the securities are sold, realized gains or losses, determined on an average cost basis, are reclassified to *Non-interest income – Gains (losses) on non-trading securities, net* in the Consolidated Statement of Income. Premiums, discounts and related transaction costs are amortized over the expected life of the instrument to interest income using the effective interest rate method.

Equity Securities Designated at Fair Value Through Other Comprehensive Income

Equity securities designated at fair value through other comprehensive income are recognized at fair value. Unrealized gains and losses are presented, net of income taxes, in *Other comprehensive income* with no subsequent reclassification of realized gains and losses to net income. Transaction costs incurred upon the purchase of such equity securities are not reclassified to net income upon the sale of the securities.

Securities Measured at Amortized Cost

Securities measured at amortized cost include debt securities for which the contractual terms give rise, on specified dates, to cash flows that are solely payments of principal and interest on the principal amount outstanding and that fall within a "hold to collect" business model.

The Bank recognizes these securities transactions at fair value on the trade date, and the transaction costs are capitalized. After initial recognition, debt securities in this category are recorded at amortized cost. Interest income is recognized in *Interest income* in the Consolidated Statement of Income. Premiums, discounts and related transaction costs are amortized over the expected life of the instrument to interest income using the effective interest rate method. Securities measured at amortized cost are presented net of allowances for credit losses on the Consolidated Balance Sheet.

Securities Measured at Fair Value Through Profit or Loss

Securities not classified or designated as measured at fair value through other comprehensive income or at amortized cost are classified as measured at fair value through profit or loss.

Securities measured at fair value through profit or loss include (i) securities held for trading, (ii) securities designated at fair value through profit or loss, (iii) all equity securities other than those designated as measured at fair value through other comprehensive income with no subsequent reclassifications of gains and losses to net income, and (iv) debt securities for which the contractual cash flows are not solely payments of principal and any interest on the principal amount outstanding.

The Bank recognizes securities transactions at fair value through profit or loss on the settlement date on the Consolidated Balance Sheet. Changes in fair value between the trade date and the settlement date are recognized in *Non-interest income* in the Consolidated Statement of Income.

Securities at fair value through profit or loss are recognized at fair value. Interest income, any transaction costs, as well as realized and unrealized gains or losses on securities held for trading are recognized in *Non-interest income – Trading revenues (losses)* in the Consolidated Statement of Income. Dividend income is recorded in *Interest income* in the Consolidated Statement of Income. Interest income on securities designated at fair value through profit or loss is recorded in *Interest income* in the Consolidated Statement of Income. Realized and unrealized gains or losses on these securities are recognized in *Non-interest income – Trading revenues (losses)* in the Consolidated Statement of Income.

Realized and unrealized gains or losses on equity securities at fair value through profit or loss, other than those held for trading, as well as debt securities for which the contractual cash flows are not solely payments of principal and interest on the principal amount outstanding, are recognized in *Non-interest income – Gains (losses) on non-trading securities, net* in the Consolidated Statement of Income. The dividend and interest income on these financial assets are recognized in *Interest income* in the Consolidated Statement of Income.

Securities Purchased Under Reverse Repurchase Agreements, Obligations Related to Securities Sold Under Repurchase Agreements, and Securities Borrowed and Loaned

The Bank recognizes these transactions at amortized cost using the effective interest rate method, except when they are designated at fair value through profit or loss and are recorded at fair value. These transactions are held within a business model whose objective is to collect contractual cash flows, i.e., cash flows that are solely payments of principal and interest on the principal amount outstanding. Securities sold under repurchase agreements remain on the Consolidated Balance Sheet, whereas securities purchased under reverse repurchase agreements are not recognized. Reverse repurchase agreements and repurchase agreements are treated as collateralized lending and borrowing transactions.

The Bank also borrows and lends securities. Securities loaned remain on the Consolidated Balance Sheet while securities borrowed are not recognized. As part of these transactions, the Bank pledges or receives collateral in the form of cash or securities. Collateral pledged in the form of securities remains on the Consolidated Balance Sheet. Collateral received in the form of securities is not recognized on the Consolidated Balance Sheet. Collateral pledged or received in the form of cash is recognized in financial assets or liabilities on the Consolidated Balance Sheet.

When the collateral is pledged or received in the form of cash, the interest income and expense are recorded in *Net interest income* in the Consolidated Statement of Income.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Loans

Loans Measured at Amortized Cost

Loans classified as measured at amortized cost include loans originated or purchased by the Bank that are not classified as measured at fair value through profit or loss or designated at fair value through profit or loss. These loans are held within a business model whose objective is to collect contractual cash flows, i.e., cash flows that are solely payments of principal and interest on the principal amount outstanding. All loans originated by the Bank are recognized when cash is advanced to a borrower. Purchased loans are recognized when the cash consideration is paid by the Bank.

All loans are initially recognized at fair value plus directly attributable costs and are subsequently measured at amortized cost using the effective interest rate method, net of an allowance for expected credit losses. For purchased performing loans, the acquisition date fair value adjustment on each loan is amortized to interest income over the expected remaining life of the loan using the effective interest rate method. For purchased credit-impaired loans, the acquisition date fair value adjustment on each loan consists of management's estimate of the shortfall of principal and interest cash flows that the Bank expects to collect and of the time value of money. The time value of money component of the fair value adjustment is amortized to interest income over the remaining life of the loan using the effective interest rate method. Loans are presented net of allowances for credit losses on the Consolidated Balance Sheet.

Loans Measured at Fair Value Through Profit or Loss

Loans classified as measured at fair value through profit or loss, loans designated at fair value through profit or loss, and loans for which the contractual cash flows are not solely payments of principal and interest on the principal amount outstanding are recognized at fair value on the Consolidated Balance Sheet. The interest income on loans at fair value through profit or loss is recorded in *Interest income* in the Consolidated Statement of Income.

Changes in the fair value of loans classified as at fair value through profit or loss and loans designated at fair value through profit or loss are recognized in *Non-interest income – Trading revenues (losses)* in the Consolidated Statement of Income. With respect to loans whose contractual cash flows are not solely payments of principal and interest on the principal amount outstanding, changes in fair value are recognized in *Non-interest income – Other* in the Consolidated Statement of Income.

Reclassification of Financial Assets

A financial asset, other than a derivative financial instrument or a financial asset that, at initial recognition, was designated as measured at fair value through profit or loss, is reclassified only in rare situations, i.e., when there is a change in the business model used to manage the financial asset. The reclassification is applied prospectively from the reclassification date.

Establishing Fair Value

The fair value of a financial instrument is the price that would be received to sell a financial asset or paid to transfer a financial liability in an orderly transaction in the principal market at the measurement date under current market conditions (i.e., an exit price).

Unadjusted quoted prices in active markets, based on bid prices for financial assets and offered prices for financial liabilities, provide the best evidence of fair value. A financial instrument is considered quoted in an active market when prices in exchange, dealer, broker or principal-to-principal markets are accessible at the measurement date. An active market is one where transactions occur with sufficient frequency and volume to provide quoted prices on an ongoing basis.

When there is no quoted price in an active market, the Bank uses another valuation technique that maximizes the use of relevant observable inputs and minimizes the use of unobservable inputs. The chosen valuation technique incorporates all the factors that market participants would consider when pricing a transaction. Judgment is required when applying a large number of acceptable valuation techniques and estimates to determine fair value. The estimated fair value reflects market conditions on the valuation date and, consequently, may not be indicative of future fair value.

The best evidence of the fair value of a financial instrument at initial recognition is the transaction price, i.e., the fair value of the consideration received or paid. If there is a difference between the fair value at initial recognition and the transaction price, and the fair value is determined using a valuation technique based on observable market inputs or, in the case of a derivative, if the risks are fully offset by other contracts entered into with third parties, this difference is recognized in the Consolidated Statement of Income. In other cases, the difference between the fair value at initial recognition and the transaction price is deferred on the Consolidated Balance Sheet. The amount of the deferred gain or loss is recognized over the term of the financial instrument. The unamortized balance is immediately recognized in net income when (i) observable market inputs can be obtained and support the fair value of the transaction, (ii) the risks associated with the initial contract are substantially offset by other contracts entered into with third parties, (iii) the gain or loss is realized through a cash receipt or payment, or (iv) the transaction matures or is cancelled before maturity.

In certain cases, measurement adjustments are recognized to address factors that market participants would use at the measurement date to determine fair value but that are not included in the measurement technique due to system limitations or uncertainty surrounding the measure. These factors include, but are not limited to, the unobservable nature of inputs used in the valuation model, assumptions about risk such as market risk, credit risk, or risk related to the valuation model, and future administration costs. The Bank may also consider market liquidity risk when determining the fair value of financial instruments when it believes these instruments could be disposed of for a consideration below the fair value otherwise determined due to a lack of market liquidity or an insufficient volume of transactions in a given market.

As permitted when certain criteria are met, the Bank has elected to determine fair value based on net exposure to credit risk or market risk for certain portfolios of financial instruments, mainly derivative financial instruments.

Impairment of Financial Assets
At the end of each reporting period, the Bank applies a three-stage impairment approach to measure the expected credit losses (ECL) on all debt instruments measured at amortized cost or at fair value through other comprehensive income and on loan commitments and financial guarantees that are not measured at fair value. The ECL model is forward looking. Measurement of ECLs at each reporting period reflects reasonable and supportable information about past events, current conditions, and forecasts of future events and economic conditions.

Determining the Stage
The ECL three-stage impairment approach is based on the change in the credit quality of financial assets since initial recognition. If, at the reporting date, the credit risk of non-impaired financial instruments has not increased significantly since initial recognition, these financial instruments are classified in Stage 1, and an allowance for credit losses that is measured, at each reporting date, in an amount equal to 12-month expected credit losses is recorded. When there is a significant increase in credit risk since initial recognition, these non-impaired financial instruments are migrated to Stage 2, and an allowance for credit losses that is measured, at each reporting date, in an amount equal to lifetime expected credit losses is recorded. In subsequent reporting periods, if the credit risk of the financial instrument improves such that there is no longer a significant increase in credit risk since initial recognition, the ECL model requires reverting to Stage 1, i.e., recognition of 12-month expected credit losses. When one or more events that have a detrimental impact on the estimated future cash flows of a financial asset have occurred, the financial asset is considered credit-impaired and is migrated to Stage 3, and an allowance for credit losses equal to lifetime expected losses continues to be recorded or the financial asset is written off. Interest income is calculated on the gross carrying amount for financial assets in Stages 1 and 2 and on the net carrying amount for financial assets in Stage 3.

Assessment of Significant Increase in Credit Risk
In determining whether credit risk has increased significantly, the Bank uses an internal credit risk grading system, external risk ratings, and forward-looking information to assess deterioration in credit quality of a financial instrument. To assess whether or not the credit risk of a financial instrument has increased significantly, the Bank compares the probability of default (PD) occurring over its expected life as at the reporting date with the PD occurring over its expected life on the date of initial recognition and considers reasonable and supportable information indicative of a significant increase in credit risk since initial recognition. The Bank includes relative and absolute thresholds in the definition of significant increase in credit risk and a backstop of 30 days past due. All financial instruments that are 30 days past due are migrated to Stage 2 even if other metrics do not indicate that a significant increase in credit risk has occurred. The assessment of a significant increase in credit risk requires significant judgment.

Measurement of Expected Credit Losses
ECLs are measured as the probability-weighted present value of all expected cash shortfalls over the remaining expected life of the financial instrument, and reasonable and supportable information about past events, current conditions and forecasts of future events and economic conditions is considered. The estimation and application of forward-looking information requires significant judgment. The cash shortfall is the difference between all contractual cash flows owed to the Bank and all cash flows that the Bank expects to receive.

The measurement of ECLs is primarily based on the product of the financial instrument's PD, loss given default (LGD), and exposure at default (EAD). Forward-looking macroeconomic factors such as unemployment rates, housing price indices, interest rates, and the gross domestic product (GDP) are incorporated into the risk parameters. The estimate of expected credit losses reflects an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes. The Bank incorporates three forward-looking macroeconomic scenarios in its ECL calculation process: a base scenario, an upside scenario and a downside scenario. Probability weights are attributed to each scenario. The scenarios and probability weights are reassessed quarterly and are subject to management review. The Bank applies experienced credit judgment to adjust the modelled ECL results when it becomes evident that known or expected risk factors and information were not considered in the credit risk rating and modelling process.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

ECLs for all financial instruments are recognized in *Provisions for credit losses* in the Consolidated Statement of Income. In the case of debt instruments measured at fair value through other comprehensive income, ECLs are recognized in *Provisions for credit losses* in the Consolidated Statement of Income, and a corresponding amount is recognized in *Other comprehensive income* with no reduction in the carrying amount of the asset on the Consolidated Balance Sheet. As for debt instruments measured at amortized cost, they are presented net of the related allowance for credit losses on the Consolidated Balance Sheet. Allowances for credit losses for off-balance-sheet credit exposures that are not measured at fair value are included in *Other liabilities* on the Consolidated Balance Sheet.

Purchased or Originated Credit-Impaired Financial Assets

On initial recognition of a financial asset, the Bank determines whether the asset is credit-impaired. For financial assets that are credit-impaired upon purchase or origination, the lifetime expected credit losses are reflected in the initial fair value. In subsequent reporting periods, the Bank recognizes only the cumulative changes in these lifetime ECLs since initial recognition as an allowance for credit losses. The Bank recognizes changes in ECLs in *Provisions for credit losses* in the Consolidated Statement of Income, even if the lifetime ECLs are less than ECLs that were included in the estimated cash flows on initial recognition.

Definition of Default

The definition of default used by the Bank to measure ECLs and transfer financial instruments between stages is consistent with the definition of default used for internal credit risk management purposes. The Bank considers a financial asset, other than a credit card receivable, to be credit-impaired when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred or when contractual payments are 90 days past due. Credit card receivables are considered credit-impaired and are fully written off at the earlier of the following: when a notice of bankruptcy is received, a settlement proposal is made, or contractual payments are 180 days past due.

Write-Offs

A financial asset and its related allowance for credit losses are normally written off in whole or in part when the Bank considers the probability of recovery to be non-existent and when all guarantees and other remedies available to the Bank have been exhausted or if the borrower is bankrupt or winding up and balances owing are not likely to be recovered.

Derecognition of Financial Assets and Securitization

A financial asset is considered for derecognition when the Bank has transferred contractual rights to receive the cash flows or assumed an obligation to transfer these cash flows to a third party. The Bank derecognizes a financial asset when it considers that substantially all the risks and rewards of ownership of the asset have been transferred or when the contractual rights to the cash flows of the financial asset expire. When the Bank considers that it has retained substantially all the risks and rewards of ownership of the transferred asset, it continues to recognize the financial asset and, if applicable, recognizes a financial liability on the Consolidated Balance Sheet. If, due to a derivative financial instrument, the transfer of a financial asset does not result in derecognition, the derivative financial instrument is not recognized on the Consolidated Balance Sheet.

When the Bank has neither transferred nor retained substantially all the risks and rewards of ownership of the financial asset, it derecognizes the financial asset it no longer controls. Any rights and obligations retained following the asset transfer are recognized separately as an asset or liability. If the Bank retains control of the financial asset, it continues to recognize the asset to the extent of its continuing involvement in that asset, i.e., to the extent to which it is exposed to changes in the value of the transferred asset.

In order to diversify its funding sources, the Bank participates in two Canada Mortgage and Housing Corporation (CMHC) securitization programs: the Mortgage-Backed Securities Program under the *National Housing Act* (Canada) (NHA) and Canada Mortgage Bond (CMB) program. Under the first program, the Bank issues NHA securities backed by insured residential mortgages and, under the second, the Bank sells NHA securities to Canada Housing Trust (CHT). As part of these transactions, the Bank retains substantially all the risks and rewards related to ownership of the mortgage loans sold. Therefore, the insured mortgage loans securitized under the CMB program continue to be recognized in the *Loans* item of the Bank's Consolidated Balance Sheet and the liabilities for the considerations received from the transfer are recognized in *Liabilities related to transferred receivables* on the Consolidated Balance Sheet. Moreover, insured mortgage loans securitized and retained by the Bank continue to be recognized in *Loans* on the Consolidated Balance Sheet.

Derecognition of Financial Liabilities

A financial liability is derecognized when the obligation is discharged, cancelled or expires. The difference between the carrying value of the financial liability transferred and the consideration paid is recognized in the Consolidated Statement of Income.

Cash and Deposits With Financial Institutions

Cash and deposits with financial institutions consist of cash and cash equivalents, amounts pledged as collateral as well as amounts placed in escrow. Cash comprises cash and bank notes. Cash equivalents consist of deposits with the Bank of Canada, deposits with financial institutions, including net receivables related to cheques and other items in the clearing process as well as the net amount of cheques and other items in transit.

Acceptances and Customers' Liability Under Acceptances
The potential liability of the Bank under acceptances is recorded as a customer commitment liability on the Consolidated Balance Sheet. The Bank's potential recourse vis à vis clients is recorded as an equivalent offsetting asset. Fees are recorded in *Non-interest income* in the Consolidated Statement of Income.

Obligations Related to Securities Sold Short
This financial liability represents the Bank's obligation to deliver the securities it sold but did not own at the time of sale. Obligations related to securities sold short are recorded at fair value and presented as liabilities on the Consolidated Balance Sheet. Realized and unrealized gains and losses are recognized in *Non-interest income* in the Consolidated Statement of Income.

Derivative Financial Instruments
In the normal course of business, the Bank uses derivative financial instruments to meet the needs of its clients, to generate trading activity revenues, and to manage its exposure to interest rate risk, foreign exchange risk, credit risk and other market risks.

All derivative financial instruments are measured at fair value on the Consolidated Balance Sheet. Derivative financial instruments with a positive fair value are included in assets, and derivative financial instruments with a negative fair value are included in liabilities on the Consolidated Balance Sheet. Where there are offsetting financial assets and financial liabilities, the net fair value of certain derivative financial instruments is reported either as an asset or as a liability.

Embedded Derivative Financial Instruments
An embedded derivative is a component of a hybrid contract that also includes a non-derivative host, the effect being that some of the cash flows of the combined instrument vary in a way similar to a stand-alone derivative. An embedded derivative causes some or all of the cash flows that otherwise would be required by the contract to be modified according to a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, credit rating or credit index, or other variable, provided in the case of a non-financial variable that the variable is not specific to one of the parties to the contract.

A derivative embedded in a financial liability is separated from the host contract and treated as a separate derivative if, and only if, the following three conditions are met: the economic characteristics and risks of the embedded derivative are not closely related to those of the host contract, the embedded derivative is a separate instrument that meets the definition of a derivative financial instrument, and the hybrid contract is not measured at fair value through profit or loss.

Embedded derivatives that are separately accounted for are measured at fair value on the Consolidated Balance Sheet, and subsequent changes in fair value are recognized in *Non-interest income* in the Consolidated Statement of Income. In general, all embedded derivatives are presented on a combined basis with the host contract. However, certain embedded derivatives that are separated from the host contract are presented in *Derivative financial instruments* on the Consolidated Balance Sheet.

Held-for-Trading Derivative Financial Instruments
Derivative financial instruments are recognized at fair value, and the realized and unrealized gains and losses (including interest income and expense) are recorded in *Non-interest income* in the Consolidated Statement of Income.

Derivative Financial Instruments Designated as Hedging Instruments
Policy
The purpose of a hedging transaction is to modify the Bank's exposure to one or more risks by creating an offset between changes in the fair value of, or the cash flows attributable to, the hedged item and the hedging instrument. Hedge accounting ensures that offsetting gains, losses, revenues and expenses are recognized in the Consolidated Statement of Income in the same period or periods.

Documenting and Assessing Effectiveness
The Bank designates and formally documents each hedging relationship, at its inception, by detailing the risk management objective and the hedging strategy. The documentation identifies the specific asset, liability, or cash flows being hedged, the related hedging instrument, the nature of the specific risk exposure or exposures being hedged, the intended term of the hedging relationship, and the method for assessing the effectiveness or ineffectiveness of the hedging relationship. At the inception of the hedging relationship, and for every financial reporting period for which the hedge has been designated, the Bank ensures that the hedging relationship is highly effective and consistent with its originally documented risk management objective and strategy. When a hedging relationship meets the hedge accounting requirements, it is designated as either a fair value hedge, a cash flow hedge or a foreign exchange hedge of a net investment in a foreign operation.

Interest Rate Benchmark Reform
A hedging relationship is directly affected by interest rate benchmark reform such as Interbank Offered Rates (IBORs), only if the reform gives rise to uncertainties about (a) the interest rate benchmark (contractually or non-contractually specified) designated as a hedged risk; and/or (b) the timing or the amount of the interest-rate-benchmark-based cash flows of the hedged item or of the hedging instrument.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

For such hedging relationships, the following temporary exceptions apply during the period of uncertainty:

- when determining whether a forecast transaction is highly probable or expected to occur, it is assumed that the interest rate benchmark on which the hedged cash flows (contractually or non-contractually specified) are based is not altered as a result of interest rate benchmark reform;
- when assessing whether a hedge is expected to be highly effective, it is assumed that the interest rate benchmark on which the hedged cash flows and/or the hedged risk (contractually or non-contractually specified) are based, or the interest rate benchmark on which the cash flows of the hedging instrument are based, is not altered as a result of interest rate benchmark reform;
- a hedge is not required to be discontinued if the actual results of the hedge are outside an effectiveness range of 80–125 per cent as a result of interest rate benchmark reform;
- for a hedge of a non-contractually specified benchmark portion of interest rate risk, the requirement that the designated portion is separately identifiable need only be met at the inception of the hedging relationship.

Fair Value Hedges
For fair value hedges, the Bank mainly uses interest rate swaps to hedge changes in the fair value of a hedged item. The carrying amount of the hedged item is adjusted based on the effective portion of the gains or losses attributable to the hedged risk, which are recognized in the Consolidated Statement of Income, as well as the change in the fair value of the hedging instrument. The resulting ineffective portion is recognized in *Non-interest income* in the Consolidated Statement of Income.

The Bank prospectively discontinues hedge accounting if the hedging instrument is sold or expires or if the hedging relationship no longer qualifies for hedge accounting or if the Bank revokes the designation. When the designation is revoked, the hedged item is no longer adjusted to reflect changes in fair value, and the amounts previously recorded as cumulative adjustments with respect to the effective portion of gains and losses attributable to the hedged risk are amortized using the effective interest rate method and recognized in the Consolidated Statement of Income over the remaining useful life of the hedged item. If the hedged item is sold or terminated before maturity, the cumulative adjustments with respect to the effective portion of gains and losses attributable to the hedged risk are immediately recorded in the Consolidated Statement of Income.

Cash Flow Hedges
For cash flow hedges, the Bank mainly uses interest rate swaps and total return swaps to hedge variable cash flows attributable to the hedged risk related to a financial asset or liability (or to a group of financial assets or liabilities). The effective portion of changes in fair value of the hedging instrument is recognized in *Other comprehensive income* and the ineffective portion in *Non-interest income* in the Consolidated Statement of Income.

The amounts previously recorded in *Accumulated other comprehensive income* are reclassified to the Consolidated Statement of Income of the period or periods during which the cash flows of the hedged item affect the Consolidated Statement of Income. If the hedging instrument is sold or expires or if the hedging relationship no longer qualifies for hedge accounting or if the Bank cancels that designation, then the amounts previously recognized in *Accumulated other comprehensive income* are reclassified to the Consolidated Statement of Income in the period or periods during which the cash flows of the hedged item affect the Consolidated Statement of Income.

Hedges of Net Investments in Foreign Operations
Derivative and non-derivative financial instruments are used to hedge foreign exchange risk related to investments made in foreign operations whose functional currency is not the Canadian dollar. The effective portion of the gains and losses on the hedging instrument is recognized in *Other comprehensive income* and the ineffective portion in *Non-interest income* in the Consolidated Statement of Income. Upon the total or partial sale of a net investment in a foreign operation, amounts reported in *Accumulated other comprehensive income* are reclassified, in whole or in part, to *Non-interest income* in the Consolidated Statement of Income.

Offsetting of Financial Assets and Liabilities
Financial assets and liabilities are offset, and the net amount is presented on the Consolidated Balance Sheet when the Bank has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis or to realize the asset and settle the liability simultaneously.

Premises and Equipment
Premises and equipment, except for land and the head office building under construction, are recognized at cost less accumulated depreciation and accumulated impairment losses, if any. Land and the head office building under construction are recorded at cost less any accumulated impairment losses. Right-of-use assets are presented in *Premises and equipment* on the Consolidated Balance Sheet. For the accounting policy regarding right-of-use assets, refer to the section on *Leases* presented hereafter.

Buildings, equipment and furniture are systematically depreciated over their estimated useful lives. The depreciation period for leasehold improvements is the lesser of the estimated useful life of the leasehold improvements or the non-cancellable period of the lease plus the first renewal option. Depreciation methods and estimated useful lives are reviewed on an annual basis. The depreciation expense is recorded in *Non-interest expenses* in the Consolidated Statement of Income.

	Method	Useful life
Buildings	5% declining balance	
Computer equipment	Straight-line	3-4 years
Equipment and furniture	Straight-line	1-8 years
Leasehold improvements	Straight-line	(1)

(1) The depreciation period is the lesser of the estimated useful life or the non-cancellable period of the lease plus the first renewal option.

Leases for the year ended October 31, 2020

At the inception date of a contract, the Bank assesses whether the contract is, or contains, a lease. A contract is, or contains, a lease if it conveys the right to control the use of an identified asset for a period of time in exchange for consideration. When the Bank is a lessee, it recognizes a right-of-use asset and a corresponding lease liability at the lease commencement date except for short-term leases (defined as leases with terms of 12 months or less) other than real estate leases and leases for which the underlying asset is of low value. For such leases, the Bank recognizes the lease payments as a non-interest expense on a straight-line basis over the lease term. As a practical expedient, the Bank elected for real estate leases not to separate non-lease components from lease components and instead account for them as a single lease component. When the Bank is the lessor, the leased assets remain on the Consolidated Balance Sheet and are reported in *Premises and equipment*, and the rental income is recognized net of related expenses in *Non-interest income* in the Consolidated Statement of Income.

Right-of-use assets are initially measured at cost, and subsequently measured at cost less accumulated depreciation and accumulated impairment losses, if any, and adjusted for certain remeasurements of lease liabilities. The cost of a right-of-use asset comprises the amount of the initial measurement of the lease liability, any lease payments made at or before the commencement date, any initial direct costs incurred when entering into the lease, and an estimate of costs to dismantle the asset or restore the site, less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the lesser of the lease term and the estimated useful life of the asset. Right-of-use assets are presented in *Premises and equipment* on the Consolidated Balance Sheet. The depreciation expense and impairment losses, if any, are recorded in *Non-interest expenses* in the Consolidated Statement of Income.

The lease liability is initially measured at the present value of future lease payments net of lease incentives not yet received. The present value of lease payments is determined using the Bank's incremental borrowing rate. The lease liability is subsequently measured at amortized cost using the effective interest method. In determining the lease term, the Bank considers all the facts and circumstances that create an economic incentive to exercise an extension option or not to exercise a termination option. The lease term determined by the Bank comprises the non-cancellable period of lease contracts, the periods covered by an option to extend the lease if the Bank is reasonably certain to exercise that option, and the periods covered by an option to terminate the lease if the Bank is reasonably certain not to exercise that option. The Bank reassesses the lease term if a significant event or change in circumstances occurs and that is within its control. The Bank applies judgment to determine the lease term when the lease includes extension and termination options. Lease liabilities are presented in *Other liabilities* on the Consolidated Balance Sheet, and the interest expense is presented in the *Interest expense – Other* item of the Consolidated Statement of Income.

Leases for the year ended October 31, 2019

A lease is an agreement whereby the lessor conveys to the lessee the right to use an asset for an agreed period of time in return for a payment or series of payments. A finance lease is a lease that transfers substantially all the risks and rewards incidental to ownership of the leased asset to the lessee. Title may or may not eventually be transferred. An operating lease is a lease other than a finance lease. The Bank primarily enters into operating leases.

When the Bank is the lessee under an operating lease, the rental expense is recognized on a straight-line basis over the lease term in *Non-interest expenses* in the Consolidated Statement of Income. When the Bank is the lessor, the lease assets remain on the Consolidated Balance Sheet and are reported in premises and equipment, and the rental income is recognized net of related expenses in *Non-interest income* in the Consolidated Statement of Income.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Goodwill

The Bank uses the acquisition method to account for business combinations. The consideration transferred in a business combination is measured at the acquisition-date fair value, and the transaction costs related to the acquisition are expensed as incurred. When the Bank acquires control of a business, all of the identifiable assets and liabilities of the acquiree, including intangible assets, are recorded at fair value. The interests previously held in the acquiree are also measured at fair value. Goodwill represents the excess of the purchase consideration and all previously held interests over the fair value of the identifiable net assets of the acquiree. If the fair value of the identifiable net assets exceeds the purchase consideration and all previously held interests, the difference is immediately recognized as a gain on a bargain purchase.

Non-controlling interests in the net assets of consolidated subsidiaries are identified separately from the Bank's ownership interest and can be initially measured at either fair value or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets. The measurement basis is selected on a case-by-case basis. Following an acquisition, non-controlling interests consist of the value assigned to those interests at initial recognition plus the non-controlling interests' share of changes in equity since the date of the acquisition.

Intangible Assets

Intangible Assets With Finite Useful Lives

Software and certain other intangible assets are recognized at cost less accumulated amortization and accumulated impairment losses. These intangible assets are systematically amortized on a straight-line basis over their useful lives, which vary between four and ten years. The amortization expense is recorded in *Non-interest expenses* in the Consolidated Statement of Income.

Intangible Assets With Indefinite Useful Lives

The Bank's intangible assets with indefinite useful lives come from the acquisition of subsidiaries or groups of assets and consist of management contracts and a trademark. They are recognized at the acquisition-date fair value. The management contracts are for the management of open-ended funds. At the end of each reporting period, the Bank reviews the useful lives to determine whether events and circumstances continue to support an indefinite useful life assessment. Intangible assets are deemed to have an indefinite useful life following an examination of all relevant factors, in particular: (a) the contracts do not have contractual maturities; (b) the stability of the business segment to which the intangible assets belong; (c) the Bank's capacity to control the future economic benefits of the intangible assets; and (d) the continued economic benefits generated by the intangible assets.

Impairment of Non-Financial Assets

Premises and equipment and intangible assets with finite useful lives are tested for impairment when events or changes in circumstances indicate that their carrying value may not be recoverable. At the end of each reporting period, the Bank determines whether there is an indication that premises and equipment or intangible assets with finite useful lives may be impaired. Goodwill and intangible assets that are not yet available for use or that have indefinite useful lives are tested for impairment annually or more frequently if there is an indication that the asset might be impaired.

An asset is tested for impairment by comparing its carrying amount with its recoverable amount. The recoverable amount must be estimated for the individual asset. Where it is not possible to estimate the recoverable amount of an individual asset, the recoverable amount of the cash-generating unit (CGU) to which the asset belongs will be determined. A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The Bank uses judgment to identify CGUs.

An asset's recoverable amount is the higher of fair value less costs to sell and the value in use of the asset or CGU. Value in use is the present value of expected future cash flows from the asset or CGU. The recoverable amount of the CGU is determined using valuation models that consider various factors such as projected future cash flows, discount rates, and growth rates. The use of different estimates and assumptions in applying the impairment tests could have a significant impact on income.

Corporate assets, such as the head office building and computer equipment, do not generate cash inflows that are largely independent of the cash inflows generated by other assets or groups of assets. Therefore, the recoverable amount of an individual corporate asset cannot be determined unless management has decided to dispose of the asset. However, if there is an indication that a corporate asset may be impaired, the recoverable amount is determined for the CGU or group of CGUs to which the corporate asset belongs, and that recoverable amount is compared with the carrying amount of this CGU or group of CGUs.

Goodwill is always tested for impairment at the level of a CGU or group of CGUs. For impairment testing purposes, from the acquisition date, goodwill resulting from a business combination must be allocated to the CGU or group of CGUs expected to benefit from the synergies of the business combination. Each CGU or group of CGUs to which goodwill is allocated must represent the lowest level for which the goodwill is monitored internally at the Bank and must not be larger than an operating segment. The allocation of goodwill to a CGU or group of CGUs involves management's judgment. If an impairment loss is to be recognized, the Bank does so by first reducing the carrying amount of goodwill allocated to the CGU or group of CGUs and then reducing the carrying amounts of the other assets of the CGU or group of CGUs in proportion to the carrying amount of each asset in the CGU or group of CGUs.

If the recoverable amount of an asset or a CGU is less than its carrying amount, the carrying amount is reduced to its recoverable amount and an impairment loss is recognized in *Non-interest expenses* in the Consolidated Statement of Income. An impairment loss recognized in prior periods for an asset other than goodwill must be reversed if, and only if, there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment was recognized. If this is the case, the carrying amount of the asset is increased, given that the impairment loss was reversed, but shall not exceed the carrying amount that would have been determined, net of amortization, had no impairment loss been recognized for this asset in previous years.

Provisions

Provisions are liabilities of uncertain timing and amount. A provision is recognized when the Bank has a present obligation (legal or constructive) arising from a past event, when it is probable that an outflow of economic resources will be required to settle the obligation and when the amount of the obligation can be reliably estimated. Provisions are based on the Bank's best estimates of the economic resources required to settle the present obligation, given all relevant risks and uncertainties, and, when it is significant, the effect of the time value of money. Provisions are reviewed at the end of each reporting period. Provisions are presented in *Other liabilities* on the Consolidated Balance Sheet.

Interest Income and Expense

Interest income and expense, except for the interest income on securities classified as at fair value through profit or loss, are recognized in *Net interest income* and calculated using the effective interest method.

The effective interest rate is the rate that exactly discounts estimated future cash inflows and outflows through the expected life of the financial asset or financial liability to the gross carrying amount of a financial asset or to the amortized cost of a financial liability. When calculating the effective interest rate, the Bank estimates expected cash flows by considering all the contractual terms of the financial instrument but does not consider expected credit losses. The calculation includes all fees and points paid or received between the parties to the contract that are an integral part of the effective interest rate, transaction costs, and all other premiums or discounts. Interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset except for purchased or originated credit-impaired financial assets and financial assets that were not impaired upon their purchase or origination but became impaired thereafter. For purchased or originated credit-impaired financial assets, the Bank applies the credit-adjusted effective interest rate to the amortized cost of the financial asset from initial recognition. The credit-adjusted effective interest rate reflects expected credit losses. As for loans that have subsequently become credit-impaired, interest income is calculated by applying the effective interest rate to the net carrying amount (net of allowances for credit losses) rather than to the carrying amount.

Loan origination fees, including commitment, restructuring, and renegotiation fees, are considered an integral part of the yield earned on the loan. They are deferred and amortized using the effective interest method, and the amortization is recognized in *Interest income* over the term of the loan. Direct costs for originating a loan are netted against the loan origination fees. If it is likely that a commitment will result in a loan, commitment fees receive the same accounting treatment, i.e., they are deferred and amortized using the effective interest rate method and the amortization is recognized in *Interest income* over the term of the loan. Otherwise, they are recorded in *Non-interest income* over the term of the commitment.

Loan syndication fees are recorded in *Non-interest income* unless the yield on the loan retained by the Bank is less than that of other comparable lenders involved in the financing. In such cases, an appropriate portion of the fees is deferred and amortized using the effective interest rate method, and the amortization is recognized in *Interest income* over the term of the loan. Certain mortgage loan prepayment fees are recognized in *Interest income* in the Consolidated Statement of Income when earned.

Dividend Income

Dividends from an equity instrument are recognized in *Net interest income* in the Consolidated Statement of Income when the Bank's right to receive payment is established.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Fee and Commission Income

Fee and commission income is recognized when, or as, a performance obligation is satisfied, i.e., when control of a promised service is transferred to a customer and in an amount that reflects the consideration that the entity expects to be entitled to receive in exchange for the service. The revenue may therefore be recognized at a point in time, upon completion of the service, or over time as services are provided.

The Bank must also determine whether its performance obligation is to provide the service itself or to arrange for another party to provide the service (in other words, whether the Bank is acting as a principal or agent). A principal may itself satisfy its performance obligation to provide the specified good or service or it may engage another party to satisfy some or all of the performance obligation on its behalf. A principal also has the primary responsibility for fulfilling the promise to provide the good or service to the customer and has discretion in establishing the price for the service. If the Bank is acting as a principal, revenue is recognized on a gross basis in an amount corresponding to the consideration to which the Bank expects to be entitled. If the Bank is acting as an agent, then revenue is recognized net of the service fees and other costs incurred in relation to the commission and fees earned.

<u>Underwriting and Advisory Fees</u>

Underwriting and advisory fees include underwriting fees, financial advisory fees, and loan syndication fees. These fees are mainly earned in the Financial Markets segment and are recognized at a point in time as revenue upon successful completion of the engagement. Financial advisory fees are fees earned for assisting customers with transactions related to mergers and acquisitions and financial restructurings. Loan syndication fees represent fees earned as the agent or lead lender responsible for structuring, arranging, and administering a loan syndication and are recorded in *Non-interest income* unless the yield on the loan retained by the Bank is less than that of other comparable lenders involved in the financing. In such cases, an appropriate portion of the fees is deferred and amortized using the effective interest rate method, and the amortization is recognized in *Interest income* over the term of the loan.

<u>Securities Brokerage Commissions</u>

Securities brokerage commissions are earned in the Wealth Management segment and are recognized at a point in time when the transaction is executed.

<u>Mutual Fund and Trust Service Revenues</u>

Mutual fund and trust service revenues include management and administration fees. These fees are earned in the Wealth Management segment. Management fees are primarily calculated on assets under management and are recorded over the period the services are performed. Administration fees are generally based on assets under administration or management and are recorded over the period the services are performed.

<u>Card Revenues</u>

Card revenues are earned in the Personal and Commercial segment and include card fees such as annual and transactional fees as well as interchange fees. Interchange fees are recognized when a card transaction is settled. Card fees are recognized on the transaction date except for annual fees, which are recorded evenly throughout the year. Reward costs are recorded as a reduction to interchange fees.

<u>Credit Fees and Deposit and Payment Service Charges</u>

Credit fees and deposit and payment service charges are earned in the Personal and Commercial, Financial Markets, and U.S. Specialty Finance and International segments. Credit fees are generally recognized in income over the period the services are provided. Deposit and payment service charges include fees related to account maintenance activities and transaction-based service charges. Fees related to account maintenance activities are recognized over the period the services are provided, whereas transaction-based service charges are recognized at a point in time when the transaction is completed.

Insurance Revenues

Insurance contracts, including reinsurance contracts, are arrangements under which one party accepts significant insurance risk by agreeing to compensate the policyholder if a specified uncertain future event was to occur. Gross premiums, net of premiums transferred under reinsurance contracts, are recognized when they become due. Royalties received from reinsurers are recognized when earned. Claims are recognized when received and an amount is estimated as they are being processed. All these amounts are recognized on a net basis in *Non-interest income* in the Consolidated Statement of Income.

Upon recognition of a premium, a reinsurance asset and insurance liability are recognized, respectively, in *Other assets* and in *Other liabilities* on the Consolidated Balance Sheet. Subsequent changes in the carrying value of the reinsurance asset and insurance liability are recognized on a net basis in *Non-interest income* in the Consolidated Statement of Income.

Income Taxes
Income taxes include current taxes and deferred taxes and are recorded in net income except for income taxes generated by items recognized in *Other comprehensive income* or directly in equity.

Current tax is the amount of income tax payable on the taxable income for a period. It is calculated using the enacted or substantively enacted tax rates prevailing on the reporting date, and any adjustments recognized in the period for the current tax of prior periods. Current tax assets and liabilities are offset, and the net balance is presented in either *Other assets* or *Other liabilities* on the Consolidated Balance Sheet when the Bank has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis or to simultaneously realize the asset and settle the liability.

Deferred tax is established based on temporary differences between the carrying values and the tax bases of assets and liabilities, in accordance with enacted or substantively enacted income tax laws and rates that will apply on the date the differences will reverse. Deferred tax is not recognized for temporary differences related to the following:

- the initial accounting of goodwill;
- the initial accounting of an asset or liability in a transaction that is not a business combination and that, at the time of the transaction, affects neither accounting income nor taxable income;
- investments in subsidiaries, associates and joint ventures when it is probable that the temporary difference will not reverse in the foreseeable future and that the Bank controls the timing of the reversal of the temporary difference;
- investments in subsidiaries, associates and joint ventures when it is probable that the temporary difference will not reverse in the foreseeable future and that there will not be taxable income to which the temporary difference can be recognized.

Deferred tax assets are tax benefits in the form of deductions that the Bank may claim to reduce its taxable income in future years. At the end of each reporting period, the carrying amount of deferred tax assets is revised, and it is reduced to the extent that it is no longer probable that sufficient taxable income will be available to allow the benefit of the deferred tax asset to be utilized.

Deferred tax assets and liabilities are offset, and the net balance is presented in either *Other assets* or *Other liabilities* on the Consolidated Balance Sheet when the Bank has a legally enforceable right to set off the current tax assets and liabilities and if the deferred tax assets and liabilities relate to taxes levied by the same taxation authority on the same taxable entity or on different taxable entities that intend to settle current tax assets and liabilities based on their net amount.

The Bank makes assumptions to estimate income taxes as well as deferred tax assets and liabilities. This process includes estimating the actual amount of current taxes and evaluating tax loss carryforwards and temporary differences arising from differences between the values of items reported for accounting and for income tax purposes. Deferred tax assets and liabilities presented on the Consolidated Balance Sheet are calculated according to the tax rates to be applied in future periods. Previously recorded deferred tax assets and liabilities must be adjusted when the date of the future event is revised based on current information.

The Bank is subject to the jurisdictions of various tax authorities. In the normal course of its business, the Bank is involved in a number of transactions for which the tax impacts are uncertain. As a result, the Bank accounts for provisions for uncertain tax positions that adequately represent the tax risk stemming from tax matters under discussion or being audited by tax authorities or from other matters involving uncertainty. The amounts of these provisions reflect the best possible estimates of the amounts that may have to be paid based on qualitative assessments of all relevant factors. The provisions are estimated at the end of each reporting period. However, it is possible that, at a future date, a provision might need to be adjusted following an audit by the tax authorities. When the final assessment differs from the initially provisioned amounts, the difference will impact the income taxes of the period in which the assessment was made.

Financial Guarantee Contracts
A financial guarantee contract is a contract or indemnification agreement that could require the Bank to make specified payments (in cash, financial instruments, other assets, Bank shares, or provisions of services) to reimburse a beneficiary in the event of a loss resulting from a debtor defaulting on the original or amended terms of a debt instrument.

To reflect the fair value of the obligation assumed at the inception of a financial guarantee, a liability is recorded in *Other liabilities* on the Consolidated Balance Sheet. After initial recognition, the Bank must measure financial guarantee contracts at the higher of the allowance for credit losses determined using the ECL model and of the initially recognized amount less, where applicable, the cumulative amount of income recognized. This revenue is recognized in *Credit fees* in the Consolidated Statement of Income.

Employee Benefits – Pension Plans and Other Post-Employment Benefits
The Bank offers defined benefit pension plans and other post-employment benefit plans to eligible employees. Other post-employment benefit plans include post-employment medical, dental, and life insurance coverage. While pension plans are funded, the other plans are not.

Plan expenses and obligations are actuarially determined based on the projected benefit method prorated on service. The calculations use management's best estimates of various actuarial assumptions such as discount rates, rates of compensation increase, health care cost trend rates, mortality rates, and retirement age.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

The net asset or net liability of pension plans and other post-employment benefit plans are calculated separately for each plan as the difference between the present value of the future benefits earned by employees in respect of current- and prior-period service and the fair value of plan assets. The net asset or net liability is included in either the *Other assets* or *Other liabilities* item of the Consolidated Balance Sheet.

The expense related to pension plans and other post-employment benefit plans consists of the following items: current service cost, net interest on the net plan asset or liability, administration costs, and past service cost, if any, recognized when a plan is amended. This expense is recognized in *Compensation and employee benefits* in the Consolidated Statement of Income. The net amount of interest income and expense is determined by applying a discount rate to the net plan asset or liability amount.

Remeasurements resulting from pension plans and other post-employment benefit plans represent actuarial gains and losses related to the defined benefit obligation and the actual return on plan assets, excluding net interest determined by applying a discount rate to the net asset or liability of the plans. Remeasurements are immediately recognized in *Other comprehensive income* and will not be subsequently reclassified to net income; these cumulative gains and losses are reclassified to *Retained earnings.*

Share-Based Payments

The Bank has several share-based compensation plans: the Stock Option Plan, the Stock Appreciation Rights (SAR) Plan, the Deferred Stock Unit (DSU) Plan, the Restricted Stock Unit (RSU) Plan, the Performance Stock Unit (PSU) Plan, the Deferred Compensation Plan (DCP) of National Bank Financial, and the Employee Share Ownership Plan.

Compensation expense is recognized over the service period required for employees to become fully entitled to the award. This period is generally the same as the vesting period, except where the required service period begins before the award date. Compensation expense related to awards granted to employees eligible to retire on the award date is immediately recognized on the award date. Compensation expense related to awards granted to employees who will become eligible to retire during the vesting period is recognized over the period from the award date to the date the employee becomes eligible to retire. For all of these plans, as of the first year of recognition, the expense includes cancellation and forfeiture estimates. These estimates are subsequently revised as necessary. The Bank uses derivative financial instruments to hedge the risks associated with some of these plans. The compensation expense for these plans, net of related hedges, is recognized in the Consolidated Statement of Income.

Under the Stock Option Plan, the Bank uses the fair value method to account for stock options awarded. The options vest at 25% per year, and each tranche is treated as though it was a separate award. The fair value of each of the tranches is measured on the award date using the Black-Scholes model, and this fair value is recognized in *Compensation and employee benefits* and *Contributed surplus.* When the options are exercised, the *Contributed surplus* amount is credited to *Equity – Common shares* on the Consolidated Balance Sheet. The proceeds received from the employees when these options are exercised are also credited to *Equity – Common shares* on the Consolidated Balance Sheet.

SARs are recorded at fair value when awarded and their fair value is remeasured at the end of each reporting period until they are exercised. The cost is recognized in *Compensation and employee benefits* in the Consolidated Statement of Income and in *Other liabilities* on the Consolidated Balance Sheet. The obligation that results from the change in fair value at each period is recognized in net income gradually over the vesting period, and periodically thereafter, until the SARs are exercised. When a SAR is exercised, the Bank makes a cash payment equal to the increase in the stock price since the date of the award.

The obligation that results from the award of a DSU, RSU, PSU and DCP unit is recognized in net income, and the corresponding amount is included in *Other liabilities* on the Consolidated Balance Sheet. For the DSU, RSU and DCP plans, the change in the obligation attributable to variations in the share price and dividends paid on common shares for these plans is recognized in *Compensation and employee benefits* in the Consolidated Statement of Income for the period in which the variations occur. On the redemption date, the Bank makes a cash payment equal to the value of the common shares on that date. For the PSU Plan, the change in the obligation attributable to changes in the stock price, adjusted upward or downward depending on the relative result of the performance criteria, and the change in the obligation attributable to dividends paid on the shares awarded under the plan, are recognized in *Compensation and employee benefits* in the Consolidated Statement of Income for the period in which the changes occur. On the redemption date, the Bank makes a cash payment equal to the value of the common shares on that date, adjusted upward or downward according to the performance criteria.

The Bank's contributions to the employee share ownership plan are expensed as incurred.

Note 2 – Future Accounting Policy Changes

The Bank closely monitors both new accounting standards and amendments to existing accounting standards issued by the IASB. The following standards have been issued but are not yet effective. The Bank is currently assessing the impact of the application of these standards on the consolidated financial statements.

Effective Date – November 1, 2020
Conceptual Framework for Financial Reporting
On March 29, 2018, the IASB published *Conceptual Framework for Financial Reporting* to replace its 2010 conceptual framework. For the IASB, the revised conceptual framework has been in effect since its publication date.

Effective Date – November 1, 2021
Interest Rate Benchmark Reform – Phase 2
In August 2020, the IASB finalized its response to the ongoing reform of interbank offered rates (IBOR) and other interest rate benchmarks by issuing amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 – *Insurance Contracts* and IFRS 16. The amendments complement those issued in 2019 and focus on the effects on financial statements once existing benchmark rates are replaced with alternative benchmark rates. The amendments in this final phase relate to changes to contractual cash flows, hedge accounting, and disclosures. The effective date for the amendments will be annual periods beginning on or after January 1, 2021, with early application permitted.

Effective Date – November 1, 2023
IFRS 17 – Insurance Contracts
In May 2017, the IASB issued IFRS 17 – *Insurance Contracts* (IFRS 17), a new standard that replaces IFRS 4, the current insurance contract accounting standard. IFRS 17 introduces a new accounting framework that will improve the comparability and quality of financial information. IFRS 17 provides guidance on the recognition, measurement, presentation and disclosure of insurance contracts. In June 2020, amendments to IFRS 17 were issued and included a two-year deferral of the effective date along with other changes aimed at addressing concerns and implementation challenges identified after IFRS 17 was published in 2017. IFRS 17, as amended, is effective retrospectively for annual periods beginning on or after January 1, 2023, with earlier application permitted. If full retrospective application to a group of insurance contracts is impractical, the modified retrospective approach or the fair value approach may be used.

(millions of Canadian dollars)

Note 3 – Fair Value of Financial Instruments

Fair Value and Carrying Value of Financial Instruments by Category

Financial assets and financial liabilities are recognized on the Consolidated Balance Sheet at fair value or at amortized cost in accordance with the categories set out in the accounting framework for financial instruments.

								As at October 31, 2020
				Carrying value and fair value	Carrying value	Fair value		
	Financial instruments classified as at fair value through profit or loss	Financial instruments designated at fair value through profit or loss	Debt securities classified as at fair value through other comprehensive income	Equity securities designated at fair value through other comprehensive income	Financial instruments at amortized cost, net	Financial instruments at amortized cost, net	Total carrying value	Total fair value
Financial assets								
Cash and deposits with financial institutions	–	–	–	–	29,142	29,142	29,142	29,142
Securities	75,647	2,679	12,107	619	11,079	11,290	102,131	102,342
Securities purchased under reverse repurchase agreements and securities borrowed	–	–	–	–	14,512	14,512	14,512	14,512
Loans and acceptances, net of allowances	8,109	–	–	–	156,631	159,473	164,740	167,582
Other								
Derivative financial instruments	13,422	–	–	–	–	–	13,422	13,422
Other assets	–	–	–	–	1,153	1,153	1,153	1,153
Financial liabilities								
Deposits	–	11,418			204,460 (1)	205,337	215,878	216,755
Other								
Acceptances	–	–			6,866	6,866	6,866	6,866
Obligations related to securities sold short	16,368	–			–	–	16,368	16,368
Obligations related to securities sold under repurchase agreements and securities loaned	–	–			33,859	33,859	33,859	33,859
Derivative financial instruments	12,923	–			–	–	12,923	12,923
Liabilities related to transferred receivables	–	8,762			14,093	14,432	22,855	23,194
Other liabilities	–	–			1,892	1,894	1,892	1,894
Subordinated debt	–	–			775	787	775	787

(1) Includes embedded derivative financial instruments.

(millions of Canadian dollars)

As at October 31, 2019

	Carrying value and fair value				Carrying value	Fair value		
	Financial instruments classified as at fair value through profit or loss	Financial instruments designated at fair value through profit or loss	Debt securities classified as at fair value through other comprehensive income	Equity securities designated at fair value through other comprehensive income	Financial instruments at amortized cost, net	Financial instruments at amortized cost, net	Total carrying value	Total fair value
Financial assets								
Cash and deposits with financial institutions	–	–	–	–	13,698	13,698	13,698	13,698
Securities	58,556	3,267	10,026	622	9,755	9,824	82,226	82,295
Securities purchased under reverse repurchase agreements and securities borrowed	–	87	–	–	17,636	17,636	17,723	17,723
Loans and acceptances, net of allowances	6,798	–	–	–	146,453	147,051	153,251	153,849
Other								
Derivative financial instruments	8,129	–	–	–	–	–	8,129	8,129
Other assets	–	–	–	–	1,193	1,193	1,193	1,193
Financial liabilities								
Deposits	–	11,203			178,363 (1)	178,861	189,566	190,064
Other								
Acceptances	–	–			6,893	6,893	6,893	6,893
Obligations related to securities sold short	12,849	–			–	–	12,849	12,849
Obligations related to securities sold under repurchase agreements and securities loaned	–	–			21,900	21,900	21,900	21,900
Derivative financial instruments	6,852	–			–	–	6,852	6,852
Liabilities related to transferred receivables	–	8,215			13,097	13,186	21,312	21,401
Other liabilities	24	–			3,018	3,019	3,042	3,043
Subordinated debt	–	–			773	765	773	765

(1) Includes embedded derivative financial instruments.

Establishing Fair Value

The fair value of a financial instrument is the price that would be received to sell a financial asset or paid to transfer a financial liability in an orderly transaction in the principal market at the measurement date under current market conditions (i.e., an exit price).

Unadjusted quoted prices in active markets provide the best evidence of fair value. When there is no quoted price in an active market, the Bank applies other valuation techniques that maximize the use of relevant observable inputs and that minimize the use of unobservable inputs. Such valuation techniques include the following: using information available from recent market transactions, referring to the current fair value of a comparable financial instrument, applying discounted cash flow analysis, applying option pricing models, or relying on any other valuation technique that is commonly used by market participants and has proven to yield reliable estimates. Judgment is required when applying many of the valuation techniques. The Bank's valuation was based on its assessment of the conditions prevailing as at October 31, 2020 and may change in the future. Furthermore, there may be valuation uncertainty resulting from the choice of valuation model used.

Note 3 – Fair Value of Financial Instruments (cont.)

Valuation Governance
Fair value is established in accordance with a rigorous control framework. The Bank has policies and procedures that govern the process for determining fair value. These policies are documented and periodically reviewed by the Risk Management Group. All valuation models are validated, and controls have been implemented to ensure that they are applied.

The fair value of existing or new products is determined and validated by functions independent of the risk-taking team. Complex fair value matters are reviewed by valuation committees made up of experts from various specialized functions.

For financial instruments classified in Level 3 of the fair value hierarchy, the Bank has documented the classification policies to determine the hierarchy, and there are controls in place to ensure that fair value is measured appropriately, reliably, and consistently. Valuation methods and the underlying assumptions are reviewed on a regular basis.

Valuation Methods and Assumptions
Financial Instruments Whose Fair Value Equals Carrying Value
The carrying value of the following financial instruments is a reasonable approximation of fair value:

- cash and deposits with financial institutions;
- securities purchased under reverse repurchase agreements and securities borrowed;
- obligations related to securities sold under repurchase agreements and securities loaned;
- customers' liability under acceptances;
- acceptances;
- certain items of other assets and other liabilities.

Securities and Obligations Related to Securities Sold Short
These financial instruments, except for securities at amortized cost, are recognized at fair value on the Consolidated Balance Sheet. Their fair value is based on quoted prices in active markets, i.e., bid prices for financial assets and offered prices for financial liabilities. If there are no quoted prices in an active market, fair value is estimated using prices for securities that, in substance, are identical. If such prices are not available, fair value is determined using valuation techniques that incorporate assumptions based primarily on observable market inputs such as current market prices, the contractual prices of the underlying instruments, the time value of money, credit risk, interest rate yield curves and currency rates.

When one or more significant inputs are not observable in the markets, fair value is established primarily on the basis of internal estimates and data that consider the valuation policies in effect at the Bank, economic conditions, the specific characteristics of the financial asset or liability, and other relevant factors.

Securities Issued or Guaranteed by Governments
Securities issued or guaranteed by governments include government debt securities of the governments of Canada (federal, provincial and municipal) as well as debt securities of the U.S. government (U.S. Treasury), of other U.S. agencies and of other foreign governments. The fair value of these securities is based on unadjusted quoted prices in active markets. For those classified in Level 2, quoted prices for identical or similar instruments in active markets are used to determine fair value. In the absence of an observable market, valuation techniques such as the discounted cash flow method could be used, incorporating assumptions on benchmark yields (CDOR, LIBOR and other) and the risk spreads of similar securities.

Equity Securities and Other Debt Securities
The fair value of equity securities is determined primarily by using quoted prices in active markets. For equity securities and other debt securities classified in Level 2, a valuation technique based on quoted prices of identical and similar instruments in an active market is used to determine fair value. In the absence of observable inputs, valuation techniques such as the discounted cash flow method could be used, incorporating assumptions on benchmark yields (CDOR, LIBOR and other) and the risk spreads of similar securities. For those classified in Level 3, fair value can be determined based on the net asset value, which represents the estimated value of a security based on valuations received from investment or fund managers or the general partners of the limited partnerships. Fair value can also be determined using internal valuation techniques adjusted for risk factors related to the financial instruments and for economic conditions.

Derivative Financial Instruments

Derivative financial instruments are recorded at fair value on the Consolidated Balance Sheet. For exchange-traded derivative financial instruments, fair value is based on the quoted price in an active market.

For over-the-counter (OTC) derivative financial instruments, fair value is determined using well established valuation techniques that incorporate assumptions based primarily on observable market inputs such as current market prices and the contractual prices of the underlying instruments, the time value of money, interest rate yield curves, credit curves, currency rates as well as price and rate volatility factors. In establishing the fair value of OTC derivative financial instruments, the Bank also incorporates the following factors:

Credit Valuation Adjustment (CVA)

The CVA is a valuation adjustment applied to derivative financial instruments to reflect the credit risk of the counterparty. For each counterparty, the CVA is based on the expected positive exposure and probabilities of default through time. The exposures are determined by incorporating relevant factors such as current and potential future market values, master netting arrangements, collateral agreements and expected recovery rates. The default probabilities are inferred using credit default swap (CDS) spreads. When unavailable, relevant proxies are used. While the general methodology currently assumes independence between expected positive exposures and probabilities of default, adjustments are applied to certain types of transactions where there is a direct link between the exposure at default and the default probabilities.

Debit Valuation Adjustment (DVA)

The DVA reflects the Bank's own credit risk in the valuation of derivative financial instruments. The DVA is based on the expected negative exposure and probabilities of default of the Bank over time. The exposures are determined by incorporating relevant factors such as current and potential future market values, master netting arrangements, collateral agreements and expected recovery rates. The market-implied spreads of the Bank are used in the calculation of the DVA.

Funding Valuation Adjustment (FVA)

The FVA is a valuation adjustment applied to derivative financial instruments to reflect the market-implied cost or benefits of funding collateral for uncollateralized or partly collateralized transactions. The expected exposures are determined using methodologies consistent with the CVA and DVA framework. The funding level used to determine the FVA is based on the average funding level of relevant market participants.

When the valuation techniques incorporate one or more significant inputs that are not observable in the markets, the fair value of OTC derivative financial instruments is established primarily on the basis of internal estimates and data that consider the valuation policies in effect at the Bank, economic conditions, the specific characteristics of the financial asset or financial liability and other relevant factors.

Loans

The fair value of fixed-rate mortgage loans is determined by discounting expected future contractual cash flows, adjusted for several factors, including prepayment options, current market interest rates for similar loans, and other relevant variables where applicable. The fair value of variable-rate mortgage loans is deemed to equal carrying value.

The fair value of other fixed-rate loans is determined by discounting expected future contractual cash flows using current market interest rates charged for similar new loans. The fair value of other variable-rate loans is deemed to equal carrying value.

Deposits

The fair value of fixed-term deposits is determined primarily by discounting expected future contractual cash flows and considering several factors such as redemption options and market interest rates currently offered for financial instruments with similar conditions. For certain term funding instruments, fair value is determined using market prices for similar instruments. The fair value of demand deposits and notice deposits is deemed to equal carrying value.

The fair value of structured deposit notes is established using valuation models that maximize the use of observable inputs when available, such as benchmark indices, and also incorporates the DVA, which reflects the Bank's own credit risk. In calculating DVA, the market implied spreads of the Bank are used to infer its probabilities of default. Lastly, when fair value is determined using option pricing models, the valuation techniques are similar to those described for derivative financial instruments.

Liabilities Related to Transferred Receivables

These liabilities arise from sale transactions to Canada Housing Trust (CHT) of securities backed by insured residential mortgages and other securities under the Canada Mortgage Bond (CMB) program. These transactions do not qualify for derecognition. They are recorded as guaranteed borrowings, which results in the recording of liabilities on the Consolidated Balance Sheet. The fair value of these liabilities is established using valuation techniques based on observable market inputs such as Canada Mortgage Bond prices.

Note 3 – Fair Value of Financial Instruments (cont.)

Other Liabilities and Subordinated Debt
The fair value of these financial liabilities is based on quoted market prices in an active market. If there is no active market, fair value is determined by discounting contractual cash flows using the current market interest rates offered for similar financial instruments that have the same term to maturity.

Hierarchy of Fair Value Measurements

Determining the Levels of the Fair Value Measurement Hierarchy
IFRS establishes a fair value measurement hierarchy that classifies the inputs used in financial instrument fair value measurement techniques according to three levels. This fair value hierarchy requires observable market inputs to be used whenever such inputs exist. According to the hierarchy, the highest level of inputs are unadjusted quoted prices in active markets for identical instruments and the lowest level of inputs are unobservable inputs. If inputs from different levels of the hierarchy are used, the financial instrument is classified in the same level as the lowest level input that is significant to the fair value measurement. The fair value hierarchy has the following levels:

Level 1
Inputs corresponding to unadjusted quoted prices in active markets for identical assets and liabilities and accessible to the Bank at the measurement date. These instruments consist primarily of equity securities, derivative financial instruments traded in active markets, and certain highly liquid debt securities actively traded in over-the-counter markets.

Level 2
Valuation techniques based on inputs, other than the quoted prices included in Level 1 inputs, that are directly or indirectly observable in the market for the asset or liability. These inputs are quoted prices of similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; inputs other than quoted prices used in a valuation model that are observable for that instrument; and inputs that are derived principally from or corroborated by observable market inputs by correlation or other means. These instruments consist primarily of certain loans, certain deposits, derivative financial instruments traded in over-the-counter markets, certain debt securities, certain equity securities whose value is not directly observable in an active market, liabilities related to transferred receivables and certain other liabilities.

Level 3
Valuation techniques based on one or more significant inputs that are not observable in the market for the asset or liability. The Bank classifies financial instruments in Level 3 when the valuation technique is based on at least one significant input that is not observable in the markets. The valuation technique may also be partly based on observable market inputs.

Financial instruments whose fair values are classified in Level 3 consist of the following:

- financial instruments measured at fair value through profit or loss: investments in hedge funds for which there are certain restrictions on unit or security redemptions, equity securities and debt securities of private companies, as well as certain derivative financial instruments whose fair value is established using internal valuation models that are based on significant unobservable market inputs;
- securities at fair value through other comprehensive income: equity and debt securities of private companies;
- certain loans and certain deposits (structured deposit notes) whose fair value is established using internal valuation models that are based on significant unobservable market inputs.

Transfers Between the Fair Value Hierarchy Levels
Transfers of financial instruments between Levels 1 and 2 and transfers to (or from) Level 3 are deemed to have taken place at the beginning of the quarter in which the transfer occurred. Significant transfers can occur between the fair value hierarchy levels due to new information on inputs used to determine fair value and the observable nature of those inputs.

During fiscal 2020, $15 million in securities classified as at fair value through profit or loss were transferred from Level 2 to Level 1 resulting from changing market conditions ($50 million in securities classified as at fair value through profit or loss and $1 million in obligations related to securities sold short in fiscal 2019). In addition, during fiscal 2020, $10 million in securities classified as at fair value through profit or loss were transferred from Level 1 to Level 2 (for fiscal 2019, $20 million in securities classified as at fair value through profit or loss and $2 million in obligations related to securities sold short).

During fiscal years 2020 and 2019, financial instruments were transferred to (or from) Level 3 due to changes in the availability of observable market inputs resulting from changing market conditions.

(millions of Canadian dollars)

Financial Instruments Recorded at Fair Value on the Consolidated Balance Sheet

The following tables show financial instruments recorded at fair value on the Consolidated Balance Sheet according to the fair value hierarchy.

				As at October 31, 2020
	Level 1	Level 2	Level 3	Total financial assets/liabilities at fair value
Financial assets				
Securities				
At fair value through profit or loss				
Securities issued or guaranteed by				
Canadian government	1,852	7,632	–	9,484
Canadian provincial and municipal governments	–	9,105	–	9,105
U.S. Treasury, other U.S. agencies and other foreign governments	7,852	996	–	8,848
Other debt securities	–	2,048	40	2,088
Equity securities	47,941	443	417	48,801
	57,645	20,224	457	78,326
At fair value through other comprehensive income				
Securities issued or guaranteed by				
Canadian government	877	3,535	–	4,412
Canadian provincial and municipal governments	–	4,154	–	4,154
U.S. Treasury, other U.S. agencies and other foreign governments	2,165	284	–	2,449
Other debt securities	–	1,092	–	1,092
Equity securities	–	246	373	619
	3,042	9,311	373	12,726
Loans	–	7,737	372	8,109
Other				
Derivative financial instruments	343	13,049	30	13,422
	61,030	50,321	1,232	112,583
Financial liabilities				
Deposits[(1)]	–	11,575	(2)	11,573
Other				
Obligations related to securities sold short	11,575	4,793	–	16,368
Derivative financial instruments	242	12,680	1	12,923
Liabilities related to transferred receivables	–	8,762	–	8,762
	11,817	37,810	(1)	49,626

(1) The amount classified in Level 3 represents the fair value of embedded derivative financial instruments related to deposits.

(millions of Canadian dollars)

Note 3 – Fair Value of Financial Instruments (cont.)

			As at October 31, 2019	
	Level 1	Level 2	Level 3	Total financial assets/liabilities at fair value
Financial assets				
Securities				
At fair value through profit or loss				
Securities issued or guaranteed by				
Canadian government	2,102	8,321	–	10,423
Canadian provincial and municipal governments	–	6,762	–	6,762
U.S. Treasury, other U.S. agencies and other foreign governments	1,770	90	–	1,860
Other debt securities	–	2,666	27	2,693
Equity securities	38,836	818	431	40,085
	42,708	18,657	458	61,823
At fair value through other comprehensive income				
Securities issued or guaranteed by				
Canadian government	196	4,236	–	4,432
Canadian provincial and municipal governments	–	1,674	–	1,674
U.S. Treasury, other U.S. agencies and other foreign governments	3,471	75	–	3,546
Other debt securities	–	374	–	374
Equity securities	53	207	362	622
	3,720	6,566	362	10,648
Securities purchased under reverse repurchase agreements and securities borrowed	–	87	–	87
Loans	–	6,438	360	6,798
Other				
Derivative financial instruments	179	7,924	26	8,129
	46,607	39,672	1,206	87,485
Financial liabilities				
Deposits	–	11,383	–	11,383
Other				
Obligations related to securities sold short	8,352	4,497	–	12,849
Derivative financial instruments	156	6,674	22	6,852
Liabilities related to transferred receivables	–	8,215	–	8,215
Other liabilities	–	24	–	24
	8,508	30,793	22	39,323

(millions of Canadian dollars)

Financial Instruments Classified in Level 3

The Bank classifies financial instruments in Level 3 when the valuation technique is based on at least one significant input that is not observable in the markets. The valuation technique may also be based, in part, on observable market inputs. The following table shows the significant unobservable inputs used for the fair value measurements of financial instruments classified in Level 3 of the hierarchy.

As at October 31, 2020

	Fair value	Primary valuation techniques	Significant unobservable inputs	Range of input values Low	Range of input values High
Financial assets					
Securities					
Equity securities and other debt securities	830	Net asset value	Net asset value	100 %	100 %
		Market comparable	EV/EBITDA(1) multiple	18 x	20 x
		Discounted cash flows	Credit spread	460 Bps(2)	705 Bps(2)
		Discounted cash flows	Discount rate	4.50 %	19.00 %
Loans					
Loans at fair value through profit or loss	372	Discounted cash flows	Discount rate	3.54 %	9.84 %
		Discounted cash flows	Liquidity premium	3.11 %	9.56 %
Other					
Derivative financial instruments					
Interest rate contracts	11	Discounted cash flows	Discount rate	2.20 %	2.20 %
Equity contracts	6	Option pricing model	Long-term volatility	7 %	91 %
			Market correlation	29 %	93 %
Credit derivative contracts	13	Discounted cash flows	Liquidity premium	(6) %	6 %
	1,232				
Financial liabilities					
Deposits					
Structured deposit notes(3)	(2)	Option pricing model	Long-term volatility	8 %	49 %
			Market correlation	(68) %	94 %
Other					
Derivative financial instruments					
Credit derivative contracts	1	Discounted cash flows	Liquidity premium	(2) %	2 %
	(1)				

As at October 31, 2019

	Fair value	Primary valuation techniques	Significant unobservable inputs	Range of input values Low	Range of input values High
Financial assets					
Securities					
Equity securities and other debt securities	820	Net asset value	Net asset value	100 %	100 %
		Market comparable	EV/EBITDA(1) multiple	13 x	16 x
		Discounted cash flows	Credit spread	460 Bps(2)	705 Bps(2)
		Discounted cash flows	Discount rate	4.50 %	14.38 %
Loans					
Loans at fair value through profit or loss	360	Discounted cash flows	Discount rate	5.26 %	8.89 %
		Discounted cash flows	Liquidity premium	3.56 %	7.34 %
Other					
Derivative financial instruments					
Interest rate contracts	6	Discounted cash flows	Discount rate	2.20 %	2.20 %
Equity contracts	20	Option pricing model	Long-term volatility	4 %	35 %
			Market correlation	21 %	31 %
	1,206				
Financial liabilities					
Other					
Derivative financial instruments					
Equity contracts	22	Option pricing model	Long-term volatility	5 %	49 %
			Market correlation	(29) %	89 %
	22				

(1) EV/EBITDA means Enterprise Value/Earnings Before Interest, Taxes, Depreciation and Amortization.
(2) Bps or basis point is a unit of measure equal to 0.01%.
(3) The amount represents the fair value of the embedded derivative financial instruments related to structured deposit notes.

Note 3 – Fair Value of Financial Instruments (cont.)

Significant Unobservable Inputs Used for Fair Value Measurements of Financial Instruments Classified in Level 3

Net Asset Value

Net asset value is the estimated value of a security based on valuations received from the investment or fund managers, the administrators of the conduits or the general partners of the limited partnerships. The net asset value of a fund is the total fair value of assets less liabilities.

EV/EBITDA (Enterprise Value/Earnings Before Interest, Taxes, Depreciation and Amortization) Multiple and Price Equivalent

Private equity valuation inputs include earnings multiples, which are determined based on comparable companies, and a higher multiple will translate into a higher fair value. Price equivalent is a percentage of the market price based on the liquidity of the security.

Credit Spread

A credit spread (yield) is the difference between the instrument's yield and a benchmark yield. Benchmark instruments have high credit quality ratings with similar maturities. The credit spread therefore represents the discount rate used to determine the present value of future cash flows of an asset to reflect the market return required for credit quality in the estimated cash flows. A higher credit spread will result in a lower value.

Discount Rate

The discount rate is the input used to bring future cash flows to their present value. A higher discount rate will translate into a lower fair value.

Liquidity Premium

A liquidity premium may be applied when few or no transactions exist to support the valuations. A higher liquidity premium will result in a lower value.

Long-Term Volatility

Volatility is a measure of the expected future variability of market prices. Volatility is generally observable in the market through options prices. However, the long-term volatility of options with a longer maturity might not be observable. An increase (decrease) in long-term volatility is generally associated with an increase (decrease) in long-term correlation. Higher long-term volatility may increase or decrease an instrument's fair value depending on its terms.

Market Correlation

Correlation is a measure of the inter-relationship between two different variables. A positive correlation means that the variables tend to move in the same direction; a negative correlation means that the variables tend to move in opposite directions. Correlation is used to measure financial instruments whose future returns depend on several variables. Changes in correlation will either increase or decrease a financial instrument's fair value depending on the terms of its contractual payout.

Sensitivity Analysis of Financial Instruments Classified in Level 3

The Bank performs sensitivity analyses for the fair value measurements of financial instruments classified in Level 3, substituting unobservable inputs with one or more reasonably possible alternative assumptions.

For equity securities and other debt securities, the Bank varies significant unobservable inputs such as net asset values, EV/EBITDA multiples, or price equivalents and establishes a reasonable fair value range that could result in a $102 million increase or decrease in the fair value recorded as at October 31, 2020 (a $121 million increase or decrease as at October 31, 2019).

For the loans, the Bank varies unobservable inputs such as a liquidity premium and establishes a reasonable fair value range that could result in a $57 million increase or decrease in the fair value recorded as at October 31, 2020 ($54 million increase or decrease as at October 31, 2019).

For derivative financial instruments and embedded derivative financial instruments related to structured deposit notes, the Bank varies long-term volatility, market correlation inputs and the liquidity premium, and establishes a reasonable fair value range. As at October 31, 2020, for derivative financial instruments, the net fair value could result in a $12 million increase or decrease ($1 million increase or decrease as at October 31, 2019), whereas for structured deposit notes, the net fair value could result in a $1 million increase or decrease (no sensitivity analysis as at October 31, 2019 since no structured deposit note was classified in Level 3).

For all Level 3 financial instruments, the reasonable fair value ranges could result in an 8% increase or decrease in net income as at October 31, 2020 (an 8% increase or decrease in net income as at October 31, 2019).

(millions of Canadian dollars)

Change in the Fair Value of Financial Instruments Classified in Level 3

The Bank may hedge the fair value of financial instruments classified in the various levels through offsetting hedge positions. Gains and losses for financial instruments classified in Level 3 presented in the following tables do not reflect the inverse gains and losses on financial instruments used for economic hedging purposes that may have been classified in Level 1 or 2 by the Bank. In addition, the Bank may hedge the fair value of financial instruments classified in Level 3 using other financial instruments classified in Level 3. The effect of these hedges is not included in the net amount presented in the following tables. The gains and losses presented hereafter may comprise changes in fair value based on observable and unobservable inputs.

					Year ended October 31, 2020
	Securities at fair value through profit or loss	Securities at fair value through other comprehensive income	Loans	Derivative financial instruments(1)	Deposits(2)
Fair value as at October 31, 2019	458	362	360	4	–
Total realized and unrealized gains (losses) included in *Net income*(3)	8	–	(17)	(10)	5
Total realized and unrealized gains (losses) included in *Other comprehensive income*	–	7	–	–	–
Purchases	26	4	–	–	–
Sales	(35)	–	–	–	–
Issuances	–	–	12	–	(18)
Settlements and other	–	–	(160)	(1)	–
Financial instruments transferred into Level 3	–	–	177	29	(9)
Financial instruments transferred out of Level 3	–	–	–	7	24
Fair value as at October 31, 2020	457	373	372	29	2
Change in unrealized gains and losses included in *Net income* with respect to financial assets and financial liabilities held as at October 31, 2020(4)	21	–	(17)	(10)	5

					Year ended October 31, 2019
	Securities at fair value through profit or loss	Securities at fair value through other comprehensive income	Loans	Derivative financial instruments(1)	Deposits
Fair value as at October 31, 2018	313	233	386	(7)	(11)
Total realized and unrealized gains (losses) included in *Net income*(5)	(69)	–	12	16	–
Total realized and unrealized gains (losses) included in *Other comprehensive income*	–	(4)	–	–	–
Purchases(6)	253	133	–	–	–
Sales	(39)	–	–	–	–
Issuances	–	–	6	–	–
Settlements and other	–	–	(44)	3	–
Financial instruments transferred into Level 3	–	–	–	(10)	–
Financial instruments transferred out of Level 3	–	–	–	2	11
Fair value as at October 31, 2019	458	362	360	4	–
Change in unrealized gains and losses included in *Net income* with respect to financial assets and financial liabilities held as at October 31, 2019(7)	(76)	–	12	16	–

(1) The derivative financial instruments include assets and liabilities presented on a net basis.
(2) The amounts represent the fair value of embedded derivative financial instruments related to deposits.
(3) Total gains (losses) included in *Non-interest income* was a loss of $14 million.
(4) Total unrealized gains (losses) included in *Non-interest income* was an unrealized loss of $1 million.
(5) Total gains (losses) included in *Non-interest income* was a loss of $41 million.
(6) On June 30, 2019, the Bank concluded that it had lost significant influence over NSIA Participations (NSIA), an associate entity in the Ivory Coast, and therefore ceased using the equity method to account for the investment. The Bank designated its investment in NSIA as a financial asset (securities) measured at fair value through other comprehensive income in an amount of $128 million.
(7) Total unrealized gains (losses) included in *Non-interest income* was an unrealized loss of $48 million.

(millions of Canadian dollars)

Note 3 – Fair Value of Financial Instruments (cont.)

Financial Instruments Not Recorded at Fair Value on the Consolidated Balance Sheet

The following tables show the financial instruments that have not been recorded at fair value on the Consolidated Balance Sheet according to the fair value hierarchy, except for those whose carrying value is a reasonable approximation of fair value.

				As at October 31, 2020
	Level 1	Level 2	Level 3	Total
Financial assets				
Securities at amortized cost				
Securities issued or guaranteed by				
Canadian government	–	6,298	–	6,298
Canadian provincial and municipal governments	–	2,416	–	2,416
U.S. Treasury, other U.S. agencies and other foreign governments	–	21	–	21
Other debt securities	–	2,555	–	2,555
	–	11,290	–	11,290
Loans, net of allowances	–	62,486	90,214	152,700
Financial liabilities				
Deposits	–	205,337	–	205,337
Other				
Liabilities related to transferred receivables	–	14,432	–	14,432
Other liabilities	–	67	–	67
Subordinated debt	–	787	–	787
	–	220,623	–	220,623

				As at October 31, 2019
	Level 1	Level 2	Level 3	Total
Financial assets				
Securities at amortized cost				
Securities issued or guaranteed by				
Canadian government	–	5,292	–	5,292
Canadian provincial and municipal governments	–	1,805	–	1,805
U.S. Treasury, other U.S. agencies and other foreign governments	–	138	–	138
Other debt securities	–	2,589	–	2,589
	–	9,824	–	9,824
Loans, net of allowances	–	59,857	80,301	140,158
Financial liabilities				
Deposits	–	178,861	–	178,861
Other				
Liabilities related to transferred receivables	–	13,186	–	13,186
Other liabilities	–	912	–	912
Subordinated debt	–	765	–	765
	–	193,724	–	193,724

(millions of Canadian dollars)

Note 4 – Financial Instruments Designated at Fair Value Through Profit or Loss

The Bank chose to designate certain financial instruments at fair value through profit or loss according to the criteria presented in Note 1 to these consolidated financial statements. Consistent with its risk management strategy and in accordance with the fair value option, which permits the designation if it eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring financial assets and liabilities or recognizing the gains and losses thereon on different bases, the Bank designated at fair value through profit or loss certain securities, certain securities purchased under reverse repurchase agreements, and certain liabilities related to transferred receivables. The fair value of liabilities related to transferred receivables does not include credit risk, as the holders of these liabilities are not exposed to the Bank's credit risk. The Bank also designated certain deposits that include embedded derivative financial instruments at fair value through profit or loss.

To determine a change in fair value arising from a change in the credit risk of deposits designated at fair value through profit or loss, the Bank calculates, at the beginning of the period, the present value of the instrument's contractual cash flows using the following rates: first, using an observed discount rate for similar securities that reflects the Bank's credit spread and, then, using a rate that excludes the Bank's credit spread. The difference obtained between the two values is then compared to the difference obtained using the same rates at the end of the period.

Information about the financial assets and financial liabilities designated at fair value through profit or loss is provided in the following tables.

	Carrying value as at October 31, 2020	**Unrealized gains (losses) for the year ended October 31, 2020**	**Unrealized gains (losses) since the initial recognition of the instrument**
Financial assets designated at fair value through profit or loss			
Securities	**2,679**	**68**	**93**
	2,679	**68**	**93**
Financial liabilities designated at fair value through profit or loss			
Deposits(1)(2)	**11,418**	**628**	**592**
Liabilities related to transferred receivables	**8,762**	**(150)**	**(223)**
	20,180	**478**	**369**

	Carrying value as at October 31, 2019	Unrealized gains (losses) for the year ended October 31, 2019	Unrealized gains (losses) since the initial recognition of the instrument
Financial assets designated at fair value through profit or loss			
Securities	3,267	86	26
Securities purchased under reverse repurchase agreements	87	–	–
	3,354	86	26
Financial liabilities designated at fair value through profit or loss			
Deposits(1)(2)	11,203	(789)	(204)
Liabilities related to transferred receivables	8,215	(163)	(75)
	19,418	(952)	(279)

(1) For the year ended October 31, 2020, the change in the fair value of deposits designated at fair value through profit or loss attributable to credit risk, and recorded in *Other comprehensive income*, resulted in a loss of $60 million ($7 million gain for the year ended October 31, 2019).
(2) The amount at maturity that the Bank will be contractually required to pay to the holders of these deposits varies and will differ from the reporting date fair value.

(millions of Canadian dollars)

Note 5 – Offsetting Financial Assets and Financial Liabilities

Financial assets and liabilities are offset and the net amount is presented on the Consolidated Balance Sheet when the Bank has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis or to realize the asset and settle the liability simultaneously.

Generally, over-the-counter financial derivatives subject to master netting arrangements of the International Swaps & Derivatives Association, Inc. or other similar agreements do not meet the netting criteria on the Consolidated Balance Sheet because the right of set-off is legally enforceable only in the event of default, insolvency or bankruptcy.

Generally, securities purchased under reverse repurchase agreements and securities borrowed as well as obligations related to securities sold under repurchase agreements and securities loaned, subject to master agreements, do not meet the netting criteria if they confer only a right of set-off that is enforceable only in the event of default, insolvency or bankruptcy.

However, the above-mentioned transactions may be subject to contractual netting agreements concluded with clearing houses. If the netting criteria are met, these transactions are netted on the Consolidated Balance Sheet. In addition, as part of these transactions, the Bank may give or receive cash or other financial instruments used as collateral.

The following tables present information on financial assets and financial liabilities that are netted on the Consolidated Balance Sheet because they meet the netting criteria and on those that are not netted and are subject to an enforceable master netting arrangement or similar agreement.

						As at October 31, 2020
				Associated amounts not set off on the Consolidated Balance Sheet		
	Gross amounts recognized	Amounts set off on the Consolidated Balance Sheet	Net amounts reported on the Consolidated Balance Sheet	Financial instruments(1)	Financial assets received/pledged as collateral(2)(3)	Net amounts
Financial assets						
Securities purchased under reverse repurchase agreements and securities borrowed	**15,471**	**959**	**14,512**	**3,596**	**10,852**	**64**
Derivative financial instruments	**19,332**	**5,910**	**13,422**	**6,204**	**3,308**	**3,910**
	34,803	**6,869**	**27,934**	**9,800**	**14,160**	**3,974**
Financial liabilities						
Obligations related to securities sold under repurchase agreements and securities loaned	**34,818**	**959**	**33,859**	**3,596**	**30,181**	**82**
Derivative financial instruments	**18,833**	**5,910**	**12,923**	**6,204**	**3,993**	**2,726**
	53,651	**6,869**	**46,782**	**9,800**	**34,174**	**2,808**

						As at October 31, 2019
				Associated amounts not set off on the Consolidated Balance Sheet		
	Gross amounts recognized	Amounts set off on the Consolidated Balance Sheet	Net amounts reported on the Consolidated Balance Sheet	Financial instruments(1)	Financial assets received/pledged as collateral(2)	Net amounts
Financial assets						
Securities purchased under reverse repurchase agreements and securities borrowed	20,889	3,166	17,723	4,493	13,192	38
Derivative financial instruments	10,947	2,818	8,129	3,415	2,529	2,185
	31,836	5,984	25,852	7,908	15,721	2,223
Financial liabilities						
Obligations related to securities sold under repurchase agreements and securities loaned	25,066	3,166	21,900	4,493	17,327	80
Derivative financial instruments	9,670	2,818	6,852	3,415	2,051	1,386
	34,736	5,984	28,752	7,908	19,378	1,466

(1) Carrying amount of financial instruments that are subject to an enforceable master netting agreement or similar agreement but that do not satisfy offsetting criteria.
(2) Excludes non-financial instruments collateral.
(3) As of October 31, 2020, the financial assets pledged as collateral to the Bank of Canada included bearer deposit notes and covered bonds issued by the Bank.

(millions of Canadian dollars)

Note 6 – Securities

Residual Contractual Maturities of Securities

As at October 31					2020	2019
	1 year or less	Over 1 year to 5 years	Over 5 years	No specified maturity	Total	Total
Securities at fair value through profit or loss						
Securities issued or guaranteed by						
Canadian government	1,711	5,584	2,189	–	9,484	10,423
Canadian provincial and municipal governments	1,077	1,797	6,231	–	9,105	6,762
U.S. Treasury, other U.S. agencies and other foreign governments	8,421	266	161	–	8,848	1,860
Other debt securities	440	816	832	–	2,088	2,693
Equity securities	–	–	–	48,801	48,801	40,085
	11,649	8,463	9,413	48,801	78,326	61,823
Securities at fair value through other comprehensive income						
Securities issued or guaranteed by						
Canadian government	812	3,577	23	–	4,412	4,432
Canadian provincial and municipal governments	186	1,326	2,642	–	4,154	1,674
U.S. Treasury, other U.S. agencies and other foreign governments	1,198	1,091	160	–	2,449	3,546
Other debt securities	123	312	657	–	1,092	374
Equity securities	–	–	–	619	619	622
	2,319	6,306	3,482	619	12,726	10,648
Securities at amortized cost(1)						
Securities issued or guaranteed by						
Canadian government	1,034	5,090	39	–	6,163	5,248
Canadian provincial and municipal governments	217	1,444	692	–	2,353	1,788
U.S. Treasury, other U.S. agencies and other foreign governments	20	–	1	–	21	139
Other debt securities	1,356	1,134	52	–	2,542	2,580
	2,627	7,668	784	–	11,079	9,755

(1) As at October 31, 2020, securities at amortized cost are presented net of $1 million in allowances for credit losses ($1 million as at October 31, 2019).

Credit Quality

As at October 31, 2020 and 2019, securities at fair value through other comprehensive income and securities at amortized cost are classified in Stage 1, with their credit quality falling mostly in the "Excellent" category according to the Bank's internal risk-rating categories. For additional information on the reconciliation of allowances for credit losses, see Note 7 to these consolidated financial statements.

(millions of Canadian dollars)

Note 6 – Securities (cont.)

Gross Gains (Losses) on Securities at Fair Value Through Other Comprehensive Income

				As at October 31, 2020
	Amortized cost	**Gross unrealized gains**	**Gross unrealized losses**	**Carrying value(1)**
Securities issued or guaranteed by				
Canadian government	**4,302**	**110**	**–**	**4,412**
Canadian provincial and municipal governments	**4,013**	**142**	**(1)**	**4,154**
U.S. Treasury, other U.S. agencies and other foreign governments	**2,430**	**19**	**–**	**2,449**
Other debt securities	**1,051**	**42**	**(1)**	**1,092**
Equity securities	**633**	**13**	**(27)**	**619**
	12,429	**326**	**(29)**	**12,726**

				As at October 31, 2019
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Carrying value(1)
Securities issued or guaranteed by				
Canadian government	4,411	26	(5)	4,432
Canadian provincial and municipal governments	1,614	60	–	1,674
U.S. Treasury, other U.S. agencies and other foreign governments	3,521	25	–	3,546
Other debt securities	364	11	(1)	374
Equity securities	649	2	(29)	622
	10,559	124	(35)	10,648

(1) The allowances for credit losses on securities at fair value through other comprehensive income, representing $3 million as at October 31, 2020 (a negligible amount as at October 31, 2019), are reported in *Other comprehensive income*. For additional information, see Note 7 to these consolidated financial statements.

Equity Securities Designated at Fair Value Through Other Comprehensive Income

The Bank designated certain equity securities, the main business objective of which is to generate dividend income, at fair value through other comprehensive income without subsequent reclassification of gains and losses to net income. During the year ended October 31, 2020, an amount of $21 million in dividend income was recognized for these investments ($25 million for the year ended October 31, 2019), including an amount of $2 million for investments that were sold during the year ended October 31, 2020 ($1 million for investments that were sold during the year ended October 31, 2019).

			Year ended October 31, 2020			Year ended October 31, 2019
	Equity securities of private companies	**Equity securities of public companies**	**Total**	Equity securities of private companies	Equity securities of public companies	Total
Fair value at beginning	**362**	**260**	**622**	233	118	351
Change in fair value	**7**	**(9)**	**(2)**	(4)	(23)	(27)
Designated at fair value through other comprehensive income(1)(2)	**4**	**91**	**95**	133	253	386
Sales(3)	**–**	**(96)**	**(96)**	–	(88)	(88)
Fair value at end	**373**	**246**	**619**	362	260	622

(1) On June 30, 2019, the Bank concluded that it had lost significant influence over NSIA Participations (NSIA), an associate entity in the Ivory Coast, and therefore ceased using the equity method to account for this investment. The Bank had designated its investment in NSIA as a financial asset measured at fair value through other comprehensive income in an amount of $128 million. Following the fair value measurement, a $33 million loss was recorded in the *Non-Interest income – Other* item of the Consolidated Statement of Income for the year ended October 31, 2019 and reported in the *Other* heading of segment results.

(2) On May 9, 2019, after disposing of a portion of its investment in Fiera Capital Corporation (Fiera Capital), the Bank designated the retained interest as a financial asset measured at fair value through other comprehensive income. On the transaction date, a gain on disposal of Fiera Capital shares of $79 million, including a $31 million gain on remeasurement at fair value of the retained interest, was recognized in the *Non-interest income – Other* item of the Consolidated Statement of Income for the year ended October 31, 2019 and reported in the *Other* heading of segment results.

(3) The Bank disposed of public company equity securities for economic reasons.

Gains (Losses) on Disposals of Securities at Amortized Cost

During the years ended October 31, 2020 and 2019, the Bank sold certain debt securities measured at amortized cost. The carrying value of these securities upon disposal was $258 million for the year ended October 31, 2020 ($461 million for the year ended October 31, 2019), and the Bank recognized gains of $6 million for the year ended October 31, 2020 ($9 million for the year ended October 31, 2019) in *Non-interest income – Gains (losses) on non-trading securities, net* in the Consolidated Statement of Income.

Note 7 – Loans and Allowances for Credit Losses

Loans are recognized either at fair value through profit or loss or at amortized cost using the financial asset classification criteria defined in IFRS 9.

Determining and Measuring Expected Credit Losses (ECL)

Determining Expected Credit Losses
Expected credit losses are determined using a three-stage impairment approach that is based on the change in the credit quality of financial assets since initial recognition.

Stage 1
Financial assets that have experienced no significant increase in credit risk between initial recognition and the reporting date and for which 12-month expected credit losses are recorded at the reporting date are classified in Stage 1.

Stage 2
Financial assets that have experienced a significant increase in credit risk between initial recognition and the reporting date, and for which lifetime expected credit losses are recorded at the reporting date, are classified in Stage 2.

Stage 3
Financial assets for which there is objective evidence of impairment, for which one or more events have had a detrimental impact on the estimated future cash flows of these financial assets at the reporting date, and for which lifetime expected credit losses are recorded, are classified in Stage 3.

POCI
Financial assets that are credit-impaired when purchased or originated (POCI) are classified in the POCI category.

Impairment Governance
A rigorous control framework is applied to the determination of expected credit losses. The Bank has policies and procedures that govern impairments arising from credit risk. These policies are documented and periodically reviewed by the Risk Management group. All models used to calculate expected credit losses are validated, and controls are in place to ensure they are applied.

These models are validated by groups that are independent of the team that prepares the calculations. Complex questions on measurement methodologies and assumptions are reviewed by a group of experts from various functions. Furthermore, the inputs and assumptions used to determine expected credit losses are reviewed on a regular basis.

Measurement of Expected Credit Losses (ECL)
Expected credit losses are estimated using three main variables: (1) probability of default (PD), (2) loss given default (LGD) and (3) exposure at default (EAD). For accounting purposes, 12-month PD and lifetime PD are the probabilities of a default occurring over the next 12 months or over the life of a financial instrument, respectively, based on conditions existing at the balance sheet date and on future economic conditions that have, or will have, an impact on credit risk. LGD reflects the losses expected should default occur and considers such factors as the mitigating effects of collateral, the realizable value thereof, and the time value of money. EAD is the expected balance owing at default and considers such factors as repayments of principal and interest between the balance sheet date and the time of default as well as any amounts expected to be drawn on a committed facility. Twelve-month expected credit losses are estimated by multiplying 12-month PD by LGD and by EAD. Lifetime expected credit losses are estimated using the lifetime PD.

For most financial instruments, expected credit losses are measured on an individual basis. Financial instruments that have credit losses measured on a collective basis are grouped according to similar credit risk characteristics such as type of instrument, geographic location, comparable risk level, and business sector or industry.

Inputs, Assumptions and Estimation Techniques
The Bank's approach to calculating expected credit losses consists essentially of leveraging existing regulatory models and then adjusting their parameters for IFRS 9 purposes. These models have the advantage of having been thoroughly tested and validated. In addition, using the same base models, regardless of the purpose, provides consistency across risk assessments. These models use inputs, assumptions and estimation techniques that require a high degree of management judgment. The main factors that contribute to changes in ECL that are subject to significant judgment include the following:

- calibration of regulatory parameters in order to obtain point-in-time and forward-looking parameters;
- forecasts of macroeconomic variables for multiple scenarios and the probability weighting of the scenarios;
- determination of the significant increases in credit risk (SICR) of a loan.

Note 7 – Loans and Allowances for Credit Losses (cont.)

Main Parameters

PD Estimates

Since the objective of the regulatory calibration of PD is to align historical data to the long-run default rate, adjustments are required to obtain a point-in-time, forward-looking PD, as required by IFRS 9. The Bank performs the following: (1) A point-in-time calibration, where the PD of the portfolio is aligned with the appropriate default rate. The resulting PD estimate generally equals the prior-year default rate. The prior-year default rate is selected for the calibration performed at this stage, as it often reflects one of the most accurate and appropriate estimates of the current-year default rate; (2) Forward-looking adjustments are incorporated through, among other measures, a calibration factor based on forecasts produced by the stress testing team's analyses. The team considers three macroeconomic scenarios, and, for each scenario, produces a forward-looking assessment covering the three upcoming years.

LGD Estimates

The LGD estimation method consists of using, for each of the three macroeconomic scenarios, expected LGD based on the LGD values observed using backtesting, the economic LGD estimated and used to calculate economic capital, and lastly, the estimated downturn LGD used to calculate regulatory capital.

EAD Estimates

For term loans, the Bank uses expected EAD, which is the outstanding balance anticipated at each point in time. Expected EAD decreases over time according to contractual repayments and to prepayments. For revolving loans, the EAD percentage is based on the percentage estimated by the corresponding regulatory model and, thereafter, is converted to dollars according to the authorized balance.

Expected Life

For most financial instruments, the expected life used when measuring expected credit losses is the remaining contractual life. For revolving financial instruments where there is no contractual maturity, such as credit cards or lines of credit, the expected life is based on the behavioural life of clients who have defaulted or closed their account.

Incorporation of Forward-Looking Information

The Bank’s Economy and Strategy Group is responsible for developing three macroeconomic scenarios and for recommending probability weights for each scenario. Macroeconomic scenarios are not developed for specific portfolios, as the Economy and Strategy Group provides a set of variables for each of the defined scenarios for the next three years. The PDs are also adjusted to incorporate economic assumptions (interest rates, unemployment rates, GDP forecasts, oil prices, housing price indices, etc.) that can be statistically tied to PD changes that will have an impact beyond the next 12 months. These statistical relationships are determined using the processes developed for stress testing. In addition, the group considers other relevant factors that may not be adequately reflected in the information used to calculate the PDs (including late payments and whether the financial asset is subject to additional monitoring within the watchlist process for business and government loan portfolios).

Determination of a Significant Increase in the Credit Risk of a Financial Instrument

At each reporting period, the Bank determines whether credit risk has increased significantly since initial recognition by examining the change in the risk of default occurring over the remaining life of the financial instrument. First, the Bank compares the point-in-time forward-looking remaining lifetime PD at the reporting date with the expected point-in-time forward-looking remaining lifetime PD established at initial recognition. Based on this comparison, the Bank determines whether the loan has deteriorated when compared to the initial conditions. Because the comparison includes an adjustment based on origination-date forward-looking information and reporting-date forward-looking information, the deterioration may be caused by the following factors: (i) deterioration of the economic outlook used in the forward-looking assessment; (ii) deterioration of the borrower’s conditions (payment defaults, worsening financial ratios, etc.); or (iii) a combination of both factors. The quantitative criteria used to determine a significant increase in credit risk are a series of relative and absolute thresholds, and a backstop is also applied. All financial instruments that are over 30 days past due but below 90 days past due are migrated to Stage 2, even if the other criteria do not indicate a significant increase in credit risk.

Credit Quality of Loans

The following tables present the gross carrying amounts of loans as at October 31, 2020 and 2019, according to credit quality and ECL impairment stage of each loan category at amortized cost, and according to credit quality for loans at fair value through profit or loss. For additional information on credit quality according to the Advanced Internal Rating-Based (AIRB) categories, see the Internal Default Risk Ratings table on page 80 in the Credit Risk Management section of the MD&A for the year ended October 31, 2020.

(millions of Canadian dollars)

						As at October 31, 2020
	Non-impaired loans[1]		Impaired loans		Loans at fair value through profit or loss[2]	
	Stage 1	Stage 2	Stage 3	POCI		Total
Residential mortgage						
Excellent	23,139	29	–	–	–	23,168
Good	15,753	108	–	–	–	15,861
Satisfactory	10,418	741	–	–	–	11,159
Special mention	730	299	–	–	–	1,029
Substandard	283	174	–	–	–	457
Default	–	–	149	–	–	149
AIRB approach	50,323	1,351	149	–	–	51,823
Standardized approach	4,993	31	44	531	7,537	13,136
Gross carrying amount	55,316	1,382	193	531	7,537	64,959
Allowances for credit losses[3]	63	23	35	(56)	–	65
Carrying amount	55,253	1,359	158	587	7,537	64,894
Personal						
Excellent	15,072	40	–	–	–	15,112
Good	9,680	1,039	–	–	–	10,719
Satisfactory	4,395	2,024	–	–	–	6,419
Special mention	300	696	–	–	–	996
Substandard	116	185	–	–	–	301
Default	–	–	140	–	–	140
AIRB approach	29,563	3,984	140	–	–	33,687
Standardized approach	3,532	48	22	324	–	3,926
Gross carrying amount	33,095	4,032	162	324	–	37,613
Allowances for credit losses[3]	87	145	76	(10)	–	298
Carrying amount	33,008	3,887	86	334	–	37,315
Credit card						
Excellent	385	–	–	–	–	385
Good	307	–	–	–	–	307
Satisfactory	660	28	–	–	–	688
Special mention	335	205	–	–	–	540
Substandard	29	64	–	–	–	93
Default	–	–	–	–	–	–
AIRB approach	1,716	297	–	–	–	2,013
Standardized approach	25	–	–	–	–	25
Gross carrying amount	1,741	297	–	–	–	2,038
Allowances for credit losses[3]	45	124	–	–	–	169
Carrying amount	1,696	173	–	–	–	1,869
Business and government[4]						
Excellent	4,732	–	–	–	289	5,021
Good	21,380	10	–	–	163	21,553
Satisfactory	19,421	7,037	–	–	73	26,531
Special mention	218	1,915	–	–	–	2,133
Substandard	10	246	–	–	–	256
Default	–	–	361	–	–	361
AIRB approach	45,761	9,208	361	–	525	55,855
Standardized approach	5,122	163	101	–	47	5,433
Gross carrying amount	50,883	9,371	462	–	572	61,288
Allowances for credit losses[3]	135	250	241	–	–	626
Carrying amount	50,748	9,121	221	–	572	60,662
Total loans						
Gross carrying amount	141,035	15,082	817	855	8,109	165,898
Allowances for credit losses[3]	330	542	352	(66)	–	1,158
Carrying amount	140,705	14,540	465	921	8,109	164,740

(1) In response to the COVID-19 pandemic, the Bank has approved certain payment deferrals for all types of loans. As at October 31, 2020, the gross carrying value of loans for which deferrals have been approved totalled $695 million for residential mortgages and $1,182 million for business and government loans. These loans are presented in the stage in which they were positioned immediately prior to application of the payment deferral.
(2) Not subject to expected credit losses.
(3) The allowances for credit losses do not include the amounts related to undrawn commitments reported in the *Other liabilities* item of the Consolidated Balance Sheet.
(4) Includes customers' liability under acceptances.

(millions of Canadian dollars)

Note 7 – Loans and Allowances for Credit Losses (cont.)

As at October 31, 2019

	Non-impaired loans		Impaired loans			
	Stage 1	Stage 2	Stage 3	POCI	Loans at fair value through profit or loss(1)	Total
Residential mortgage						
Excellent	21,840	–	–	–	–	21,840
Good	14,375	11	–	–	–	14,386
Satisfactory	8,178	674	–	–	–	8,852
Special mention	413	497	–	–	–	910
Substandard	101	248	–	–	–	349
Default	–	–	117	–	–	117
AIRB approach	44,907	1,430	117	–	–	46,454
Standardized approach	3,686	19	27	553	6,432	10,717
Gross carrying amount	48,593	1,449	144	553	6,432	57,171
Allowances for credit losses(2)	37	12	25	(53)	–	21
Carrying amount	48,556	1,437	119	606	6,432	57,150
Personal						
Excellent	14,331	–	–	–	–	14,331
Good	10,119	206	–	–	–	10,325
Satisfactory	4,973	1,477	–	–	–	6,450
Special mention	416	711	–	–	–	1,127
Substandard	109	199	–	–	–	308
Default	–	–	139	–	–	139
AIRB approach	29,948	2,593	139	–	–	32,680
Standardized approach	3,545	83	23	613	–	4,264
Gross carrying amount	33,493	2,676	162	613	–	36,944
Allowances for credit losses(2)	64	103	69	(4)	–	232
Carrying amount	33,429	2,573	93	617	–	36,712
Credit card						
Excellent	370	–	–	–	–	370
Good	316	–	–	–	–	316
Satisfactory	786	20	–	–	–	806
Special mention	421	241	–	–	–	662
Substandard	22	112	–	–	–	134
Default	–	–	–	–	–	–
AIRB approach	1,915	373	–	–	–	2,288
Standardized approach	34	–	–	–	–	34
Gross carrying amount	1,949	373	–	–	–	2,322
Allowances for credit losses(2)	26	102	–	–	–	128
Carrying amount	1,923	271	–	–	–	2,194
Business and government(3)						
Excellent	4,783	–	–	–	112	4,895
Good	22,951	4	–	–	53	23,008
Satisfactory	22,367	1,346	–	–	72	23,785
Special mention	87	1,131	–	–	–	1,218
Substandard	45	255	–	–	–	300
Default	–	–	306	–	–	306
AIRB approach	50,233	2,736	306	–	237	53,512
Standardized approach	3,779	–	72	–	129	3,980
Gross carrying amount	54,012	2,736	378	–	366	57,492
Allowances for credit losses(2)	58	99	140	–	–	297
Carrying amount	53,954	2,637	238	–	366	57,195
Total loans						
Gross carrying amount	138,047	7,234	684	1,166	6,798	153,929
Allowances for credit losses(2)	185	316	234	(57)	–	678
Carrying amount	137,862	6,918	450	1,223	6,798	153,251

(1) Not subject to expected credit losses.
(2) The allowances for credit losses do not include the amounts related to undrawn commitments reported in the *Other liabilities* item of the Consolidated Balance Sheet.
(3) Includes customers' liability under acceptances.

(millions of Canadian dollars)

The following table presents the credit risk exposures of off-balance-sheet commitments as at October 31, 2020 and 2019 according to credit quality and ECL impairment stage.

As at October 31				2020				2019
	Stage 1	**Stage 2**	**Stage 3**	**Total**	Stage 1	Stage 2	Stage 3	Total
Off-balance-sheet commitments[1]								
Retail								
Excellent	15,255	43	–	15,298	12,088	2	–	12,090
Good	3,967	309	–	4,276	3,585	51	–	3,636
Satisfactory	1,273	255	–	1,528	1,328	180	–	1,508
Special mention	84	69	–	153	114	82	–	196
Substandard	4	12	–	16	5	19	–	24
Default	–	–	3	3	–	–	4	4
Non-retail								
Excellent	10,616	–	–	10,616	10,050	–	–	10,050
Good	17,442	343	–	17,785	14,640	1	–	14,641
Satisfactory	5,013	3,450	–	8,463	6,165	513	–	6,678
Special mention	28	324	–	352	17	161	–	178
Substandard	2	84	–	86	167	29	–	196
Default	–	–	6	6	–	–	16	16
AIRB approach	53,684	4,889	9	58,582	48,159	1,038	20	49,217
Standardized approach	10,335	5	1	10,341	6,154	–	1	6,155
Total exposure	64,019	4,894	10	68,923	54,313	1,038	21	55,372
Allowances for credit losses	115	61	–	176	53	20	1	74
Total exposure, net of allowances	63,904	4,833	10	68,747	54,260	1,018	20	55,298

(1) Represent letters of guarantee and documentary letters of credit, undrawn commitments, and backstop liquidity and credit enhancement facilities.

Loans Past Due But Not Impaired[1]

As at October 31				2020[2]				2019
	Residential mortgage	**Personal**	**Credit card**	**Business and government**[3]	Residential mortgage	Personal	Credit card	Business and government[3]
Past due but not impaired								
31 to 60 days	58	74	20	22	92	82	27	31
61 to 90 days	24	27	9	10	34	34	13	21
Over 90 days[4]	–	–	24	–	–	–	28	–
	82	101	53	32	126	116	68	52

(1) Loans less than 31 days past due are not presented as they are not considered past due from an administrative standpoint.
(2) In response to the COVID-19 pandemic, the Bank has approved certain payment deferrals for all types of loans. These loans are presented in the loan category in which they were positioned immediately prior to the application of the payment deferral.
(3) Includes customers' liability under acceptances.
(4) All loans more than 90 days past due, except for credit card receivables, are considered impaired (Stage 3).

(millions of Canadian dollars)

Note 7 – Loans and Allowances for Credit Losses (cont.)

Impaired Loans

As at October 31			2020			2019
	Gross	Allowances for credit losses	Net	Gross	Allowances for credit losses	Net
Loans – Stage 3						
Residential mortgage	193	35	158	144	25	119
Personal	162	76	86	162	69	93
Credit card[(1)]	–	–	–	–	–	–
Business and government[(2)]	462	241	221	378	140	238
	817	352	465	684	234	450
Loans – POCI	855	(66)	921	1,166	(57)	1,223
	1,672	286	1,386	1,850	177	1,673

(1) Credit card receivables are considered impaired, at the latest, when payment is 180 days past due, and they are written off at that time.
(2) Includes customers' liability under acceptances.

Maximum Exposure to Credit Risk on Impaired Loans

The following table presents the maximum exposure to credit risk of impaired loans, the percentage of exposure covered by guarantees, and the main types of collateral and guarantees held for each loan category.

As at October 31		2020		2019	
	Gross impaired loans	Percentage covered by guarantees[(1)]	Gross impaired loans	Percentage covered by guarantees[(1)]	Types of collateral and guarantees
Loans – Stage 3					
Residential mortgage	193	100 %	144	100 %	Residential buildings
Personal	162	49 %	162	46 %	Buildings and automobiles
Business and government[(2)]	462	65 %	378	53 %	Buildings, equipment, government and bank guarantees
Loans – POCI	855	31 %	1,166	28 %	Buildings and automobiles

(1) For gross impaired loans, the ratio is calculated on a weighted average basis using the estimated value of the collateral and guarantees held for each loan category presented. The value of the collateral and guarantees held for a specific loan may exceed the balance of the loan; when this is the case, the ratio is capped at 100%.
(2) Includes customers' liability under acceptances.

(millions of Canadian dollars)

Allowances for Credit Losses

The following tables present a reconciliation of the allowances for credit losses by Consolidated Balance Sheet item and by type of off-balance-sheet commitment.

	Year ended October 31, 2020					
	Allowances for credit losses as at October 31, 2019	Provisions for credit losses	Write-offs[1]	Disposals	Recoveries and other	Allowances for credit losses as at October 31, 2020
Balance sheet						
Cash and deposits with financial institutions[2][3]	2	3	–	–	–	5
Securities[3]						
At fair value through other comprehensive income[4]	–	3	–	–	–	3
At amortized cost[2]	1	–	–	–	–	1
Securities purchased under reverse repurchase agreements and securities borrowed[2][3]	–	–	–	–	–	–
Loans[5]						
Residential mortgage	21	48	(6)	–	2	65
Personal	232	168	(121)	–	19	298
Credit card	128	116	(90)	–	15	169
Business and government	268	342	(77)	–	–	533
Customers' liability under acceptances	29	64	–	–	–	93
	678	738	(294)	–	36	1,158
Other assets[2][3]	–	–	–	–	–	–
Off-balance-sheet commitments[6]						
Letters of guarantee and documentary letters of credit	6	9	–	–	–	15
Undrawn commitments	66	91	–	–	–	157
Backstop liquidity and credit enhancement facilities	2	2	–	–	–	4
	74	102	–	–	–	176
	755	846	(294)	–	36	1,343

	Year ended October 31, 2019					
	Allowances for credit losses as at October 31, 2018	Provisions for credit losses	Write-offs[1]	Disposals	Recoveries and other	Allowances for credit losses as at October 31, 2019
Balance sheet						
Cash and deposits with financial institutions[2][3]	1	1	–	–	–	2
Securities[3]						
At fair value through other comprehensive income[4]	–	–	–	–	–	–
At amortized cost[2]	1	–	–	–	–	1
Securities purchased under reverse repurchase agreements and securities borrowed[2][3]	–	–	–	–	–	–
Loans[5]						
Residential mortgage	1	26	(7)	–	1	21
Personal	259	137	(188)	–	24	232
Credit card	129	88	(104)	–	15	128
Business and government	249	66	(52)	(1)	6	268
Customers' liability under acceptances	20	9	–	–	–	29
	658	326	(351)	(1)	46	678
Other assets[2][3]	–	–	–	–	–	–
Off-balance-sheet commitments[6]						
Letters of guarantee and documentary letters of credit	3	3	–	–	–	6
Undrawn commitments	49	17	–	–	–	66
Backstop liquidity and credit enhancement facilities	2	–	–	–	–	2
	54	20	–	–	–	74
	714	347	(351)	(1)	46	755

(1) The contractual amount outstanding on financial assets that were written off during the year ended October 31, 2020 and that are still subject to enforcement activity was $155 million ($166 million for the year ended October 31, 2019).
(2) These financial assets are presented net of the allowances for credit losses on the Consolidated Balance Sheet.
(3) As at October 31, 2020 and 2019, these financial assets were mainly classified in Stage 1 and their credit quality fell mostly within the *Excellent* category.
(4) The allowances for credit losses are reported in the *Accumulated other comprehensive income* item of the Consolidated Balance Sheet.
(5) The allowances for credit losses are reported in the *Allowances for credit losses* item of the Consolidated Balance Sheet.
(6) The allowances for credit losses are reported in the *Other liabilities* item of the Consolidated Balance Sheet.

(millions of Canadian dollars)

Note 7 – Loans and Allowances for Credit Losses (cont.)

The following tables present the reconciliation of allowances for credit losses for each loan category at amortized cost according to ECL impairment stage.

Year ended October 31					2020					2019
	Allowances for credit losses on non-impaired loans		Allowances for credit losses on impaired loans			Allowances for credit losses on non-impaired loans		Allowances for credit losses on impaired loans		
	Stage 1	Stage 2	Stage 3	POCI[1]	Total	Stage 1	Stage 2	Stage 3	POCI[1]	Total
Residential mortgage										
Balance at beginning	37	12	25	(53)	21	31	13	21	(64)	1
Originations or purchases	11	–	–	–	11	17	–	–	–	17
Transfers[2]:										
to Stage 1	32	(23)	(9)	–	–	13	(10)	(3)	–	–
to Stage 2	(3)	5	(2)	–	–	(1)	2	(1)	–	–
to Stage 3	–	(4)	4	–	–	–	(4)	4	–	–
Net remeasurement of loss allowances[3]	(12)	35	21	(3)	41	(22)	12	10	11	11
Derecognitions[4]	(2)	(2)	–	–	(4)	(1)	(1)	–	–	(2)
Changes to models	–	–	–	–	–	–	–	–	–	–
Provisions for credit losses	26	11	14	(3)	48	6	(1)	10	11	26
Write-offs	–	–	(6)	–	(6)	–	–	(7)	–	(7)
Disposals	–	–	–	–	–	–	–	–	–	–
Recoveries	–	–	2	–	2	–	–	2	–	2
Foreign exchange movements and other	–	–	–	–	–	–	–	(1)	–	(1)
Balance at end	63	23	35	(56)	65	37	12	25	(53)	21
Includes:										
Amounts drawn	63	23	35	(56)	65	37	12	25	(53)	21
Undrawn commitments[5]	–	–	–	–	–	–	–	–	–	–
Personal										
Balance at beginning	65	104	69	(4)	234	72	121	71	(3)	261
Originations or purchases	39	–	–	–	39	48	–	–	–	48
Transfers[2]:										
to Stage 1	87	(79)	(8)	–	–	72	(64)	(8)	–	–
to Stage 2	(19)	22	(3)	–	–	(19)	23	(4)	–	–
to Stage 3	(4)	(53)	57	–	–	(7)	(91)	98	–	–
Net remeasurement of loss allowances[3]	(69)	165	64	(4)	156	(91)	127	81	(1)	116
Derecognitions[4]	(10)	(12)	(3)	–	(25)	(11)	(11)	(5)	–	(27)
Changes to models	1	–	–	–	1	–	–	–	–	–
Provisions for credit losses	25	43	107	(4)	171	(8)	(16)	162	(1)	137
Write-offs	–	–	(121)	–	(121)	–	–	(188)	–	(188)
Disposals	–	–	–	–	–	–	–	–	–	–
Recoveries	–	–	24	–	24	–	–	27	–	27
Foreign exchange movements and other	(1)	1	(3)	(2)	(5)	1	(1)	(3)	–	(3)
Balance at end	89	148	76	(10)	303	65	104	69	(4)	234
Includes:										
Amounts drawn	87	145	76	(10)	298	64	103	69	(4)	232
Undrawn commitments[5]	2	3	–	–	5	1	1	–	–	2

(1) The total amount of undiscounted initially expected credit losses on the POCI loans acquired for the year ended October 31, 2020 was $66 million ($92 million for the year ended October 31, 2019). The expected credit losses reflected in the purchase price were discounted.
(2) Represent stage transfers deemed to have taken place at the beginning of the quarter in which the transfer occurred.
(3) Includes the net remeasurement of loss allowances (after transfers) attributable mainly to changes in volumes and in the credit quality of existing loans as well as to changes in risk parameters.
(4) Represent reversals to loss allowances arising from full loan repayments (excluding write-offs and disposals).
(5) The allowances for credit losses on undrawn commitments are reported in the *Other liabilities* item of the Consolidated Balance Sheet.

(millions of Canadian dollars)

Year ended October 31					2020					2019
	Allowances for credit losses on non-impaired loans		Allowances for credit losses on impaired loans			Allowances for credit losses on non-impaired loans		Allowances for credit losses on impaired loans		
	Stage 1	Stage 2	Stage 3	POCI[1]	Total	Stage 1	Stage 2	Stage 3	POCI[1]	Total
Credit card										
Balance at beginning	47	113	–	–	160	40	115	–	–	155
Originations or purchases	10	–	–	–	10	8	–	–	–	8
Transfers[2]:										
to Stage 1	111	(111)	–	–	–	97	(97)	–	–	–
to Stage 2	(18)	18	–	–	–	(15)	15	–	–	–
to Stage 3	(1)	(40)	41	–	–	(2)	(39)	41	–	–
Net remeasurement of loss allowances[3]	(78)	159	34	–	115	(89)	128	48	–	87
Derecognitions[4]	(3)	(2)	–	–	(5)	(4)	(2)	–	–	(6)
Changes to models	–	–	–	–	–	12	(7)	–	–	5
Provisions for credit losses	21	24	75	–	120	7	(2)	89	–	94
Write-offs	–	–	(90)	–	(90)	–	–	(104)	–	(104)
Disposals	–	–	–	–	–	–	–	–	–	–
Recoveries	–	–	15	–	15	–	–	15	–	15
Foreign exchange movements and other	–	–	–	–	–	–	–	–	–	–
Balance at end	68	137	–	–	205	47	113	–	–	160
Includes:										
Amounts drawn	45	124	–	–	169	26	102	–	–	128
Undrawn commitments[5]	23	13	–	–	36	21	11	–	–	32
Business and government[6]										
Balance at beginning	83	105	141	–	329	65	89	135	1	290
Originations or purchases	93	–	–	–	93	29	–	–	–	29
Transfers[2]:										
to Stage 1	28	(23)	(5)	–	–	27	(19)	(8)	–	–
to Stage 2	(46)	51	(5)	–	–	(8)	18	(10)	–	–
to Stage 3	–	(49)	49	–	–	(1)	(4)	5	–	–
Net remeasurement of loss allowances[3]	77	235	142	–	454	(19)	26	75	–	82
Derecognitions[4]	(20)	(32)	(5)	–	(57)	(10)	(5)	(10)	–	(25)
Changes to models	–	–	–	–	–	–	–	–	–	–
Provisions for credit losses	132	182	176	–	490	18	16	52	–	86
Write-offs	–	–	(77)	–	(77)	–	–	(52)	–	(52)
Disposals	–	–	–	–	–	–	–	–	(1)	(1)
Recoveries	–	–	3	–	3	–	–	8	–	8
Foreign exchange movements and other	(1)	–	(2)	–	(3)	–	–	(2)	–	(2)
Balance at end	214	287	241	–	742	83	105	141	–	329
Includes:										
Amounts drawn	135	250	241	–	626	58	99	140	–	297
Undrawn commitments[5]	79	37	–	–	116	25	6	1	–	32
Total allowances for credit losses at end[7]	434	595	352	(66)	1,315	232	334	235	(57)	744
Includes:										
Amounts drawn	330	542	352	(66)	1,158	185	316	234	(57)	678
Undrawn commitments[5]	104	53	–	–	157	47	18	1	–	66

(1) The total amount of undiscounted initially expected credit losses on the POCI loans acquired during the year ended October 31, 2020 was $66 million ($92 million for the year ended October 31, 2019). The expected credit losses reflected in the purchase price were discounted.
(2) Represent stage transfers deemed to have taken place at the beginning of the quarter in which the transfer occurred.
(3) Includes the net remeasurement of loss allowances (after transfers) attributable mainly to changes in volumes and in the credit quality of existing loans as well as to changes in risk parameters.
(4) Represent reversals to loss allowances arising from full loan repayments (excluding write-offs and disposals).
(5) The allowances for credit losses on undrawn commitments are reported in the *Other liabilities* item of the Consolidated Balance Sheet.
(6) Includes customers' liability under acceptances.
(7) Excludes allowances for credit losses on other financial assets at amortized cost and on off-balance-sheet commitments other than undrawn commitments.

(millions of Canadian dollars)

Note 7 – Loans and Allowances for Credit Losses (cont.)

Distribution of Gross and Impaired Loans by Borrower Category Under the Basel Asset Classes

	2020					2019				
	As at October 31			Year ended October 31		As at October 31			Year ended October 31	
	Gross loans(1)	Impaired loans(1)	Allowances for credit losses on impaired loans(1)(2)	Provisions for credit losses	Write-offs	Gross loans(1)	Impaired loans(1)	Allowances for credit losses on impaired loans(1)(2)	Provisions for credit losses	Write-offs
Retail										
Residential mortgage(3)	81,543	234	40	17	8	74,448	183	28	10	8
Qualifying revolving retail(4)	3,599	20	16	94	112	4,099	24	15	112	127
Other retail(5)	11,569	83	54	85	97	11,606	84	49	139	164
	96,711	337	110	196	217	90,153	291	92	261	299
Non-retail										
Agriculture	6,696	79	8	3	–	6,308	77	4	(3)	–
Oil and gas and pipelines	5,052	80	57	40	17	4,329	63	32	4	21
Mining	756	–	–	–	–	758	–	–	–	–
Utilities	4,352	30	20	21	–	3,372	–	–	–	–
Non-real-estate construction(6)	1,079	37	16	19	4	1,168	–	–	–	–
Manufacturing	5,545	32	27	11	10	6,303	50	28	7	3
Wholesale	2,206	36	14	4	–	2,221	28	10	7	3
Retail	2,955	33	18	15	1	3,289	4	2	(1)	1
Transportation	1,528	9	7	8	1	1,682	9	1	7	6
Communications	1,184	25	18	12	7	1,614	27	11	5	7
Finance and insurance	4,347	6	1	1	–	4,335	12	1	–	–
Real estate services and real estate construction(7)	14,171	38	15	4	3	11,635	32	14	10	3
Professional services	1,490	11	6	2	1	1,846	8	5	1	3
Education and health care	3,800	3	2	15	32	3,520	62	21	14	–
Other services	5,296	55	32	20	1	4,937	20	12	(1)	5
Government	1,160	–	–	–	–	1,071	–	–	–	–
Other	6,715	6	1	1	–	4,222	1	1	1	–
	68,332	480	242	176	77	62,610	393	142	51	52
Stages 1 and 2(8)			1,057	481				578	25	
POCI	855	855	(66)	(7)		1,166	1,166	(57)	10	
	165,898	1,672	1,343	846	294	153,929	1,850	755	347	351

(1) Includes customers' liability under acceptances.
(2) Allowances for credit losses on drawn amounts.
(3) Includes residential mortgages on one-to-four-unit dwellings (Basel definition) and home equity lines of credit.
(4) Includes lines of credit and credit card receivables.
(5) Includes consumer loans and other retail loans but excludes SME loans.
(6) Includes civil engineering loans, public-private partnership loans, and project finance loans.
(7) Includes residential mortgages on dwellings of five or more units and SME loans.
(8) Includes other financial assets at amortized cost and off-balance-sheet commitments. As at October 31, 2019, the allowances for credit losses on off-balance-sheet commitments include an amount of $1 million for undrawn Stage 3 commitments related to business and government loans.

(millions of Canadian dollars)

Main Macroeconomic Factors

The following tables show the main macroeconomic factors used to estimate the allowances for credit losses on loans. For each scenario, namely, the base case, upside scenario and downside scenario, the average values of the factors over the next 12 months (used for Stage 1 credit loss calculations) and over the remaining forecast period (used for Stage 2 credit loss calculations) are presented.

						As at October 31, 2020
		Base scenario		Upside scenario		Downside scenario
	Next 12 months	Remaining forecast period	Next 12 months	Remaining forecast period	Next 12 months	Remaining forecast period
Macroeconomic factors(1)						
GDP growth(2)	3.0 %	2.6 %	3.7 %	2.8 %	0.4 %	2.7 %
Unemployment rate	8.9 %	8.0 %	8.4 %	7.3 %	10.4 %	9.8 %
Housing price index growth(2)	(5.2) %	2.4 %	(1.5) %	2.9 %	(9.9) %	(0.1) %
BBB spread(3)	2.0 %	1.9 %	1.8 %	1.8 %	2.9 %	2.4 %
S&P/TSX growth(2)(4)	(1.1) %	3.3 %	6.9 %	3.2 %	(15.6) %	5.1 %
WTI oil price(5) *(US$ per barrel)*	41	54	51	64	26	32

						As at October 31, 2019
		Base scenario		Upside scenario		Downside scenario
	Next 12 months	Remaining forecast period	Next 12 months	Remaining forecast period	Next 12 months	Remaining forecast period
Macroeconomic factors(1)						
GDP growth(2)	1.5 %	1.6 %	2.0 %	2.1 %	(2.0) %	1.6 %
Unemployment rate	5.8 %	5.7 %	5.6 %	5.3 %	6.8 %	7.5 %
Housing price index growth(2)	3.1 %	3.1 %	6.1 %	2.3 %	(10.9) %	(0.3) %
BBB spread(3)	1.6 %	1.6 %	1.5 %	1.4 %	2.7 %	2.6 %
S&P/TSX growth(2)(4)	4.9 %	2.4 %	8.5 %	2.9 %	(14.1) %	6.6 %
WTI oil price(5) *(US$ per barrel)*	61	60	71	69	39	39

(1) All macroeconomic factors are based on the Canadian economy unless otherwise indicated.
(2) Growth rate is annualized.
(3) Yield on corporate BBB bonds less yield on Canadian federal government bonds with 10-year maturity.
(4) Main stock index in Canada.
(5) The West Texas Intermediate (WTI) index is commonly used as a benchmark for the price of oil.

The main macroeconomic factors used for the personal credit portfolio are unemployment rate and housing price index growth, based on the economy of Canada or Quebec. The main macroeconomic factors used for the business and government credit portfolio are unemployment rate, BBB spread, S&P/TSX growth, and WTI oil price.

An increase in unemployment rate or spread on corporate BBB bonds will generally correlate with higher allowances for credit losses, whereas an increase in the other macroeconomic factors (GDP, S&P/TSX, housing price index and WTI oil price) will generally correlate with lower allowances for credit losses.

(millions of Canadian dollars)

Note 7 – Loans and Allowances for Credit Losses (cont.)

During the year ended October 31, 2020, certain macroeconomic factors were revised positively while others were revised negatively.

According to the base scenario, the Canadian economy will continue to recover next year, but the unemployment rate will be 8.6% at the end of 2021, significantly above its pre-recession level (5.7%). Given a difficult labour market and reduced immigration, housing prices will decline. The S&P/TSX will end 2021 at 16,200 points and the price of oil at US$48.

According to the upside scenario, the economy will rebound more strongly thanks to medical breakthroughs that help fight COVID-19. Fiscal and monetary stimulus measures will limit the damage arising from destroyed production capacity. The unemployment rate at year-end 2021 will be more favourable than the base scenario (5 tenths lower). Housing prices will only decline slightly, the S&P/TSX will end 2021 at 17,500 points and the price of oil at US$58.

According to the downside scenario, delays in the discovery of an effective vaccine will cause increased stress in the financial markets. This will lead to an economic meltdown and a more significant destruction of capacity. The unemployment rate will therefore trend upward, reaching 10.6% at the end of 2021. Housing prices will decrease considerably. The S&P/TSX will end 2021 at 13,900 points and the price of oil at US$24.

Given uncertainty surrounding the key inputs used to measure credit losses, the Bank has applied expert credit judgment to adjust the modelled ECL results.

Sensitivity Analysis of Allowances for Credit Losses on Non-Impaired Loans

Scenarios

The following table shows a comparison of the Bank's allowances for credit losses on non-impaired loans (Stages 1 and 2) as at October 31, 2020 based on the probability weightings of three scenarios with allowances for credit losses resulting from simulations of each scenario weighted at 100%.

	Allowances for credit losses on non-impaired loans
Balance as at October 31, 2020	**1,029**
Simulations	
100% upside scenario	919
100% base scenario	958
100% downside scenario	1,279

Migration

The following table shows a comparison of the Bank's allowances for credit losses on non-impaired loans (Stages 1 and 2) as at October 31, 2020 with the estimated allowances for credit losses that would result if all these non-impaired loans were in Stage 1.

	Allowances for credit losses on non-impaired loans
Balance as at October 31, 2020	**1,029**
Simulations	
Non-impaired loans if they were all in Stage 1	866

(millions of Canadian dollars)

Note 8 – Financial Assets Transferred But Not Derecognized

In the normal course of its business, the Bank enters into transactions in which it transfers financial assets such as securities or loans directly to third parties, in particular structured entities. According to the terms of some of those transactions, the Bank retains substantially all of the risks and rewards related to those financial assets. The risks include credit risk, interest rate risk, foreign exchange risk, prepayment risk and other price risks, whereas the rewards include income streams associated with the financial assets. As such, those financial assets are not derecognized and the transactions are treated as collateralized or secured borrowings. The nature of those transactions is described below.

Securities Sold Under Repurchase Agreements and Securities Loaned

When securities are sold under repurchase agreements and securities loaned under securities lending agreements, the Bank transfers financial assets to third parties in accordance with the standard terms for such transactions. These third parties may have an unlimited right to resell or repledge the financial assets received. If cash collateral is received, the Bank records the cash along with an obligation to return the cash, which is included in *Obligations related to securities sold under repurchase agreements and securities loaned* on the Consolidated Balance Sheet. Where securities are received as collateral, the Bank does not record the collateral on the Consolidated Balance Sheet.

Financial Assets Transferred to Structured Entities

Under the Canada Mortgage Bond (CMB) program, the Bank sells securities backed by insured residential mortgages and other securities to Canada Housing Trust (CHT), which finances the purchase through the issuance of insured mortgage bonds. Third-party CMB investors have legal recourse only to the transferred assets. The cash received for these transferred assets is treated as a secured borrowing, and a corresponding liability is recorded in *Liabilities related to transferred receivables* on the Consolidated Balance Sheet.

The following table provides additional information about the nature of the transferred financial assets that do not qualify for derecognition and the associated liabilities.

As at October 31	2020	2019
Carrying value of financial assets transferred but not derecognized		
Securities(1)	61,599	47,297
Residential mortgages	20,731	20,142
	82,330	67,439
Carrying value of associated liabilities(2)	45,781	36,625
Fair value of financial assets transferred but not derecognized		
Securities(1)	61,599	47,297
Residential mortgages	21,252	20,308
	82,851	67,605
Fair value of associated liabilities(2)	46,120	36,714

(1) The amount related to the securities loaned is the maximum amount of Bank securities that can be lent. For the obligations related to securities sold under repurchase agreements, the amount includes the Bank's own financial assets as well as those of third parties and excludes bearer deposit notes issued by the Bank and covered bonds issued by the Bank.

(2) Associated liabilities include liabilities related to transferred receivables and obligations related to securities sold under repurchase agreements before the offsetting impact of $959 million as at October 31, 2020 ($3,166 million as at October 31, 2019) excluding repurchased agreements guaranteed by bearer deposit notes issued by the Bank and covered bonds issued by the Bank. Liabilities related to securities loaned are not included, as the Bank can lend its own financial assets and those of third parties. The carrying value and fair value of liabilities related to securities loaned were $6,327 million as at October 31, 2020 ($9,753 million as at October 31, 2019).

The following table specifies the nature of the transactions related to financial assets transferred but not derecognized.

As at October 31	2020	2019
Carrying value of financial assets transferred but not derecognized		
Securities backed by insured residential mortgages and other securities sold to CHT	21,211	21,035
Securities sold under repurchase agreements	25,442	16,294
Securities loaned	35,677	30,110
	82,330	67,439

(millions of Canadian dollars)

Note 9 – Investments in Associates and Joint Ventures

As at October 31		2020	2019
	Business segment	Carrying value	Carrying value
Listed associate			
TMX Group Limited[1]	Other	278	273
Unlisted associates		131	112
		409	385

(1) The Bank exercises significant influence over TMX Group Limited (TMX) mainly through its equity interest, debt financing, and presence on TMX's board of directors. As at October 31, 2020, the Bank's ownership interest in TMX was 8.2% and the fair value of this investment based on quoted prices in active markets was $596 million ($544 million as at October 31, 2019).

As at October 31, 2020 and 2019, there were no significant restrictions limiting the ability of associates to transfer funds to the Bank in the form of dividends or to repay any loans or advances. Furthermore, the Bank has not made any specific commitment or contracted any contingent liability with respect to associates.

TMX Group Limited

TMX is a Canadian corporation that directly or indirectly controls a number of entities that operate stock exchanges and clearing houses and provide clearing and settlement services. During the year ended October 31, 2020, TMX paid $13 million in dividends to the Bank ($12 million for the year ended October 31, 2019). The following table provides summarized financial information on TMX.

As at October 31[1]	2020	2019
Balance sheet		
Current assets	34,496	31,099
Non-current assets	5,248	5,215
Current liabilities	34,415	31,164
Non-current liabilities	1,720	1,711
Income statement		
Total revenues	848	812
Net income	255	270
Other comprehensive income (loss)	48	(38)
Comprehensive income	303	232

(1) The balance sheet amounts are the balances reported in the unaudited financial statements as at September 30, 2020 and 2019, which are the most recent available, and the income statement amounts are based on the cumulative balances for the 12-month periods ended September 30, 2020 and 2019.

Unlisted associates

The table below provides summarized financial information related to the Bank's proportionate share in unlisted associates that are not individually significant.

Year ended October 31[1]	2020	2019
Net income	7	12
Other comprehensive income	–	1
Comprehensive income	7	13

(1) The amounts are based on the cumulative balances for the 12-month periods ended September 30, 2020 and 2019.

(millions of Canadian dollars)

Note 10 – Premises and Equipment

	Owned assets held							Right-of-use assets	Total
	Land	Head office building under construction(1)	Buildings	Computer equipment	Equipment and furniture	Leasehold improvements	Total	Real estate	
Cost									
As at October 31, 2018	79	–	256	320	118	340	1,113		1,113
Additions	1	48	4	39	18	34	144		144
Disposals(2)	(10)	–	(185)	–	(26)	(52)	(273)		(273)
Impairment losses(3)	–	–	–	(36)	–	–	(36)		(36)
As at October 31, 2019	70	48	75	323	110	322	948		948
Impact of adopting IFRS 16(4)								648	648
Additions and modifications	1	72	3	55	14	37	182	50	232
Disposals	–	–	(7)	–	–	(4)	(11)		(11)
Impairment losses(3)	–	–	–	(38)	–	–	(38)	–	(38)
Fully amortized assets	–	–	–	–	(12)	(24)	(36)	–	(36)
As at October 31, 2020	**71**	**120**	**71**	**340**	**112**	**331**	**1,045**	**698**	**1,743**
Accumulated amortization									
As at October 31, 2018			155	160	55	142	512		512
Depreciation for the year			6	57	15	27	105		105
Disposals(2)			(103)	–	(13)	(20)	(136)		(136)
Impairment losses(3)			–	(23)	–	–	(23)		(23)
As at October 31, 2019			58	194	57	149	458		458
Depreciation for the year			3	55	11	28	97	99	196
Disposals			(7)	–	–	(4)	(11)		(11)
Impairment losses(3)			–	(19)	–	–	(19)	–	(19)
Fully amortized assets			–	–	(12)	(24)	(36)	–	(36)
As at October 31, 2020			**54**	**230**	**56**	**149**	**489**	**99**	**588**
Carrying value as at October 31, 2019	70	48	17	129	53	173	490		490
Carrying value as at October 31, 2020	**71**	**120**	**17**	**110**	**56**	**182**	**556**	**599**	**1,155**

(1) As at October 31, 2020, contractual commitments related to the head office building under construction stood at $312 million, covering a period up to 2023.
(2) On July 30, 2019, the Bank completed the sale of its head office land and building located at 600 De La Gauchetière Street West, Montreal, Quebec, Canada, for gross proceeds of $187 million. At the same time, the Bank entered into a four-year operating lease with the purchaser. This sale-leaseback transaction resulted in a gain of $50 million, which was recognized in the *Non-Interest Income – Other* item of the Consolidated Statement of Income and reported in the *Other* heading of segment results.
(3) During the year ended October 31, 2020, the Bank decided to stop using certain computer equipment. Consequently, an amount of $19 million in impairment losses related to this equipment was recognized in the *Non-interest expenses – Technology* item of the Consolidated Statement of Income and reported in the *Other* heading of segment results (2019: $13 million).
(4) On November 1, 2019, the Bank adopted IFRS 16. The Bank recognized right-of-use assets totalling $648 million ($668 million reduced by provisions for onerous lease contracts of $20 million). For additional information on the adoption of IFRS 16, refer to Note 1 to these consolidated financial statements.

Assets Leased Under Operating Leases

The Bank is a lessor under operating lease agreements for certain buildings. These leases have terms varying from one year to five years and do not contain any bargain purchase options or contingent rent.

The following table breaks down the future minimum payments receivable under these operating leases. These amounts include sub-lease revenues of $8 million related to real estate right-of-use assets.

	As at October 31, 2020
1 year or less	2
Over 1 year to 2 years	2
Over 2 years to 3 years	2
Over 3 years to 4 years	1
Over 4 years to 5 years	1
Over 5 years	2
	10

(millions of Canadian dollars)

Note 10 – Premises and Equipment (cont.)

Leases Recognized in the Consolidated Statement of Income

	As at October 31, 2020
Interest expense	18
Expense relating to leases of low-value assets[1]	8
Expense relating to variable lease payments	100
Income from leasing and sub-leasing[2]	4

(1) The expense relates to payments for leases for which the underlying asset is of low value that are part of the exemptions permitted by the practical expedients of IFRS 16.
(2) These amounts include variable lease payments of $2 million.

For the year ended October 31, 2020, the cash outflows for leases amount to $213 million.

Note 11 – Goodwill and Intangible Assets

Goodwill

The following table presents changes in the carrying amounts of goodwill by cash-generating unit (CGU) and by business segment for the years ended October 31, 2020 and 2019.

	Personal and Commercial[1]	Wealth Management				Financial Markets[1]	USSF&I			Total
		Third-Party Solutions[1]	Securities Brokerage[1]	Managed Solutions[1]	Total		Credigy Ltd.[1]	Advanced Bank of Asia Limited[1]	Total	
Balance as at October 31, 2018	54	256	434	269	959	235	33	131	164	1,412
Impact of foreign currency translation	–	–	–	–	–	–	–	–	–	–
Balance as at October 31, 2019	54	256	434	269	959	235	33	131	164	1,412
Impact of foreign currency translation	–	–	–	–	–	–	–	2	2	2
Balance as at October 31, 2020	**54**	**256**	**434**	**269**	**959**	**235**	**33**	**133**	**166**	**1,414**

(1) Constitutes a CGU.

Goodwill Impairment Testing and Significant Assumptions
For impairment testing purposes, goodwill resulting from a business combination must be allocated, as of the acquisition date, to a CGU or a group of CGUs expected to benefit from the synergies of the business combination. Goodwill is tested for impairment annually or more frequently if events or circumstances indicate that the recoverable value of the CGU or group of CGUs may have fallen below its carrying amount.

Goodwill was tested for impairment during the years ended October 31, 2020 and 2019, and no impairment loss was recognized.

The recoverable value of a CGU or group of CGUs is based on the value in use that is calculated based on discounted pre-tax cash flows. Future pre-tax cash flows are estimated based on a five-year period, which is the reference period used for the most recent financial forecasts approved by management. Cash flows beyond that period are extrapolated using a long-term growth rate.

The discount rate used for each CGU or group of CGUs is calculated using the cost of debt financing and the cost related to the Bank's equity. This rate corresponds to the Bank's weighted average cost of capital and reflects the risk specific to the CGU. The long-term growth rate used in calculating discounted cash flow estimates is based on the forecasted growth rate plus a risk premium. The rate is constant over the entire five-year period for which the cash flows were determined. Growth rates are determined, among other factors, based on past growth rates, economic trends, inflation, competition and the impact of the Bank's strategic initiatives. As at October 31, 2020, for each CGU or CGU group, the discount rate used was 13.2% (12.9% as at October 31, 2019) and the long-term growth rate was between 2% and 5%, depending on the CGU, as at October 31, 2020 and 2019.

Estimating a CGU's value in use requires significant judgment regarding the inputs used in applying the discounted cash flow method. The Bank conducts sensitivity analyses by varying the after-tax discount rate upward by 1% and the terminal growth rates down by 1%. Such sensitivity analyses demonstrate that a reasonable change in assumptions would not result in a CGU's carrying value exceeding its value in use.

(millions of Canadian dollars)

Intangible Assets

	Indefinite useful life			Finite useful life				Total
	Management contracts[(1)]	Trademark	Total	Internally-generated software[(2)]	Other software	Other intangible assets	Total	
Cost								
As at October 31, 2018	161	11	172	1,509	126	103	1,738	1,910
Acquisitions	–	–	–	329	30	–	359	359
Impairment losses[(3)]	–	–	–	(85)	–	–	(85)	(85)
Fully amortized intangible assets				(50)	–	–	(50)	(50)
As at October 31, 2019	161	11	172	1,703	156	103	1,962	2,134
Acquisitions	**–**	**–**	**–**	**317**	**15**	**–**	**332**	**332**
Impairment losses[(3)]	**–**	**–**	**–**	**(95)**	**–**	**–**	**(95)**	**(95)**
Fully amortized intangible assets				**(3)**	**(2)**	**(34)**	**(39)**	**(39)**
As at October 31, 2020	**161**	**11**	**172**	**1,922**	**169**	**69**	**2,160**	**2,332**
Accumulated amortization								
As at October 31, 2018				444	82	70	596	596
Amortization for the year				194	23	6	223	223
Impairment losses[(3)]				(41)	–	–	(41)	(41)
Fully amortized intangible assets				(50)	–	–	(50)	(50)
As at October 31, 2019				547	105	76	728	728
Amortization for the year				**223**	**22**	**7**	**252**	**252**
Impairment losses[(3)]				**(43)**	**–**	**–**	**(43)**	**(43)**
Fully amortized intangible assets				**(3)**	**(2)**	**(34)**	**(39)**	**(39)**
As at October 31, 2020				**724**	**125**	**49**	**898**	**898**
Carrying value as at October 31, 2019	161	11	172	1,156	51	27	1,234	1,406
Carrying value as at October 31, 2020	**161**	**11**	**172**	**1,198**	**44**	**20**	**1,262**	**1,434**

(1) For annual impairment testing purposes, management contracts are allocated to the Managed Solutions CGU.
(2) The remaining amortization period for significant internally-generated software is four years.
(3) The Bank wrote off certain technology developments due to obsolescence and decided to discontinue them. The recoverable amount of those technology developments was estimated to be nil. During the year ended October 31, 2020, an amount of $52 million ($44 million for the year ended October 31, 2019) in impairment losses was recognized in the *Non-interest expenses – Technology* item of the Consolidated Statement of Income and reported in the *Other* heading of segment results.

Note 12 – Other Assets

As at October 31	2020	2019
Receivables, prepaid expenses and other items	**946**	696
Interest and dividends receivable	**567**	623
Due from clients, dealers and brokers	**586**	570
Defined benefit asset (Note 23)	**126**	38
Deferred tax assets (Note 24)	**643**	562
Current tax assets	**360**	216
Reinsurance assets	**30**	33
Insurance assets	**8**	–
	3,266	2,738

Note 13 – Deposits

As at October 31				2020	2019
	On demand(1)	After notice(2)	Fixed term(3)	Total	Total
Personal	5,582	33,322	28,595	67,499	60,065
Business and government	55,394	24,058	64,335	143,787	125,266
Deposit-taking institutions	2,119	768	1,705	4,592	4,235
	63,095	58,148	94,635	215,878	189,566

(1) Demand deposits are deposits for which the Bank does not have the right to require notice of withdrawal and consist essentially of deposits in chequing accounts.
(2) Notice deposits are deposits for which the Bank may legally require a notice of withdrawal and consist mainly of deposits in savings accounts.
(3) Fixed-term deposits are deposits that can be withdrawn by the holder on a specified date and include term deposits, guaranteed investment certificates, savings accounts and plans, covered bonds, and similar instruments.

The *Deposits – Business and government* item includes, among other items, covered bonds, as described below, and a $8.4 billion amount of deposits as at October 31, 2020 ($3.5 billion as at October 31, 2019) that are subject to the bank bail-in conversion regulations issued by the Government of Canada. These regulations provide certain powers to the Canada Deposit Insurance Corporation (CDIC), notably the power to convert certain eligible Bank shares and liabilities into common shares should the Bank become non-viable.

Covered Bonds
NBC Covered Bond Guarantor (Legislative) Limited Partnership
In December 2013, the Bank established the covered bond legislative program under which covered bonds are issued. It therefore created NBC Covered Bond Guarantor (Legislative) Limited Partnership (the Guarantor) to guarantee payment of the principal and interest owed to the bondholders. The Bank sold uninsured residential mortgages to the Guarantor and granted it loans to facilitate the acquisition of these assets. During the year ended October 31, 2020, the Bank issued covered bonds in amounts of US$200 million (1.0 billion of euros in covered bonds matured, and the Bank issued covered bonds in an amount of US$1.3 billion and 750 million euros during the year ended October 31, 2019). The covered bonds totalled $10.1 billion as at October 31, 2020 ($9.5 billion as at October 31, 2019). For additional information, see Note 27 to these consolidated financial statements.

The Bank has limited access to the assets owned by this structured entity according to the terms of the agreements that apply to this transaction. The assets owned by this entity totalled $17.2 billion as at October 31, 2020 ($16.5 billion as at October 31, 2019), of which $16.8 billion ($16.2 billion as at October 31, 2019) is presented in *Residential mortgage* loans on the Bank's Consolidated Balance Sheet.

Note 14 – Other Liabilities

As at October 31	2020	2019
Accounts payable and accrued expenses	1,993	1,883
Subsidiaries' debts to third parties	386	1,225
Interest and dividends payable	621	1,061
Lease liabilities(1)	628	–
Due to clients, dealers and brokers	652	548
Defined benefit liability (Note 23)	201	374
Allowances for credit losses — Off-balance-sheet commitments (Note 7)	176	74
Deferred tax liabilities (Note 24)	–	5
Current tax liabilities	121	144
Insurance liabilities	–	24
Other items(2)(3)(4)	940	839
	5,718	6,177

(1) As at November 1, 2019, upon IFRS 16 adoption, the Bank recognized lease liabilities totalling $668 million.
(2) As at October 31, 2020, *Other items* included $1 million in restructuring provisions ($6 million as at October 31, 2019).
(3) As at October 31, 2020, *Other items* included $7 million in litigation provisions ($19 million as at October 31, 2019).
(4) As at November 1, 2019, upon IFRS 16 adoption, provisions for onerous contracts totalling $20 million were applied against the right-of-use assets reported in the *Premises and equipment* item. During the year ended October 31, 2019, the Bank reviewed all of the leases for its corporate buildings and recorded $45 million in provisions for onerous contracts in the *Non-interest expenses – Occupancy* item of the Consolidated Statement of Income and reported in the *Other* heading of segment results. As at October 31, 2020, other items included $33 million in provisions for onerous contracts ($48 million as at October 31, 2019).

(millions of Canadian dollars)

Note 15 – Subordinated Debt

The subordinated debt represents direct unsecured obligations, in the form of notes and debentures, to the Bank's debt holders. The rights of the Bank's note and debenture holders are subordinate to the claims of depositors and certain other creditors. Approval from OSFI is required before the Bank can redeem its subordinated notes and debentures in whole or in part.

As at October 31				2020	2019
Maturity date		**Interest rate**	**Characteristics**		
February	2028	3.183%(1)	Redeemable(2)	750	750
February	2087	Variable(3)	Redeemable at the Bank's option since February 28, 1993	9	9
				759	759
Fair value hedge adjustment				17	15
Unamortized issuance costs(4)				(1)	(1)
Total				775	773

(1) Bearing interest at a rate of 3.183%, payable semi-annually until February 1, 2023, and thereafter bearing interest at a floating rate equal to the rate on three-month CDOR plus 0.72%, payable quarterly.
(2) With the prior approval of OSFI, the Bank may, at its option, redeem these notes as of February 1, 2023, in whole or in part, at their nominal value plus accrued and unpaid interest. These notes contain non-viability contingent capital (NVCC) provisions and qualify for the purposes of calculating regulatory capital under Basel III. In the case of a trigger event as defined by OSFI, each note will be automatically and immediately converted, on a full and permanent basis, without the consent of the holder, into a specified number of common shares of the Bank as determined using an automatic conversion formula with a multiplier of 1.5 and a conversion price based on the greater of: (i) a floor price of $5.00; (ii) the current market price of common shares, which represents the volume weighted average price of common shares for the ten trading days ending on the trading day preceding the date of the trigger event. If the common shares are not listed on an exchange when this price is being established, the price will be the fair value reasonably determined by the Bank's Board. The number of shares issued is determined by dividing the par value of the note (plus accrued and unpaid interest on such note) by the conversion price and then applying the multiplier.
(3) Debentures denominated in foreign currency totalling US$7 million as at October 31, 2020 (2019: US$7 million) and bearing interest at a rate of 1/8% above six-month LIBOR.
(4) The unamortized costs related to the issuance of the subordinated debt represent the initial cost, net of accumulated amortization, calculated using the effective interest rate method.

Note 16 – Derivative Financial Instruments

Derivative financial instruments are financial contracts whose value is derived from an underlying interest rate, exchange rate, equity price, commodity price, credit spread or index.

The main types of derivative financial instruments used are presented below.

Forwards and Futures

Forwards and futures are contractual obligations to buy or deliver a specified amount of currency, interest rate, commodity, or financial instrument on a specified future date at a specified price. Forwards are tailor-made agreements transacted in the over-the-counter market. Futures are traded on organized exchanges and are subject to cash margining calculated daily by clearing houses.

Swaps

Swaps are over-the-counter contracts in which two parties agree to exchange cash flows. The Bank uses the following types of swap contracts:

- Cross-currency swaps are transactions in which counterparties exchange fixed-rate interest payments and principal payments in different currencies.
- Interest rate swaps are transactions in which counterparties exchange fixed and floating rate interest payments based on the notional principal value in the same currency.
- Commodity swaps are transactions in which counterparties exchange fixed and floating rate payments based on the notional principal value of a commodity.
- Equity swaps are transactions in which counterparties agree to exchange the return on one equity or group of equities for a payment based on a benchmark interest rate.
- Credit default swaps are transactions in which one of the parties agrees to pay returns to the other party so that the latter can make a payment if a credit event occurs.

Options

Options are agreements between two parties in which the writer of the option grants the buyer the right, but not the obligation, to buy or sell, either at a specified date or dates or at any time prior to a predetermined expiry date, a specific amount of currency, commodity, or financial instrument at an agreed-upon price upon the sale of the option. The writer receives a premium for the sale of this instrument.

(millions of Canadian dollars)

Note 16 – Derivative Financial Instruments (cont.)

Notional Amounts[1]

As at October 31							2020	2019
	Term to maturity							
	3 months or less	Over 3 months to 12 months	Over 1 year to 5 years	Over 5 years	Total contracts	Contracts held for trading purposes	Contracts designated as hedges	Total contracts
Interest rate contracts								
OTC contracts								
Forward rate agreements								
Not settled by central counterparties	4,500	546	–	–	5,046	5,046	–	5,269
Settled by central counterparties	–	586	–	–	586	586	–	754
Swaps								
Not settled by central counterparties	6,189	14,986	54,873	45,465	121,513	120,467	1,046	127,373
Settled by central counterparties	83,466	104,852	231,766	75,356	495,440	455,739	39,701	589,827
Options purchased	2,504	433	3,328	970	7,235	7,210	25	8,462
Options written	1,672	243	3,064	699	5,678	4,686	992	5,595
	98,331	121,646	293,031	122,490	635,498	593,734	41,764	737,280
Exchange-traded contracts								
Futures								
Long positions	17,110	4,170	590	–	21,870	21,870	–	34,540
Short positions	12,695	15,243	9,545	–	37,483	37,483	–	21,249
Options purchased	14,594	996	–	–	15,590	15,590	–	18,098
Options written	14,578	996	–	–	15,574	15,574	–	1,863
	58,977	21,405	10,135	–	90,517	90,517	–	75,750
Foreign exchange contracts								
OTC contracts								
Forwards	41,129	11,080	4,210	1,172	57,591	57,591	–	28,948
Swaps	187,208	62,707	91,420	22,203	363,538	348,482	15,056	312,884
Options purchased	4,772	6,121	1,835	–	12,728	12,728	–	13,651
Options written	5,343	6,658	1,616	–	13,617	13,617	–	13,566
	238,452	86,566	99,081	23,375	447,474	432,418	15,056	369,049
Exchange-traded contracts								
Futures								
Long positions	68	–	–	–	68	68	–	80
Short positions	67	6	–	–	73	73	–	35
	135	6	–	–	141	141	–	115
Equity, commodity and credit derivative contracts[2]								
OTC contracts								
Forwards	–	51	2,364	194	2,609	2,609	–	1,833
Swaps								
Not settled by central counterparties	48,992	20,583	3,416	6,353	79,344	79,255	89	74,406
Settled by central counterparties	273	217	8,516	1,132	10,138	10,138	–	6,454
Options purchased	318	110	488	–	916	916	–	1,108
Options written	377	196	794	193	1,560	1,560	–	1,358
	49,960	21,157	15,578	7,872	94,567	94,478	89	85,159
Exchange-traded contracts								
Futures								
Long positions	4,133	234	391	115	4,873	4,873	–	6,015
Short positions	9,788	1,601	561	–	11,950	11,950	–	14,247
Options purchased	14,437	2,495	137	–	17,069	17,069	–	3,427
Options written	10,752	3,099	1,043	–	14,894	14,894	–	3,873
	39,110	7,429	2,132	115	48,786	48,786	–	27,562
	484,965	258,209	419,957	153,852	1,316,983	1,260,074	56,909	1,294,915

(1) Notional amounts are not presented in assets or liabilities on the Consolidated Balance Sheet. They represent the reference amount of the contract to which a rate or price is applied to determine the amount of cash flows to be exchanged.
(2) Includes precious metal contracts.

(millions of Canadian dollars)

Credit Risk

Credit risk on derivative financial instruments is the risk of financial loss that the Bank will have to assume if a counterparty fails to honour its contractual obligations. Credit risk related to derivative financial instruments is subject to the same credit approval, credit limit and credit monitoring standards as those applied to the Bank's other credit transactions. Consequently, the Bank evaluates the creditworthiness of counterparties and manages the size of the portfolios as well as the diversification and maturity profiles of these financial instruments.

The Bank limits the credit risk of over-the-counter contracts by dealing with creditworthy counterparties and entering into contracts that provide for the exchange of collateral between parties where the fair value of the outstanding transactions exceeds an agreed threshold. The Bank also negotiates master netting agreements that provide for the simultaneous close-out and settling of all transactions with a given counterparty in the event of default, insolvency, or bankruptcy. However, overall exposure to credit risk, reduced through master netting agreements, may change substantially after the balance sheet date because it is affected by all transactions subject to a contract as well as by changes in the market rates of the underlying instruments.

The Bank also uses financial intermediaries to have access to established clearing houses in order to minimize the settlement risk arising from financial derivative transactions. In some cases, the Bank has direct access to clearing houses for settling derivative financial instruments. In addition, certain derivative financial instruments traded over the counter are settled directly or indirectly by central counterparties.

In the case of exchange-traded contracts, exposure to credit risk is limited because these transactions are standardized contracts executed on established exchanges, each of which is associated with a well-capitalized clearing house that assumes the obligations of both counterparties and guarantees their performance obligations. All exchange-traded contracts are subject to initial margins and daily settlement.

Terms Used

Replacement Cost

Replacement cost is the Bank's maximum credit risk associated with derivative financial instruments as at the Consolidated Balance Sheet date. This amount is the positive fair value of all derivative financial instruments, before all master netting agreements and collateral held.

Credit Risk Equivalent

The credit risk equivalent amount is the total replacement cost plus an amount representing the potential future credit risk exposure, as outlined in OSFI's *Capital Adequacy Requirements Guideline*.

Risk-Weighted Amount

The risk-weighted amount is determined by applying the OSFI guidance to the credit risk equivalent.

Credit Risk Exposure of the Derivative Financial Instrument Portfolio

As at October 31			2020			2019
	Replacement cost	**Credit risk equivalent**[1]	**Risk-weighted amount**[1]	Replacement cost	Credit risk equivalent[1]	Risk-weighted amount[1]
Interest rate contracts	**3,534**	**3,839**	**1,383**	2,603	6,685	968
Foreign exchange contracts	**4,391**	**4,829**	**1,542**	3,103	4,570	1,515
Equity, commodity and credit derivative contracts	**5,497**	**7,874**	**1,820**	2,423	2,917	1,119
	13,422	**16,542**	**4,745**	8,129	14,172	3,602
Impact of master netting agreements	**(6,204)**			(3,415)		
	7,218	**16,542**	**4,745**	4,714	14,172	3,602

(1) The amounts are presented net of the Impact of master netting agreements.

Credit Risk Exposure of the Derivative Financial Instrument Portfolio by Counterparty

As at October 31		2020		2019
	Replacement cost	**Credit risk equivalent**	Replacement cost	Credit risk equivalent
OECD[1] governments	**1,265**	**2,280**	1,048	2,077
Banks of OECD member countries	**837**	**3,399**	670	3,720
Other	**5,116**	**10,863**	2,996	8,375
	7,218	**16,542**	4,714	14,172

(1) Organisation for Economic Co-operation and Development.

(millions of Canadian dollars)

Note 16 – Derivative Financial Instruments (cont.)

Fair Value of Derivative Financial Instruments

As at October 31	2020			2019		
	Positive	Negative	Net	Positive	Negative	Net
Contracts held for trading purposes						
Interest rate contracts						
Forwards	41	20	21	36	59	(23)
Swaps	2,622	2,599	23	1,808	1,742	66
Options	131	73	58	97	70	27
	2,794	2,692	102	1,941	1,871	70
Foreign exchange contracts						
Forwards	1,292	1,318	(26)	298	180	118
Swaps	2,816	2,477	339	2,618	2,263	355
Options	221	201	20	127	109	18
	4,329	3,996	333	3,043	2,552	491
Equity, commodity and credit derivative contracts						
Forwards	850	278	572	1,050	72	978
Swaps	2,502	3,430	(928)	1,030	1,439	(409)
Options	2,145	1,334	811	343	405	(62)
	5,497	5,042	455	2,423	1,916	507
Total – Contracts held for trading purposes	12,620	11,730	890	7,407	6,339	1,068
Contracts designated as hedges						
Interest rate contracts						
Forwards	–	–	–	–	–	–
Swaps	740	765	(25)	662	252	410
Options	–	289	(289)	–	206	(206)
	740	1,054	(314)	662	458	204
Foreign exchange contracts						
Forwards	–	–	–	–	–	–
Swaps	62	136	(74)	60	55	5
Options	–	–	–	–	–	–
	62	136	(74)	60	55	5
Equity, commodity and credit derivative contracts						
Forwards	–	–	–	–	–	–
Swaps	–	3	(3)	–	–	–
Options	–	–	–	–	–	–
	–	3	(3)	–	–	–
Total – Contracts designated as hedges	802	1,193	(391)	722	513	209
Designated as fair value hedges	549	578	(29)	461	320	141
Designated as cash flow hedges	253	615	(362)	261	193	68
Designated as a hedge of a net investment in a foreign operation	–	–	–	–	–	–
Total fair value	13,422	12,923	499	8,129	6,852	1,277
Impact of master netting agreements	(6,204)	(6,204)	–	(3,415)	(3,415)	–
	7,218	6,719	499	4,714	3,437	1,277

Note 17 – Hedging Activities

The Bank's market risk exposure, risk management objectives, policies and procedures, and risk measurement methods are presented in the Risk Management section of the MD&A for the year ended October 31, 2020.

The Bank has elected, as permitted under IFRS 9, to continue applying the hedge accounting requirements of IAS 39. Some of the tables present information on currencies, specifically, the Canadian dollar (CAD), the Chinese yuan renminbi (CNH), the Hong Kong dollar (HKD), the U.S. dollar (USD), the euro (EUR), the pound sterling (GBP) and the Brazilian real (BRL).

The table on the following page shows the notional amounts and the weighted average rates by term to maturity of the designated derivative instruments and their fair value by type of hedging relationship.

(millions of Canadian dollars)

As at October 31							2020			2019
				Term to maturity		Fair value			Fair value	
	1 year or less	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	Total	Assets	Liabilities	Total	Assets	Liabilities
Fair value hedges										
Interest rate risk										
Interest rate swaps						536	288		451	114
Notional amount – LIBOR reform(1)	–	839	580	916	2,335			2,322		
Notional amount – Other(2)	1,836	810	9,152	3,834	15,632			14,583		
Average fixed interest rate – Pay fixed	0.4 %	1.1 %	1.3 %	1.0 %	1.1 %			1.9 %		
Average fixed interest rate – Receive fixed	–	1.6 %	1.8 %	2.0 %	1.9 %			2.1 %		
Cross-currency swaps						13	–		10	–
Notional amount – LIBOR reform(1)	–	–	–	–	–			–		
Notional amount – Other(2)	–	–	118	–	118			228		
Average CAD-CNH exchange rate	–	–	–	–				$ 0.1864		
Average CAD-HKD exchange rate	–	–	$ 0.1621	–	$ 0.1621			$ 0.1621		
Options						–	290		–	206
Notional amount – LIBOR reform(1)	–	–	40	400	440			435		
Notional amount – Other(2)	36	12	10	519	577			864		
Average fixed interest rate – Purchased	0.1 %	–	(0.8) %	–	(0.6) %			0.1 %		
Average fixed interest rate – Written	2.4 %	2.0 %	2.9 %	2.8 %	2.7 %			2.7 %		
	1,872	1,661	9,900	5,669	19,102	549	578	18,432	461	320
Cash flow hedges										
Interest rate risk										
Interest rate swaps						204	477		211	138
Notional amount – LIBOR reform(1)	–	1,199	–	–	1,199			1,185		
Notional amount – Other(2)	717	4,585	15,524	755	21,581			21,504		
Average fixed interest rate – Pay fixed	2.1 %	1.9 %	1.6 %	1.4 %	1.7 %			2.0 %		
Average fixed interest rate – Receive fixed	–	0.9 %	0.3 %	1.3 %	0.5 %			0.8 %		
Cross-currency swaps						49	135		50	55
Notional amount – LIBOR reform(1)	–	3,662	9,805	–	13,467			13,067		
Notional amount – Other(2)	1,461	–	–	–	1,461			4,469		
Average CAD-USD exchange rate	$ 1.3242	$ 1.2907	$ 1.3119	–	$ 1.3074			$ 1.3074		
Average USD-EUR exchange rate	$ 1.1131	$ 1.1145	$ 1.1656	–	$ 1.1510			$ 1.1626		
Average USD-GBP exchange rate	$ 1.2921	–	–	–	$ 1.2921			$ 1.2921		
Equity price risk										
Equity swaps										
Notional amount	89	–	–	–	89	–	3	–	–	–
Average price	$ 65.71	–	–	–	$ 65.71			–		
	2,267	9,446	25,329	755	37,797	253	615	40,225	261	193
Hedges of net investments in foreign operations(3)										
Foreign exchange risk										
Cross-currency swaps										
Notional amount	10	–	–	–	10	–	–	10	–	–
Average CAD-USD exchange rate	$ 1.3177	–	–	–	$ 1.3177			$ 1.3286		
Average USD-HKD exchange rate	$ 0.1290	–	–	–	$ 0.1290			$ 0.1277		
	10	–	–	–	10	–	–	10	–	–
	4,149	11,107	35,229	6,424	56,909	802	1,193	58,667	722	513

(1) The benchmark interest rate reform is a global initiative led and coordinated by central banks and governments around the world, including those in Canada. In July 2017, the UK Financial Conduct Committee (FCA) stated that, after 2021, it will no longer compel banks to submit rates used for the calculation of the London Interbank Offered Rate (LIBOR). The Bank has established an enterprise-wide program and is conducting an impact analysis for the Bank. The Bank continues to inventory all of the Bank's contractual arrangements linked to interest rates subject to the reform, in order to evaluate the Bank's exposure to these rates, and to identify impacts on the Bank's products, systems and processes with the intention of minimizing the impacts through appropriate mitigating actions. The Bank is also actively involved in industry working groups and continues to monitor industry progress.

(2) Includes contracts which reference the Canadian Dollar Offered Rate (CDOR), a benchmark rate in Canada, a multi-rate jurisdiction.

(3) As at October 31, 2020, the Bank also designated $1,279 million in foreign currency deposits denominated in U.S. dollars as net investment hedging instruments ($958 million as at October 31, 2019).

(millions of Canadian dollars)

Note 17 – Hedging Activities (cont.)

Fair Value Hedges

Fair value hedge transactions consist of using derivative financial instruments (interest rate swaps and options) to hedge changes in the fair value of a financial asset or financial liability caused by interest rate fluctuations. Changes in the fair values of the derivative financial instruments used as hedging instruments offset changes in the fair value of the hedged items. The Bank applies this strategy mainly to portfolios of securities measured at fair value through other comprehensive income, fixed-rate mortgage loans, fixed-rate deposits, liabilities related to transferred receivables, and subordinated debt.

In addition, when a fixed-rate asset or liability is denominated in a foreign currency, the Bank sometimes uses cross-currency swaps to hedge the associated foreign exchange risk. The Bank may designate a cross-currency swap to exchange the fixed-rate foreign currency for the functional currency at a floating rate in a single hedging relationship addressing both interest rate risk and foreign exchange risk. In certain cases, given that interest rate risk and foreign exchange risk are hedged in a single hedging relationship, the information below does not distinguish between interest rate risk and the combination of interest rate risk and foreign exchange risk as two separate risk categories. The Bank applies this strategy mainly to foreign currency fixed-rate deposits.

Regression analysis is used to test hedge effectiveness and determine the hedge ratio. For fair value hedges, the main source of potential hedge ineffectiveness is a circumstance where the critical terms of the hedging instrument and the hedged item are not closely aligned.

The following tables show amounts related to hedged items as well as the results of the fair value hedges.

	As at October 31, 2020			Year ended October 31, 2020		
	Carrying value of hedged items	**Cumulative hedge adjustments from active hedges**	**Cumulative adjustments from discontinued hedges**	**Gains (losses) on the hedged items for ineffectiveness measurement[1]**	**Gains (losses) on the hedging instruments for ineffectiveness measurement[1]**	**Hedge ineffectiveness[1]**
Securities at fair value through other comprehensive income	**9,883**	**141**	**26**	**229**	**(229)**	**–**
Mortgages	**5,124**	**10**	**2**	**12**	**(12)**	**–**
Deposits	**3,371**	**172**	**83**	**(83)**	**84**	**1**
Liabilities related to transferred receivables	**1,041**	**13**	**162**	**(71)**	**72**	**1**
Subordinated debt	**17**	**–**	**17**	**(7)**	**7**	**–**
				80	**(78)**	**2**

	As at October 31, 2019			Year ended October 31, 2019		
	Carrying value of hedged items	Cumulative hedge adjustments from active hedges	Cumulative adjustments from discontinued hedges	Gains (losses) on the hedged items for ineffectiveness measurement[1]	Gains (losses) on the hedging instruments for ineffectiveness measurement[1]	Hedge ineffectiveness[1]
Securities at fair value through other comprehensive income	8,344	78	9	210	(208)	2
Deposits	4,667	112	48	(396)	395	(1)
Liabilities related to transferred receivables	3,663	59	79	(198)	197	(1)
Subordinated debt	752	15	–	(25)	26	1
				(409)	410	1

(1) Amounts are presented on a pre-tax basis.

(millions of Canadian dollars)

Cash Flow Hedges

Cash flow hedge transactions consist of using interest rate swaps to hedge the risk of changes in future cash flows caused by floating-rate assets or liabilities. In addition, the Bank sometimes uses cross-currency swaps to hedge the foreign exchange risk caused by assets or liabilities denominated in foreign currencies. In certain cases, given that interest rate risk and foreign exchange risk are hedged in a single hedging relationship, the information below does not distinguish between interest rate risk and the combination of interest rate risk and foreign exchange risk as two separate risk categories. The Bank applies this strategy mainly to its loan, personal credit line, acceptance, deposit portfolios, as well as liabilities related to transferred receivables.

The Bank also uses total return swaps to hedge the risk of changes in future cash flows related to the Restricted Stock Unit (RSU) Plan. Some of these swaps are designated as part of a cash flow hedge against a portion of the unrecognized obligation of the RSU Plan. In cash flow hedges, the derivative financial instruments used as hedging instruments reduce the variability of the future cash flows related to the hedged items.

Regression analysis is used to assess hedge effectiveness and to determine the hedge ratio. For cash flow hedges, the main source of potential hedge ineffectiveness is a circumstance where the critical terms of the hedging instrument and the hedged item are not closely aligned.

The following tables show the amounts related to hedged items as well as the results of the cash flow hedges.

	As at October 31, 2020		Year ended October 31, 2020				
	***Accumulated other comprehensive income* from active hedges**	***Accumulated other comprehensive income* from discontinued hedges**	**Gains (losses) on hedged items for ineffectiveness measurement[1]**	**Gains (losses) on hedging instruments for ineffectiveness measurement[1]**	**Hedge ineffectiveness[1]**	**Unrealized gains (losses) included in *Other comprehensive income* as the effective portion of the hedging instrument[1]**	**Losses (gains) reclassified to *Net interest income*[1]**
Interest rate risk							
Loans	2	(1)	(31)	31	–	30	(17)
Deposits	(178)	(2)	23	(21)	–	(208)	(11)
Acceptances	(71)	(136)	193	(199)	(7)	(193)	26
Liabilities related to transferred receivables	(6)	–	7	(6)	–	(6)	–
	(253)	(139)	192	(195)	(7)	(377)	(2)
Equity price risk							
Other liabilities	9	4	(13)	13	–	9	(6)
	(244)	(135)	179	(182)	(7)	(368)	(8)

	As at October 31, 2019		Year ended October 31, 2019				
	Accumulated other comprehensive income from active hedges	*Accumulated other comprehensive income* from discontinued hedges	Gains (losses) on hedged items for ineffectiveness measurement[1]	Gains (losses) on hedging instruments for ineffectiveness measurement[1]	Hedge ineffectiveness[1]	Unrealized gains (losses) included in *Other comprehensive income* as the effective portion of the hedging instrument[1]	Losses (gains) reclassified to *Net interest income*[1]
Interest rate risk							
Loans	–	(14)	(45)	45	–	45	(16)
Deposits	30	9	154	(154)	–	(108)	(10)
Acceptances	4	(44)	133	(135)	(2)	(133)	2
	34	(49)	242	(244)	(2)	(196)	(24)
Equity price risk							
Other liabilities	–	10	(6)	6	–	9	(3)
	34	(39)	236	(238)	(2)	(187)	(27)

(1) Amounts are presented on a pre-tax basis.

(millions of Canadian dollars)

Note 17 – Hedging Activities (cont.)

Hedges of Net Investments in Foreign Operations

The Bank's structural foreign exchange risk arises from investments in foreign operations denominated in currencies other than the Canadian dollar. The Bank measures this risk by assessing the impact of foreign currency fluctuations and hedges it using derivative and non-derivative financial instruments (cross-currency swaps and deposits). In a hedge of a net investment in a foreign operation (net investment hedge), the financial instruments used offset the foreign exchange gains and losses on the investments. When non-derivative financial instruments are designated as foreign exchange risk hedges, only the changes in fair value that are attributable to foreign exchange risk are taken into account when assessing and calculating the effectiveness of the hedge.

Assessing the effectiveness of net investment hedges consists of comparing changes in the carrying value of the deposits or the fair value of the derivative attributable to exchange rate fluctuations with changes in the net investment in a foreign operation attributable to exchange rate fluctuations. Inasmuch as the notional amount of the hedging instruments and the hedged net investments are aligned, no ineffectiveness is expected.

The following tables present the amounts related to hedged items as well as the results of the net investment hedges.

	As at October 31, 2020		Year ended October 31, 2020				
	Accumulated other comprehensive income from active hedges	*Accumulated other comprehensive income* from discontinued hedges	Gains (losses) on hedged items for ineffectiveness measurement(1)	Gains (losses) on hedging instruments for ineffectiveness measurement(1)	Hedge ineffectiveness(1)	Unrealized gains (losses) included in *Other comprehensive income* as the effective portion of the hedging instrument(1)	Losses (gains) reclassified to the *Non-interest income* item(1)
Net investments in foreign operations denominated in:							
USD	(1)	(202)	18	(18)	–	(18)	–
EUR	–	–	–	–	–	–	–
BRL	–	–	–	–	–	–	(38)
Other currencies	–	–	–	–	–	–	–
	(1)	(202)	18	(18)	–	(18)	(38)

	As at October 31, 2019		Year ended October 31, 2019				
	Accumulated other comprehensive income from active hedges	*Accumulated other comprehensive income* from discontinued hedges	Gains (losses) on hedged items for ineffectiveness measurement(1)	Gains (losses) on hedging instruments for ineffectiveness measurement(1)	Hedge ineffectiveness(1)	Unrealized gains (losses) included in *Other comprehensive income* as the effective portion of the hedging instrument(1)	Losses (gains) reclassified to the *Non-interest income* item(1)
Net investments in foreign operations denominated in:							
USD	7	(191)	(5)	5	–	5	–
EUR	–	–	–	–	–	–	3
BRL	–	36	–	–	–	–	–
Other currencies	–	–	(1)	1	–	1	(1)
	7	(155)	(6)	6	–	6	2

(1) Amounts are presented on a pre-tax basis.

(millions of Canadian dollars)

Reconciliation of Equity Components

The following table presents a reconciliation by risk category of *Accumulated other comprehensive income* attributable to hedge accounting.

As at October 31		2020		2019
	Net gains (losses) on cash flow hedges	Net foreign currency translation adjustments	Net gains (losses) on cash flow hedges	Net foreign currency translation adjustments
Balance at beginning	(6)	8	151	14
Hedges of net investments in foreign operations[1]				
Gains (losses) included as the effective portion		(18)		6
Losses (gains) reclassified to *Non-interest income*		(38)		2
Foreign currency translation gains (losses) on investments in foreign operations		92		(9)
Cash flow hedges[1]				
Gains (losses) included as the effective portion				
Interest rate risk	(377)		(196)	
Equity price risk	9		9	
Losses (gains) reclassified to *Net interest income*				
Interest rate risk	(2)		(24)	
Equity price risk	(6)		(3)	
Other comprehensive income attributable to non-controlling interests	–	(12)	–	1
Income taxes	99	29	57	(6)
Balance at end	(283)	61	(6)	8

(1) Amounts are presented on a pre-tax basis.

(millions of Canadian dollars)

Note 18 – Share Capital and Other Equity Instruments

Authorized

Common Shares

An unlimited number of shares without par value.

First Preferred Shares

An unlimited number of shares, without par value, issuable for a maximum aggregate consideration of $5 billion.

First Preferred Shares and Other Equity Instruments

As at October 31, 2020

	Redemption and conversion date[1][2]	Redemption price per share or LRCN ($)[1]	Convertible into preferred shares[2]	Dividend per share ($) or interest rate per LRCN[3]	Reset premium of the dividend rate or interest rate
First preferred shares issued and outstanding					
Series 30[4]	May 15, 2024 [5][6]	25.00	Series 31	0.25156 [7]	2.40 %
Series 32[4]	February 15, 2025 [5][6]	25.00	Series 33	0.23994 [7]	2.25 %
Series 34[4]	May 15, 2021 [5][6]	25.00	Series 35	0.35000 [8]	4.90 %
Series 36[4]	August 15, 2021 [5][6]	25.00	Series 37	0.33750 [8]	4.66 %
Series 38[4]	November 15, 2022 [5][6]	25.00	Series 39	0.27813 [8]	3.43 %
Series 40[4]	May 15, 2023 [5][6]	25.00	Series 41	0.28750 [8]	2.58 %
Series 42[4]	November 15, 2023 [5][6]	25.00	Series 43	0.30938 [8]	2.77 %
Series 44[9]	October 15, 2025 [5]	1000.00	n.a.	Floating rate [9]	3.943 %
Other equity instruments issued					
Limited Recourse Capital Notes – Series 1 (LRCN – Series 1)[4][10]	October 15, 2025 [5]	1,000.00	Series 44 [10]	4.3 %[11]	3.943 %
First preferred shares authorized but not issued					
Series 31[4]	May 15, 2024 [5]	25.00 [12]	n.a.	Floating rate [13]	2.40 %
Series 33[4]	February 15, 2025 [5]	25.00 [12]	n.a.	Floating rate [13]	2.25 %
Series 35[4]	May 15, 2021 [5]	25.50 [14]	n.a.	Floating rate [13]	4.90 %
Series 37[4]	August 15, 2021 [5]	25.50 [14]	n.a.	Floating rate [13]	4.66 %
Series 39[4]	November 15, 2022 [5]	25.50 [14]	n.a.	Floating rate [13]	3.43 %
Series 41[4]	May 15, 2023 [5]	25.50 [14]	n.a.	Floating rate [13]	2.58 %
Series 43[4]	November 15, 2023 [5]	25.50 [14]	n.a.	Floating rate [13]	2.77 %

n.a. Not applicable

(1) Redeemable in cash at the Bank's option, in whole or in part, subject to the provisions of the *Bank Act* (Canada) and to OSFI approval. For the preferred shares, the redemption prices are increased by all the declared and unpaid dividends on the preferred shares to the date fixed for redemption. In the case of LRCN – Series 1, the redemption price is increased by interest accrued and unpaid up to the redemption date.

(2) Convertible at the option of the holders of first preferred shares, subject to certain conditions.

(3) The dividends are non-cumulative and payable quarterly, except for Series 44, for which the dividends are paid semi-annually. Interest on the LRCN – Series 1 is payable semi-annually.

(4) Upon the occurrence of a trigger event, as defined by OSFI, each outstanding preferred share will be automatically and immediately converted, on a full and permanent basis, without the consent of the holder, into a number of Bank common shares determined pursuant to an automatic conversion formula. This conversion will be calculated by dividing the value of the preferred shares, i.e., $25.00 per share, plus all declared and unpaid dividends as at the date of the trigger event, by the value of the common shares. The value of the common shares will be the greater of a $5.00 floor price or the current market price of the common shares. Current market price means the volume weighted average trading price of common shares for the ten consecutive trading days ending on the trading day preceding the date of the trigger event. If the common shares are not listed on an exchange when this price is being established, the price will be the fair value reasonably determined by the Bank's Board.

(5) For the preferred shares, redeemable at the date fixed for redemption and on the same date every five years thereafter. In the case of LRCN – Series 1, the redemption occurs automatically upon the redemption of the Series 44 preferred shares held in the limited recourse trust. The Series 44 preferred shares are redeemable at the date fixed for redemption and on the same date every five years thereafter.

(6) Convertible on the date fixed for conversion and on the same date every five years thereafter, subject to certain conditions.

(7) The dividend amount is set for the five-year period commencing on May 16, 2019 for Series 30 as well as February 16, 2020 for Series 32 and ending on the redemption date. Thereafter, these shares carry a non-cumulative quarterly fixed dividend in an amount per share determined by multiplying the rate of interest equal to the sum of the five-year Government of Canada bond yield on the applicable fixed-rate calculation date by $25.00, plus the reset premium.

(8) The dividend amount is set for the initial period ending on the date fixed for redemption. Thereafter, these shares carry a non-cumulative quarterly fixed dividend in an amount per share determined by multiplying the rate of interest equal to the sum of the five-year Government of Canada bond yield on the applicable fixed-rate calculation date by $25.00, plus the reset premium.

(millions of Canadian dollars)

(9) Series 44 Preferred Shares are held by a consolidated limited recourse trust on the Bank's balance sheet and are therefore eliminated for financial reporting purposes. Dividends are payable semi-annually and the dividend rate is the Government of Canada bond yield on the calculation date plus the reset premium; however, no dividend will be payable before the date on which all Series 44 First Preferred Shares are issued to the holders of LRCN – Series 1. Upon the occurrence of a trigger event, as defined by OSFI, 1) each LRCN – Series 1 will be automatically redeemed and the redemption price will be covered by delivery of the trust's assets that consist of Series 44 preferred shares; 2) each Series 44 outstanding preferred share will be automatically and immediately converted on a full and permanent basis, without the consent of the holder, into a number of Bank common shares determined pursuant to an automatic conversion formula. This conversion will be calculated by dividing the value of the preferred shares, i.e., $1,000 per share, plus all accrued and unpaid interest as at the date of the trigger event, by the value of the common shares. The value of the common shares will be the greater of a $5.00 floor price or the current market price of the common shares. Current market price means the volume weighted average trading price of common shares for the ten consecutive trading days ending on the trading day preceding the date of the trigger event. If the common shares are not listed on an exchange when this price is being established, the price will be the fair value reasonably determined by the Bank's Board.

(10) The LRCN – Series 1 for which recourse is limited to the assets held by an independent trustee in a consolidated limited recourse trust. The trust assets consist of Series 44 Preferred Shares issued in conjunction with the LRCN – Series 1. In the event of (i) non-payment of interest on any of the interest payment dates, (ii) non-payment of the redemption amount upon redemption of the LRCN – Series 1, (iii) non-payment of the principal amount upon maturity of the LRCN – Series 1, or (iv) an event of default in respect of the LRCN – Series 1, the noteholders will have recourse only to the assets of the trust, and each noteholder will be entitled to its pro rata share of the assets of the trust. In such circumstances, delivery of the assets of the trust will eliminate all of the Bank's obligations with respect to the LRCN – Series 1. The LRCN – Series 1 are redeemable at maturity or earlier to the extent that the Bank redeems the Series 44 preferred shares on certain redemption dates specified in the terms and conditions of the Series 44 preferred shares, and subject to OSFI's consent and approval.

(11) The interest rate is set for the initial period ending on the date fixed for redemption. Every five years thereafter until November 15, 2075, the interest rate on the notes will be adjusted and will be an annual interest rate equal to the five-year Government of Canada bond yield on the applicable interest rate calculation date, plus the interest rate reset premium.

(12) As of the date fixed for redemption, and every five years thereafter, the redemption price will be $25.00 per share.

(13) The dividend period begins as of the date fixed for redemption. The amount of the floating quarterly non-cumulative dividend is determined by multiplying by $25.00 the rate of interest equal to the sum of the 90-day Government of Canada treasury bill yield on the floating rate calculation date, plus the reset premium.

(14) As of the date fixed for redemption, the redemption price will be $25.50 per share. Thereafter, on the same date every five years, the redemption price will be $25.00 per share.

Second Preferred Shares

15 million shares without par value, issuable for a total maximum consideration of $300 million. As at October 31, 2020, no shares had been issued or traded.

Shares and Other Equity Instruments Outstanding

As at October 31	2020		2019	
	Number of shares or LRCN	Shares or LRCN $	Number of shares	Shares $
First Preferred Shares				
Series 30	14,000,000	350	14,000,000	350
Series 32	12,000,000	300	12,000,000	300
Series 34	16,000,000	400	16,000,000	400
Series 36	16,000,000	400	16,000,000	400
Series 38	16,000,000	400	16,000,000	400
Series 40	12,000,000	300	12,000,000	300
Series 42	12,000,000	300	12,000,000	300
	98,000,000	2,450	98,000,000	2,450
Other equity instruments				
LRCN – Series 1	500,000	500	–	–
Preferred shares and other equity instruments	98,500,000	2,950	98,000,000	2,450
Common shares at beginning of year	334,172,411	2,949	335,070,642	2,822
Issued pursuant to the Stock Option Plan	2,318,926	111	2,950,922	122
Repurchase of common shares for cancellation	(525,000)	(5)	(4,547,200)	(40)
Impact of shares purchased or sold for trading(1)	31,323	2	699,564	45
Other	–	–	(1,517)	–
Common shares at end of year	335,997,660	3,057	334,172,411	2,949

(1) As at October 31, 2020, a total of 27,477 shares were sold short for trading, representing $2 million (3,846 shares held for trading representing a negligible amount as at October 31, 2019).

(millions of Canadian dollars)

Note 18 – Share Capital and Other Equity Instruments (cont.)

Dividends Declared and Distributions on Other Equity Instruments Capital Note

Year ended October 31	2020		2019	
	Dividends or interest $	Dividends per share	Dividends $	Dividends per share
First Preferred Shares				
Series 30	14	1.0063	14	1.0156
Series 32	12	0.9636	12	0.9750
Series 34	22	1.4000	22	1.4000
Series 36	22	1.3500	22	1.3500
Series 38	18	1.1125	18	1.1125
Series 40	14	1.1500	14	1.1500
Series 42	14	1.2375	14	1.2375
	116		116	
Other equity instruments				
LRCN – Series 1	3		–	
	119		116	
Common shares	953	2.8400	892	2.6600
	1,072		1,008	

Issuance of Equity Instruments

On September 9, 2020, the Bank issued $500 million of Series 1 Limited Recourse Capital Notes (LRCN – Series 1) for which recourse of the noteholders is limited to the assets held by an independent trustee in a limited recourse consolidated trust. The trust's assets consist of $500 million of Series 44 First Preferred Shares issued by the Bank in conjunction with the LRCN – Series 1. The LRCN – Series 1 are sold for $1,000 each and bear interest at a fixed rate of 4.3% per annum until November 15, 2025 exclusively and, thereafter, at an annual rate equal to the five-year Government of Canada bond yield plus 3.943% until November 15, 2075.

In the event of (i) non-payment of interest on any of the interest payment dates, (ii) non-payment of the redemption amount upon redemption of the LRCN - Series 1, (iii) non-payment of the principal amount upon maturity of the LRCN – Series 1, or (iv) an event of default in respect of the notes, the noteholders will have recourse only to the assets of the trust, and each noteholder will be entitled to its pro rata share of the assets of the trust. In such circumstances, delivery of the assets of the trust will eliminate all of the Bank's obligations with respect to the LRCN – Series 1. The LRCN – Series 1 are redeemable at maturity or earlier to the extent that the Bank redeems the Series 44 preferred shares on certain redemption dates specified in the terms and conditions of the Series 44 preferred shares, and subject to OSFI's consent and approval.

Given that the LRCN – Series 1 satisfy the non-viability contingent capital requirements, they qualify for the purposes of calculating regulatory capital under Basel III.

Repurchases of Common Shares

On June 10, 2019, the Bank had begun a normal course issuer bid to repurchase for cancellation up to 6,000,000 common shares (representing approximately 1.80% of its outstanding common shares) over the 12-month period ended June 9, 2020. Any repurchase through the Toronto Stock Exchange will be done at market prices. The common shares may also be repurchased through other means authorized by the Toronto Stock Exchange and applicable regulations, including private agreements or share repurchase programs under issuer bid exemption orders issued by the securities regulators. A private purchase made under an exemption order issued by a securities regulator will be done at a discount to the prevailing market price. The amounts that are paid above the average book value of the common shares are charged to *Retained earnings.* During the year ended October 31, 2020, the Bank repurchased 525,000 common shares for $30 million, which reduced *Common share* capital by $5 million and *Retained earnings* by $25 million. During the year ended October 31, 2019, the Bank had repurchased 4,547,200 common shares for $281 million, which had reduced *Common share* capital by $40 million and *Retained earnings* by $241 million. These repurchases were carried out before March 13, 2020, which was the date on which OSFI lowered the domestic stability buffer and indicated that it was expecting all banks to cease any dividend increases or share buybacks.

(millions of Canadian dollars)

Reserved Common Shares

As at October 31, 2020 and 2019, there were 15,507,568 common shares reserved under the Dividend Reinvestment and Share Purchase Plan. As at October 31, 2020, there were 18,058,352 common shares (20,377,278 as at October 31, 2019) reserved under the Stock Option Plan.

Common Shares Held in Escrow

As part of the acquisition of Wellington West Holdings Inc. in 2011, the Bank had issued common shares held in escrow. As at October 31, 2020, the number of common shares held in escrow was 21,510 (21,510 as at October 31, 2019). The Bank expects that the remaining shares in escrow will be settled by the end of calendar year 2021.

Restriction on the Payment of Dividends

The Bank is prohibited from declaring dividends on its common or preferred shares if there are reasonable grounds for believing that the Bank would, by so doing, be in contravention of the regulations of the *Bank Act* (Canada) or OSFI's capital adequacy and liquidity guidelines. In addition, the ability to pay common share dividends is restricted by the terms of the outstanding preferred shares pursuant to which the Bank may not pay dividends on its common shares without the approval of the holders of the outstanding preferred shares, unless all preferred share dividends have been declared and paid or set aside for payment.

Dividend Reinvestment and Share Purchase Plan

National Bank has a Dividend Reinvestment and Share Purchase Plan for holders of its common and preferred shares under which they can acquire common shares of the Bank without paying commissions or administration fees. Participants acquire common shares through the reinvestment of cash dividends paid on the shares they hold or through optional cash payments of at least $1 per payment, up to a maximum of $5,000 per quarter. Common shares subscribed by participants are purchased on their behalf in the secondary market through the Bank's transfer agent, Computershare Trust Company of Canada, at a price equal to the average purchase price of the common shares during the three business days immediately following the dividend payment date.

Note 19 – Non-Controlling Interests

As at October 31	2020	2019
Trust units issued by NBC Asset Trust (NBC CapS II) – Series 2(1)	–	359
Other(2)	3	(1)
	3	358

(1) As at October 31, 2019, includes $9 million in accrued interest.
(2) During the year ended October 31, 2019, the Bank acquired the entire remaining non-controlling interest in the Cambodian subsidiary Advanced Bank of Asia Limited.

Trust Units Issued by NBC Asset Trust

Through structured entity NBC Asset Trust (the Trust), a closed-end trust established under the laws of the Province of Ontario, the Bank issued transferable non-voting trust units called "Trust Capital Securities" or "NBC CapS II." These securities are not redeemable or exchangeable for Bank preferred shares at the option of the holder. The gross proceeds from the issuance were used by the Trust to finance the acquisition of mortgage loans from the Bank. For additional information, see Note 27 to these consolidated financial statements.

On June 30, 2020, the Trust redeemed all of the outstanding 350,000 Trust units – Series 2 (NBC CapS II – Series 2) at a per-unit price of $1,000 for gross proceeds of $350 million. The redemption was approved by OSFI. On July 17, 2020, the Trust was dissolved.

Note 20 – Capital Disclosure

Capital Management Objectives, Policies and Procedures

Capital management has a dual role of ensuring a competitive return to the Bank's shareholders while maintaining a solid capital foundation that covers the risks inherent to the Bank's business, supports its business segments and protects its clients.

The Bank's capital management policy defines the guiding principles as well as the roles and responsibilities regarding its internal capital adequacy assessment process. This process is a key tool in establishing the Bank's capital strategy and is subject to quarterly reviews and periodic amendments.

Capital Management

Capital ratios are obtained by dividing regulatory capital by risk-weighted assets and are expressed as a percentage. Risk-weighted assets are calculated in accordance with the rules established by OSFI for on- and off-balance-sheet risks. Credit, market and operational risks are factored into the risk-weighted assets calculation for regulatory purposes. The definition adopted by the Basel Committee on Banking Supervision (BCBS) distinguishes between three types of capital. Common Equity Tier 1 (CET1) capital consists of common shareholders' equity less goodwill, intangible assets and other capital deductions. Additional Tier 1 instruments comprise eligible non-cumulative preferred shares, limited recourse capital notes, and the eligible amount of innovative instruments. During the year ended October 31, 2020, the Bank redeemed all of its outstanding innovative instruments. The sum of CET1 and Additional Tier 1 capital forms what is known as Tier 1 capital. Tier 2 capital consists of the eligible portion of subordinated debt and certain allowances for credit losses. Total regulatory capital is the sum of Tier 1 and Tier 2 capital.

During the second quarter of 2020, OSFI adjusted regulatory ratio requirements in response to the impact of the COVID-19 pandemic. For additional information, see the section entitled COVID-19 Pandemic – Key Measures Introduced by the Regulatory Authorities on pages 20 and 21 of this MD&A. The Bank and all other major Canadian banks have to maintain minimum capital ratios established by OSFI: a CET1 capital ratio of at least 9.0%, a Tier 1 capital ratio of at least 10.5%, and a Total capital ratio of at least 12.5%. All of these ratios are to include a capital conservation buffer of 2.5% established by the BCBS and OSFI as well as a 1.0% surcharge applicable solely to D-SIBs and a 1.0% domestic stability buffer established by OSFI. The domestic stability buffer, which can vary from 0% to 2.5% of risk-weighted assets, consists exclusively of CET1 capital. A D-SIB that fails to meet this buffer requirement will not be subject to automatic constraints to reduce capital distributions but will have to provide a remediation plan to OSFI. The banks also have to meet the capital floor that sets the regulatory capital level according to the Basel II standardized approach. If the capital requirement under Basel III is less than 70% of the capital requirement as calculated under Basel II, the difference is added to risk-weighted assets. OSFI requires Canadian banks to meet a Basel III leverage ratio of at least 3.0%. The leverage ratio is a measure independent of risk that is calculated by dividing the amount of Tier 1 capital by total exposure. Total exposure is defined as the sum of on-balance-sheet assets (including derivative exposures and securities financing transaction exposures) and off-balance-sheet items. The assets deducted from Tier 1 capital are also deducted from total exposure.

During the years ended October 31, 2020 and 2019, the Bank was in compliance with all of OSFI's regulatory capital requirements.

(millions of Canadian dollars)

Regulatory Capital and Ratios Under Basel III

As at October 31	2020		2019
	Adjusted[1]		
Capital			
CET1	10,924	11,167	9,692
Tier 1	13,869	14,112	12,492
Total	15,167	15,167	13,366
Risk-weighted assets	94,808	94,808	83,039
Total exposure	321,038	321,038	308,902
Capital ratios			
CET1	11.5 %	11.8 %	11.7 %
Tier 1	14.6 %	14.9 %	15.0 %
Total	16.0 %	16.0 %	16.1 %
Leverage ratio	4.3 %	4.4 %	4.0 %

(1) The Basel III regulatory capital and ratios adjusted as at October 31, 2020 do not include the transitional measure applicable to expected credit loss provisioning. For additional information, see the section entitled COVID-19 Pandemic – Key Measures Introduced by the Regulatory Authorities on pages 20 and 21 of the MD&A.

Note 21 – Trading Activity Revenues

Trading activity revenues consist of the net interest income from trading activities and of trading revenues recognized in *Non-interest income* in the Consolidated Statement of Income.

Net interest income comprises dividends related to financial assets and liabilities associated with trading activities, net of interest expenses and interest income related to the financing of these financial assets and liabilities.

Non-interest income consists of realized and unrealized gains and losses as well as interest income on securities measured at fair value through profit or loss, income from held-for-trading derivative financial instruments, changes in the fair value of loans at fair value through profit or loss, changes in the fair value of financial instruments designated at fair value through profit or loss, and transaction costs if applicable.

Year ended October 31	2020	2019
Net interest income	603	40
Non-interest income	604	829
	1,207	869

(millions of Canadian dollars)

Note 22 – Share-Based Payments

The compensation expense information provided below excludes the impact of hedging.

Stock Option Plan

The Bank's Stock Option Plan is for officers and other designated persons of the Bank and its subsidiaries. Under this plan, options are awarded annually and provide participants with the right to purchase common shares at an exercise price equal to the closing price of the Bank's common share on the Toronto Stock Exchange on the day preceding the award. The options vest evenly over a four-year period and expire ten years from the award date or, in certain circumstances set out in the plan, within specified time limits. The Stock Option Plan contains provisions for retiring employees that allow the participant's rights to continue vesting in accordance with the stated terms of the grant agreement. The maximum number of common shares that may be issued under the Stock Option Plan was 18,058,352 as at October 31, 2020 (20,377,278 as at October 31, 2019). The number of common shares reserved for a participant may not exceed 5% of the total number of Bank shares issued and outstanding.

As at October 31		2020		2019
	Number of options	**Weighted average exercise price**	Number of options	Weighted average exercise price
Stock Option Plan				
Outstanding at beginning	**12,103,626**	**$ 49.15**	13,064,746	$ 44.78
Awarded	**1,789,280**	**$ 71.86**	2,116,892	$ 58.79
Exercised	**(2,318,926)**	**$ 42.18**	(2,950,922)	$ 36.40
Cancelled[(1)]	**(148,577)**	**$ 60.99**	(127,090)	$ 56.86
Outstanding at end	**11,425,403**	**$ 53.96**	12,103,626	$ 49.15
Exercisable at end	**6,908,779**	**$ 47.05**	7,421,662	$ 43.59

(1) Includes 1,800 expired options during the year ended October 31, 2020 (13,662 expired options during the year ended October 31, 2019).

Exercise price	Options outstanding	Options exercisable	Expiry date
$34.34	399,530	399,530	December 2020
$34.09	625,356	625,356	December 2021
$38.36	696,308	696,308	December 2022
$44.96	941,939	941,939	December 2023
$47.93	1,213,908	1,213,908	December 2024
$42.17	953,611	953,611	December 2025
$54.69	1,275,263	878,169	December 2026
$64.14	1,595,263	753,795	December 2027
$58.79	1,960,809	446,163	December 2028
$71.86	1,763,416	–	December 2029
	11,425,403	6,908,779	

During the year ended October 31, 2020, the Bank awarded 1,789,280 stock options (2,116,892 stock options during the year ended October 31, 2019) with an average fair value of $5.11 per option ($6.14 for the year ended October 31, 2019).

The average fair value of options awarded was estimated on the award date using the Black-Scholes model as well as the following assumptions.

Year ended October 31	2020	2019
Risk-free interest rate	**1.94%**	2.50%
Expected life of options	**7 years**	7 years
Expected volatility	**14.97%**	18.40%
Expected dividend yield	**4.29%**	4.37%

(millions of Canadian dollars)

The expected life of the options is based on historical data and is not necessarily representative of how options will be exercised in the future. Expected volatility is extrapolated from the implied volatility of the Bank's share price and observable market inputs, which are not necessarily representative of actual results. The expected dividend yield represents the annualized dividend divided by the Bank's share price at the award date. The risk-free interest rate is based on the Canadian dollar swap curve at the award date. The exercise price is equal to the Bank's share price at the award date. No other market parameter has been included in the fair value measurement of the options.

A $9 million compensation expense was recorded for the year ended October 31, 2020 with respect to this plan ($11 million for the year ended October 31, 2019).

Stock Appreciation Rights (SAR) Plan

The SAR Plan is for officers and other designated persons of the Bank and its subsidiaries. Under this plan, participants receive, upon exercising the right, a cash amount equal to the difference between the closing price of the Bank's common share on the Toronto Stock Exchange on the day preceding the exercise date and the closing price on the day preceding the award date. SARs vest evenly over a four-year period and expire 10 years after the award date or, in certain circumstances set out in the plan, within specified time limits. The SAR Plan contains provisions for retiring employees that allow the participant's rights to continue vesting in accordance with the stated terms of the grant agreement. A compensation expense in a negligible amount was recognized for the year ended October 31, 2020 with respect to this plan ($2 million for the year ended October 31, 2019).

As at October 31		2020		2019
	Number of SARs	**Weighted average exercise price**	Number of SARs	Weighted average exercise price
SAR Plan[1]				
Outstanding at beginning	**334,997**	**$ 49.61**	332,211	$ 46.86
Awarded	**42,876**	**$ 71.86**	46,968	$ 58.79
Exercised	**(84,977)**	**$ 46.88**	(44,182)	$ 38.69
Outstanding at end	**292,896**	**$ 53.66**	334,997	$ 49.61
Exercisable at end	**167,545**	**$ 45.87**	190,691	$ 43.65

(1) No SARs cancelled or expired during the years ended October 31, 2020 and 2019.

Exercise price	SARs outstanding	SARs exercisable	Expiry date
$34.34	1,620	1,620	December 2020
$34.09	24,608	24,608	December 2021
$38.36	24,216	24,216	December 2022
$44.96	29,480	29,480	December 2023
$47.93	31,572	31,572	December 2024
$42.17	19,748	19,748	December 2025
$54.69	28,079	12,240	December 2026
$64.14	51,320	19,910	December 2027
$58.79	39,377	4,151	December 2028
$71.86	42,876	–	December 2029
	292,896	167,545	

Deferred Stock Unit (DSU) Plans

The DSU Plans are for officers and other designated persons of the Bank and its subsidiaries as well as directors. These plans allow the Bank to tie a portion of the value of the compensation of participants to the future value of the Bank's common shares. A DSU is a right that has a value equal to the closing price of a common share of the Bank on the Toronto Stock Exchange on the day preceding the award. DSUs generally vest evenly over four years. Additional DSUs are credited to the accounts of participants in an amount equal to the dividends declared on Bank common shares and vest evenly over the same period as the reference DSUs. DSUs may only be cashed when participants retire or leave the Bank or, for directors, when their term ends. The DSU Plans contain provisions for retiring employees whereby participants may continue vesting units in accordance with the stated terms of the grant agreement.

During the year ended October 31, 2020, the Bank awarded 44,292 DSUs at a weighted average price of $67.35 (51,839 DSUs at a weighted average price of $60.33 for the year ended October 31, 2019). A total of 483,009 DSUs were outstanding as at October 31, 2020 (569,402 DSUs as at October 31, 2019). A compensation expense of $3 million was recognized for the year ended October 31, 2020 with respect to these plans ($9 million for the year ended October 31, 2019).

Note 22 – Share-Based Payments (cont.)

Restricted Stock Unit (RSU) Plan
The RSU Plan is for certain officers and other designated persons of the Bank and its subsidiaries. The objective of this plan is to ensure that the compensation of certain officers and other designated persons is competitive and to foster retention. An RSU represents a right that has a value equal to the average closing price of the Bank's common share, as published by the Toronto Stock Exchange, over the ten trading days preceding the sixth business day in December. RSUs generally vest evenly over three years, although some RSUs vest on the sixth business day of December of the third year following the date of the award, the date on which all RSUs expire. Additional RSUs are credited to the accounts of participants in an amount equal to the dividends declared on the Bank common shares and vest evenly over the same period as the reference RSUs. The RSU Plan contains provisions for retiring employees whereby participants may continue vesting units in accordance with the stated terms of the award agreement.

During the year ended October 31, 2020, the Bank awarded 1,868,580 RSUs at a weighted average price of $71.36 (2,396,501 RSUs at a weighted average price of $60.07 for the year ended October 31, 2019). As at October 31, 2020, a total of 4,606,456 RSUs were outstanding (4,977,984 RSUs as at October 31, 2019). A compensation expense of $135 million was recognized for the year ended October 31, 2020 with respect to this plan ($175 million for the year ended October 31, 2019).

Performance Stock Unit (PSU) Plan
The PSU Plan is for officers and other designated persons of the Bank. The objective of this plan is to tie a portion of the value of the compensation of these officers and other designated persons to the future value of the Bank's common shares. A PSU represents a right that has a value equal to the average closing price of the Bank's common share, as published by the Toronto Stock Exchange, over the ten trading days preceding the sixth business day in December, adjusted upward or downward according to performance criteria, which is based on the Bank's total shareholder return (TSR) growth index over three years compared to the average TSR growth index of the comparator group composed of Canadian banks over three years. PSUs vest on the sixth business day of December of the third year following the date of the award, the date on which all PSUs expire. Additional PSUs are credited to the accounts of participants in an amount equal to the dividends declared on the Bank's common shares and vest evenly over the same period as the reference PSUs. The PSU Plan contains provisions for retiring employees whereby participants may continue vesting units in accordance with the stated terms of the award agreement.

During the year ended October 31, 2020, the Bank awarded 235,987 PSUs at a weighted average price of $71.36 (351,956 PSUs at a weighted average price of $60.07 for the year ended October 31, 2019). As at October 31, 2020, a total of 796,340 PSUs were outstanding (843,250 PSUs as at October 31, 2019). A compensation expense of $25 million was recognized for the year ended October 31, 2020 with respect to this plan ($29 million for the year ended October 31, 2019).

Deferred Compensation Plan of National Bank Financial (NBF)
This plan is exclusively for key employees of NBF Wealth Management. The purpose of this plan is to foster the retention of key employees and promote the growth in income and the continuous improvement in profitability at Wealth Management. Under this plan, participants can defer a portion of their annual compensation, and NBF may pay a contribution to key employees when certain financial objectives are met. Amounts awarded by NBF and the compensation deferred by participants are invested in, among others, Bank common share units. These share units represent a right, the value of which corresponds to the closing price of the Bank's common share on the Toronto Stock Exchange on the award date. Additional units are paid to the accounts of participants in an amount equal to the dividends declared on Bank common shares. Share units representing the amounts awarded by NBF vest evenly over four years. When a participant retires, or in certain cases when the participant's employment is terminated, the participant receives a cash amount representing the value of the vested share units.

During the year ended October 31, 2020, NBF awarded 137,465 share units at a weighted average price of $69.80 (147,927 share units at a weighted average price of $59.94 for the year ended October 31, 2019). As at October 31, 2020, a total of 1,904,866 share units were outstanding (1,764,789 share units as at October 31, 2019). During the year ended October 31, 2020, a $2 million compensation expense was recognized for this plan ($22 million for the year ended October 31, 2019).

Employee Share Ownership Plan
Under the Bank's Employee Share Ownership Plan, employees who meet the eligibility criteria can contribute up to 8% of their annual gross salary by way of payroll deductions. The Bank matches 25% of the employee contribution up to a maximum of $1,500 per annum. Bank contributions vest to the employee after one year of uninterrupted participation in the plan. Subsequent contributions vest immediately. The Bank's contributions, amounting to $13 million for the year ended October 31, 2020 ($12 million for the year ended October 31, 2019), were charged to *Compensation and employee benefits* when paid. As at October 31, 2020, a total of 6,167,265 common shares were held for this plan (5,813,172 common shares as at October 31, 2019).

Plan shares are purchased on the open market and are considered to be outstanding for earnings per share calculations. Dividends paid on the Bank's common shares held for the Employee Share Ownership Plan are used to purchase other common shares on the open market.

Plan Liabilities and Intrinsic Value
Total liabilities arising from the Bank's share-based compensation plans amounted to $507 million as at October 31, 2020 ($549 million as at October 31, 2019). The intrinsic value of these liabilities that had vested as at October 31, 2020 was $213 million ($217 million as at October 31, 2019).

(millions of Canadian dollars)

Note 23 – Employee Benefits – Pension Plans and Other Post-Employment Benefits

The Bank offers defined benefit pension plans and other post-employment benefit plans to eligible employees. The pension plans provide benefits based on years of plan participation and average earnings at retirement. Other post-employment benefit plans include post-employment medical, dental, and life insurance coverage. While pension plans are funded, the other plans are not. The fair value of plan assets and the present value of the defined benefit obligation are measured as at October 31.

The Bank's most significant pension plan is the *Employee Pension Plan of the National Bank of Canada*; it is registered with OSFI and the Canada Revenue Agency and subject to the *Pension Benefits Standards Act, 1985* and the *Income Tax Act*.

The defined benefit plans expose the Bank to specific risks such as investment performance, changes to the discount rate used to calculate the obligation, the longevity of plan members and future inflation. While management believes that the assumptions used in the actuarial valuation process are reasonable, there remains a degree of risk and uncertainty that may cause future results to differ significantly from these assumptions, which could give rise to gains or losses.

According to the Bank's governance rules, the policies and risk management related to the defined benefit plans are overseen at different levels by the pension committees, the Bank's management and the Board's Human Resources Committee. The defined benefit plans are examined on an ongoing basis in order to monitor the funding and investment policies, the plans' financial status and the Bank's funding requirements.

The Bank's funding policy for the defined benefit pension plans is to make at least the minimum annual contributions required by pension regulators.

For funded plans, the Bank determines whether an economic benefit exists in the form of potential reductions in future contributions and in the form of refunds from the plan surplus, where permitted by applicable regulations and plan provisions.

Defined Benefit Obligation, Plan Assets and Funded Status

As at October 31

	Pension plans		Other post-employment benefit plans	
	2020	2019	**2020**	2019
Defined benefit obligation				
Balance at beginning	**4,703**	3,864	**202**	176
Current service cost	**126**	93	**2**	3
Interest cost	**148**	158	**5**	6
Remeasurements				
Actuarial (gains) losses arising from changes in demographic assumptions	**5**	(121)	**1**	8
Actuarial (gains) losses arising from changes in financial assumptions	**195**	712	**1**	18
Actuarial (gains) losses arising from experience adjustments	**–**	141	**(1)**	–
Employee contributions	**54**	53		
Benefits paid	**(204)**	(197)	**(9)**	(9)
Balance at end	**5,027**	4,703	**201**	202
Plan assets				
Fair value at beginning	**4,569**	3,918		
Interest income	**140**	157		
Administration cost	**(3)**	(4)		
Remeasurements				
Return on plan assets (excluding interest income)	**525**	575		
Bank contributions(1)	**72**	67		
Employee contributions	**54**	53		
Benefits paid	**(204)**	(197)		
Fair value at end	**5,153**	4,569		
Defined benefit asset (liability) at end	**126**	(134)	**(201)**	(202)

(1) For fiscal 2021, the Bank expects to pay an employer contribution of $72 million to the defined benefit pension plans.

(millions of Canadian dollars)

Note 23 – Employee Benefits – Pension Plans and Other Post-Employment Benefits (cont.)

Defined Benefit Asset (Liability)

As at October 31

	Pension plans		Other post-employment benefit plans	
	2020	2019	**2020**	2019
Defined benefit asset included in *Other assets*	**126**	38		
Defined benefit liability included in *Other liabilities*	**–**	(172)	**(201)**	(202)
	126	(134)	**(201)**	(202)

Cost for Pension Plans and Other Post-Employment Benefits

Year ended October 31

	Pension plans		Other post-employment benefit plans	
	2020	2019	**2020**	2019
Current service cost	**126**	93	**2**	3
Interest expense (income), net	**8**	1	**5**	6
Administration costs	**3**	4		
Expense recognized in *Net income*	**137**	98	**7**	9
Remeasurements(1)				
Actuarial (gains) losses on defined benefit obligation	**200**	732	**1**	26
Return on plan assets(2)	**(525)**	(575)		
Remeasurements recognized in *Other comprehensive income*	**(325)**	157	**1**	26
	(188)	255	**8**	35

(1) Changes related to the discount rate and to the return on plan assets are reviewed and updated on a quarterly basis. All other assumptions are updated annually.
(2) Excluding interest income.

Allocation of the Fair Value of Pension Plan Assets

As at October 31			**2020**			2019
	Quoted in an active market(1)	**Not quoted in an active market**	**Total**	Quoted in an active market(1)	Not quoted in an active market	Total
Asset classes						
Cash and cash equivalents	**–**	**135**	**135**	–	63	63
Equity securities	**1,432**	**613**	**2,045**	1,458	478	1,936
Debt securities						
Canadian government	**48**	**–**	**48**	306	–	306
Canadian provincial and municipal governments	**–**	**1,656**	**1,656**	–	1,491	1,491
Other issuers	**–**	**1,125**	**1,125**	–	571	571
Other	**–**	**144**	**144**	–	202	202
	1,480	**3,673**	**5,153**	1,764	2,805	4,569

(1) Unadjusted quoted prices in active markets for identical assets that the Bank can access at the measurement date.

The Bank's investment strategy for plan assets considers several factors, including the time horizon of pension plan obligations and investment risk. For each plan, an allocation range per asset class is defined using a mix of equity and debt securities to optimize the risk-return profile of plan assets and minimize asset/liability mismatching.

The pension plan assets may include investment securities issued by the Bank. As at October 31, 2020 and 2019, the pension plan assets do not include any securities issued by the Bank.

For fiscal 2020, the Bank and its related entities received $11 million ($3 million in fiscal 2019) in fees from the pension plans for related management, administration and custodial services.

(millions of Canadian dollars)

Allocation of the Defined Benefit Obligation by the Status of Defined Benefit Plan Participants

As at October 31

	Pension plans		Other post-employment benefit plans	
	2020	2019	**2020**	2019
Active employees	**42 %**	42 %	**14 %**	22 %
Retirees	**51 %**	52 %	**86 %**	78 %
Participants with deferred vested benefits	**7 %**	6 %		
	100 %	100 %	**100 %**	100 %
Weighted average duration of the defined benefit obligation *(in years)*	**17**	17	**13**	13

Significant Actuarial Assumptions (Weighted Average)

Discount Rate

The discount rate assumption is based on an interest rate curve that represents the yields on corporate AA bonds. Short-term maturities are obtained using a curve based on observed data from corporate AA bonds. Long-term maturities are obtained using a curve based on observed data and extrapolated data.

To measure the pension plan and other post-employment plan obligation, the vested benefits that the Bank expects to pay in each future period are discounted to the measurement date using the spot rate associated with each of the respective periods based on the yield curve derived using the above methodology. The sum of discounted benefit amounts represents the defined benefit obligation. An average discount rate that replicates this obligation is then computed.

To better reflect current service cost, a separate discount rate was determined to account for the timing of future benefit payments associated with the additional year of service to be earned by the plan's active participants. Since these benefits are, on average, being paid at a later date than the benefits already earned by participants as a whole (i.e., longer duration), this method results in the use of a generally higher discount rate for calculating current service cost than that used to measure obligations where the yield curve is positively sloped. The methodology used to determine this discount rate is the same as the one used to establish the discount rate for measuring the obligation.

Other Assumptions

For measurement purposes, the estimated annual growth rate for health care costs was 4.64% as at October 31, 2020 (5.17% as at October 31, 2019). Based on the assumption retained, this rate is expected to decrease gradually to 3.34% in 2041 and remain steady thereafter.

Mortality assumptions are a determining factor when measuring the defined benefit obligation. Determining the expected benefit payout period is based on best estimate assumptions regarding mortality. Mortality tables are reviewed at least once a year, and the assumptions made are in accordance with accepted actuarial practice. New results regarding the plans are reviewed and used in calculating best estimates of future mortality.

As at October 31

	Pension plans		Other post-employment benefit plans	
	2020	2019	**2020**	2019
Defined benefit obligation				
Discount rate	**2.90 %**	3.10 %	**2.90 %**	3.10 %
Rate of compensation increase	**3.00 %**	3.00 %	**3.00 %**	3.00 %
Health care cost trend rate			**4.64 %**	5.17 %
Life expectancy *(in years)* at 65 for a participant currently at				
Age 65				
Men	**21.3**	21.3	**21.3**	21.3
Women	**23.7**	23.6	**23.7**	23.6
Age 45				
Men	**22.4**	22.3	**22.4**	22.3
Women	**24.6**	24.6	**24.6**	24.6

(millions of Canadian dollars)

Note 23 – Employee Benefits – Pension Plans and Other Post-Employment Benefits (cont.)

Year ended October 31

	Pension plans		Other post-employment benefit plans	
	2020	2019	**2020**	2019
Pension plan expense				
Discount rate – Current service	**3.20 %**	4.15 %	**3.20 %**	4.15 %
Discount rate – Interest expense (income), net	**3.10 %**	4.05 %	**3.10 %**	4.05 %
Rate of compensation increase	**3.00 %**	3.00 %	**3.00 %**	3.00 %
Health care cost trend rate			**5.17 %**	5.23 %
Life expectancy *(in years)* at 65 for a participant currently at				
Age 65				
Men	**21.2**	21.2	**21.2**	21.2
Women	**23.6**	23.6	**23.6**	23.6
Age 45				
Men	**22.3**	22.3	**22.3**	22.3
Women	**24.5**	24.5	**24.5**	24.5

Sensitivity of Significant Assumptions for 2020

The following table shows the potential impacts of changes to key assumptions on the defined benefit obligation of the pension plans and other post-employment benefit plans as at October 31, 2020. These impacts are hypothetical and should be interpreted with caution as changes in each significant assumption may not be linear.

As at October 31, 2020

	Pension plans	Other post-employment benefit plans
	Change in the obligation	Change in the obligation
Impact of a 0.25% increase in the discount rate	(209)	(5)
Impact of a 0.25% decrease in the discount rate	223	5
Impact of a 0.25% increase in the rate of compensation increase	42	
Impact of a 0.25% decrease in the rate of compensation increase	(41)	
Impact of a 1.00% increase in the health care cost trend rate		7
Impact of a 1.00% decrease in the health care cost trend rate		(6)
Impact of an increase in the age of participants by one year	(138)	(3)
Impact of a decrease in the age of participants by one year	136	2

Projected Benefit Payments

Year ended October 31

	Pension plans	Other post-employment benefit plans
2021	210	10
2022	217	9
2023	223	9
2024	230	9
2025	237	8
2026 to 2030	1,294	37

(millions of Canadian dollars)

Note 24 – Income Taxes

The Bank's income tax expense reported in the consolidated financial statements is as follows.

Year ended October 31	2020	2019
Consolidated Statement of Income		
Current taxes		
Current year	638	647
Prior period adjustments	(27)	22
	611	669
Deferred taxes		
Origination and reversal of temporary differences	(193)	(188)
Prior period adjustments	35	(19)
	(158)	(207)
	453	462
Consolidated Statement of Changes in Equity		
Share issuance expense and other	(2)	–
Consolidated Statement of Comprehensive Income		
Remeasurements of pension plans and other post-employment benefit plans	86	(48)
Net change in cash flow hedges	(99)	(57)
Other	(13)	2
	(26)	(103)
Income taxes	425	359

The breakdown of the income tax expense is as follows.

Year ended October 31	2020	2019
Current taxes	511	617
Deferred taxes	(86)	(258)
	425	359

The temporary differences and tax loss carryforwards resulting in deferred tax assets and liabilities are as follows.

	As at October 31 Consolidated Balance Sheet		Year ended October 31 Consolidated Statement of Income		Year ended October 31 Consolidated Statement of Comprehensive Income	
	2020	2019[1]	2020	2019[1]	2020	2019
Deferred tax assets						
Allowances for credit losses	326	150	176	7	–	–
Deferred charges	265	264	1	31	–	–
Defined benefit liability – Pension plans	–	78	–	–	(78)	42
Defined benefit liability – Other post-employment benefit plans	52	50	1	(10)	1	6
Investments in associates	98	82	15	21	1	–
Leases liabilities	145		145	–	–	
Deferred revenue	47	41	6	3	–	–
Tax loss carryforwards	40	95	(55)	69	–	–
Other items[2]	59	71	(13)	17	–	–
	1,032	831	276	138	(76)	48
Deferred tax liabilities						
Premises and equipment and intangible assets	(326)	(188)	(138)	67	–	–
Defined benefit asset – Pension plans	(26)	(33)	16	8	(9)	–
Investments in associates	(4)	(16)	12	15	–	–
Other items	(33)	(37)	(8)	(21)	12	2
	(389)	(274)	(118)	69	3	2
Net deferred tax assets (liabilities)	643	557	158	207	(73)	50

(1) For the year ended October 31, 2019, certain amounts have been reclassified.
(2) As at October 31, 2020, the Consolidated Balance Sheet includes $1 million in deferred tax assets related to share issuance costs (negligible amount as at October 31, 2019) reported in *Retained earnings* on the Consolidated Statement of Changes in Equity.

(millions of Canadian dollars)

Note 24 – Income Taxes (cont.)

Net deferred tax assets are included in *Other assets* and net deferred tax liabilities are included in *Other liabilities*.

As at October 31	2020	2019
Deferred tax assets	643	562
Deferred tax liabilities	–	(5)
	643	557

According to forecasts, which are based on information available on October 31, 2020, the Bank believes that it is probable that the results of future operations will generate sufficient taxable income to utilize all the deferred tax assets before they expire.

As at October 31, 2020, the total amount of temporary differences, unused tax loss carryforwards and unused tax credits for which no deferred tax asset has been recognized was $498 million ($508 million as at October 31, 2019).

As at October 31, 2020, the total amount of temporary differences related to investments in subsidiaries, associates, and joint ventures for which no deferred tax liability has been recognized was $4,139 million ($3,184 million as at October 31, 2019).

The following table provides a reconciliation of the Bank's income tax rate.

Year ended October 31		2020		2019
	$	%	$	%
Income before income taxes	2,536	100.0	2,784	100.0
Income taxes at Canadian statutory income tax rate	672	26.5	741	26.6
Reduction in income tax rate due to				
Tax-exempt income from securities	(190)	(7.5)	(208)	(7.5)
Non-taxable portion of capital gains	–	–	(17)	(0.6)
Tax rates of subsidiaries, foreign entities and associates	(58)	(2.3)	(67)	(2.4)
Other items	29	1.2	13	0.5
	(219)	(8.6)	(279)	(10.0)
Income taxes reported in the Consolidated Statement of Income and effective income tax rate	453	17.9	462	16.6

Notice of Assessment

In April 2020, the Bank was reassessed by the Canada Revenue Agency (CRA) for additional income tax and interest of approximately $240 million (including estimated provincial tax and interest) in respect of certain Canadian dividends received by the Bank during 2015.

In prior fiscal years, the Bank was reassessed for additional income tax and interest of approximately $370 million (including provincial tax and interest) in respect of certain Canadian dividends received by the Bank during the 2014, 2013 and 2012 taxation years.

The transactions to which the above-mentioned reassessments relate are similar to those prospectively addressed by income tax legislation enacted as a result of the 2015 and 2018 Canadian federal budgets.

The CRA may issue reassessments to the Bank for taxation years subsequent to 2015 in regard to activities similar to those that were the subject of the above-mentioned reassessments. The Bank remains confident that its tax position was appropriate and intends to vigorously defend its position. As a result, no amount has been recognized in the consolidated financial statements as at October 31, 2020.

Note 25 – Earnings Per Share

Diluted earnings per share is calculated by dividing net income attributable to common shareholders by the weighted average number of common shares outstanding after taking into account the dilution effect of stock options using the treasury stock method and any gain (loss) on the redemption of preferred shares.

Year ended October 31	2020	2019
Basic earnings per share		
Net income attributable to the Bank's shareholders and holders of other equity instruments	2,041	2,256
Dividends on preferred shares and distributions on LRCNs	118	116
Net income attributable to common shareholders	1,923	2,140
Weighted average basic number of common shares outstanding *(thousands)*	335,508	335,104
Basic earnings per share *(dollars)*	5.73	6.39
Diluted earnings per share		
Net income attributable to common shareholders	1,923	2,140
Weighted average basic number of common shares outstanding *(thousands)*	335,508	335,104
Adjustment to average number of common shares *(thousands)*		
Stock options(1)	2,072	2,526
Weighted average diluted number of common shares outstanding *(thousands)*	337,580	337,630
Diluted earnings per share *(dollars)*	5.70	6.34

(1) For the year ended October 31, 2020, the calculation of the diluted earnings per share excluded an average number of 1,585,629 options outstanding with a weighted average exercise price of $71.86 (1,775,598 options outstanding with a weighted average exercise price of $64.14 for the year ended October 31, 2019), as the exercise price of these options was greater than the average price of the Bank's common shares.

Note 26 – Guarantees, Commitments and Contingent Liabilities

Guarantees

The maximum potential amount of future payments represents the maximum risk of loss if there were a total default by the guaranteed parties, without consideration of recoveries under recourse provisions, insurance policies or from collateral held or pledged. The maximum potential amount of future payments for significant guarantees issued by the Bank is presented in the following table.

As at October 31	2020	2019
Letters of guarantee(1)	5,802	5,231
Backstop liquidity, credit enhancement facilities and other(1)	7,658	5,655
Securities lending	92	280

(1) For additional information on allowances for credit losses related to off-balance-sheet commitments, refer to Note 7 to these consolidated financial statements.

Letters of Guarantee

In the normal course of business, the Bank issues letters of guarantee. These letters of guarantee represent irrevocable commitments that the Bank will make payments in the event that a client cannot meet its obligations to third parties. The Bank's policy for requiring collateral security with respect to letters of guarantee is similar to that for loans. Generally, the term of these letters of guarantee is less than two years.

Backstop Liquidity and Credit Enhancement Facilities

Facilities to Multi-Seller Conduits

The Bank administers multi-seller conduits that purchase financial assets from clients and finance those purchases by issuing asset-backed commercial paper. The Bank provides backstop liquidity facilities to these multi-seller conduits. As at October 31, 2020, the notional amount of the global-style backstop liquidity facilities totalled $3.2 billion ($2.6 billion as at October 31, 2019), representing the total amount of the commercial paper outstanding.

These backstop liquidity facilities can be drawn if the conduits are unable to access the commercial paper market, even if there is no general market disruption. These facilities have terms of less than one year and can be periodically renewed. The terms and conditions of these backstop liquidity facilities do not require the Bank to advance money to the conduits if the conduits are insolvent or involved in bankruptcy proceedings or to fund non-performing assets beyond the amount of the available credit enhancements. The backstop liquidity facilities provided by the Bank have not been drawn to date.

(millions of Canadian dollars)

Note 26 – Guarantees, Commitments and Contingent Liabilities (cont.)

The Bank also provides credit enhancement facilities to these multi-seller conduits. These facilities have terms of less than one year and are automatically renewable unless the Bank sends a non-renewal notice. As at October 31, 2020 and 2019, the committed notional value for these facilities was $30 million. To date, the credit enhancement facilities provided by the Bank have not been drawn.

The maximum risk of loss for the Bank cannot exceed the total amount of commercial paper outstanding, i.e., $3.2 billion as at October 31, 2020 ($2.6 billion as at October 31, 2019). As at October 31, 2020, the Bank held $123 million ($13 million as at October 31, 2019) of this commercial paper and, consequently, the maximum potential amount of future payments was $3.1 billion ($2.6 billion as at October 31, 2019).

CDCC Overnight Liquidity Facility
Canadian Derivatives Clearing Corporation (CDCC) acts as a central clearing counterparty for multiple financial instrument transactions in Canada. Certain fixed-income clearing members of CDCC have provided an equally shared committed and uncommitted global overnight liquidity facility for the purpose of supporting CDCC in its clearing activities of securities purchased under reverse repurchase agreements or sold under repurchase agreements. The objective of this facility is to maintain sufficient liquidity in the event of a clearing member's default. As a fixed-income clearing member providing support to CDCC, the Bank provides a liquidity facility. As at October 31, 2020, the notional amount of the overnight uncommitted liquidity facility amounted to $4.5 billion ($3.0 billion as at October 31, 2019). As at October 31, 2020 and 2019, no amount had been drawn.

Securities Lending
Under securities lending agreements the Bank has entered into with certain clients who have entrusted it with the safekeeping of their securities, the Bank lends the securities to third parties and indemnifies its clients in the event of loss. In order to protect itself against any contingent loss, the Bank obtains, as security from the borrower, a cash amount or extremely liquid marketable securities with a fair value greater than that of the securities loaned. No amount has been recognized on the Consolidated Balance Sheet with respect to potential indemnities resulting from securities lending agreements.

Other Indemnification Agreements
In the normal course of business, including securitization transactions and discontinuances of businesses and operations, the Bank enters into numerous contractual agreements under which it undertakes to compensate the counterparty for costs incurred as a result of litigation, changes in laws and regulations (including tax legislation), claims with respect to past performance, incorrect representations or the non-performance of certain restrictive covenants. The Bank also undertakes to indemnify any person acting as a director or officer or performing a similar function within the Bank or one of its subsidiaries or another entity, at the request of the Bank, for all expenses incurred by that person in proceedings or investigations to which he or she is party in that capacity. Moreover, as a member of a securities transfer network and pursuant to the membership agreement and the regulations governing the operation of the network, the Bank granted collateral in favour of the Bank of Canada to guarantee any obligation of the Bank towards the Bank of Canada that could result from the Bank's participation in the securities transfer network. The durations of the indemnification agreements vary according to circumstance; as at October 31, 2020 and 2019, given the nature of the agreements, the Bank is unable to make a reasonable estimate of the maximum potential liability it could be required to pay to counterparties. No amount has been recorded on the Consolidated Balance Sheet with respect to these agreements.

Commitments

Credit Instruments
In the normal course of business, the Bank enters into various off-balance-sheet commitments. The credit instruments used to meet the financing needs of its clients represent the maximum amount of additional credit the Bank could be obligated to extend if the commitments were fully drawn.

As at October 31	**2020**	2019
Letters of guarantee(1)	**5,802**	5,231
Documentary letters of credit(2)	**171**	163
Credit card receivables(3)	**7,999**	7,630
Commitments to extend credit(3)	**70,329**	62,124

(1) See the Letters of Guarantee heading on page 209.
(2) Documentary letters of credit are documents issued by the Bank and used in international trade to enable a third party to draw drafts on the Bank up to an amount established under specific terms and conditions; these instruments are collateralized by the delivery of the goods to which they are related.
(3) Credit card receivables and commitments to extend credit represent the undrawn portions of credit authorizations granted in the form of loans, acceptances, letters of guarantee and documentary letters of credit. The Bank is required at all times to make the undrawn portion of the credit authorization available, subject to certain conditions.

Financial Assets Received as Collateral
As at October 31, 2020, the fair value of financial assets received as collateral that the Bank was authorized to sell or repledge was $60.6 billion ($55.3 billion as at October 31, 2019). These financial assets received as collateral consist of securities related to securities financing and derivative transactions as well as securities purchased under reverse repurchase agreements and securities borrowed.

(millions of Canadian dollars)

Other Commitments

The Bank acts as an investor in investment banking activities where it enters into agreements to finance external private equity funds and investments in equity and debt securities at market value at the time the agreements are signed. In connection with these activities, the Bank has commitments to invest up to $78 million as at October 31, 2020 ($92 million as at October 31, 2019). In addition, through one of its subsidiaries, the Bank purchases retail loans originated by other financial institutions at market value at the time of purchase. As at October 31, 2020, the Bank had no commitment to purchase loans ($1.6 billion as at October 31, 2019). As at October 31, 2020, the Bank also has a commitment to finance $200 million related to securitization transactions.

Pledged Assets

In the normal course of business, the Bank pledges securities and other assets as collateral. A breakdown of encumbered assets pledged as collateral is provided in the following table. These transactions are concluded in accordance with standard terms and conditions for such transactions.

As at October 31	**2020**	2019
Assets pledged to		
Bank of Canada	**502**	502
Direct clearing organizations(1)	**4,039**	1,052
Assets pledged in relation to		
Derivative financial instrument transactions	**4,380**	2,822
Borrowing, securities lending and securities sold under reverse repurchase agreements	**57,257**	41,946
Securitization transactions	**22,859**	23,299
Covered bonds(2)	**14,337**	10,300
Other	**4**	4
Total	**103,378**	79,925

(1) Includes assets pledged as collateral for Large Value Transfer System (LVTS) activities.
(2) The Bank has a covered bond program. For additional information, see Notes 13 and 27 to these consolidated financial statements.

Contingent Liabilities

Maple Financial Group Inc.

The Bank has a 24.9% equity interest in Maple Financial Group Inc. (Maple), a privately owned Canadian company that operated through direct and indirect wholly owned subsidiaries in Canada, Germany, the United Kingdom and the United States.

Maple Bank GmbH (Maple GmbH), an indirect wholly owned subsidiary of Maple, has been the subject of an investigation into alleged tax irregularities by German prosecutors since September 2015, and the investigation was focusing on selected trading activities by Maple GmbH and some of its former employees, primarily during taxation years 2006 to 2010. The German authorities have alleged that these trading activities, often referred to as "cum/ex trading," violated German tax laws. Neither the Bank nor its employees were involved in these trading activities and, to the Bank's knowledge, are not the subject of this investigation. At that time, the Bank announced that if it were determined that portions of the dividends it received from Maple could be reasonably attributed to tax fraud by Maple GmbH, arrangements would be made to repay those amounts to the relevant authority.

On February 6, 2016, the German Federal Financial Supervisory Authority, BaFin, placed a moratorium on the business activities of Maple GmbH preventing it from carrying out its normal business activities. In August 2016, Maple filed for bankruptcy protection under applicable Canadian laws, and a trustee was appointed to administer the company. Similar proceedings were initiated for each of Maple's other material subsidiaries in their home jurisdictions. In light of the situation, the Bank wrote off the carrying value of its equity interest in Maple in an amount of $164 million ($145 million net of income taxes) during the first quarter of 2016. The $164 million write-off of the equity interest in this associate was recognized in the *Non-interest income – Other* item of the Consolidated Statement of Income for the year ended October 31, 2016 and was reported in the Financial Markets segment.

While there has not yet been a determination of tax fraud on the part of Maple GmbH or its employees, in the insolvency proceedings of Maple GmbH the German finance office issued a declaration about the result of the tax audit at Maple GmbH and about the relevant tax consequences of the cum/ex trading and concluded a final tax claim of the tax authorities against the insolvency administrator. This claim was approved by the Maple GmbH creditor assembly.

The Bank has been in contact with the German prosecutors, who have confirmed that, in their view based upon the evidence they have considered since the occurrence of the insolvency, the Bank was not involved in any respect with the alleged tax fraud undertaken by Maple GmbH nor was it negligent in failing to identify that alleged fraud. Further to discussions between the Bank and the German prosecutors concerning the amounts deemed attributable to the alleged tax fraud, the Bank paid 7.7 million euros to the German tax authorities on November 19, 2019. As at October 31, 2019, an $11 million provision was recorded to reflect this adjusting event after the Consolidated Balance Sheet date.

In December 2019, the Bank, together with the other principal Maple shareholders, reached an agreement with the bankruptcy and insolvency administrator of Maple GmbH to settle any potential claims that might be asserted against them by or on behalf of Maple GmbH. In connection with the settlement, the Bank agreed to pay 8.7 million euros for the benefit of Maple GmbH's creditors and, during the first quarter of 2020, recorded a $13 million charge in the *Non-interest expenses – Other* item presented in the *Other* heading of segment results. During the third quarter of 2020, by virtue of the finalization of this agreement, all material liabilities associated with the Bank's ownership of Maple have been resolved.

Note 26 – Guarantees, Commitments and Contingent Liabilities (cont.)

Litigation

In the normal course of business, the Bank and its subsidiaries are involved in various claims relating, among other matters, to loan portfolios, investment portfolios and supplier agreements, including court proceedings, investigations or claims of a regulatory nature, class actions or other legal remedies of varied natures.

More specifically, the Bank is involved as a defendant in class actions instituted by consumers contesting, *inter alia*, certain transaction fees or who wish to avail themselves of certain legislative provisions relating to consumer protection. The recent developments in the main legal proceedings involving the Bank are as follows:

Watson

In 2011, a class action was filed in the Supreme Court of British Columbia against Visa Corporation Canada (Visa) and MasterCard International Incorporated (MasterCard) (the Networks) as well as National Bank and a number of other Canadian financial institutions. A similar action was also initiated in Quebec, Ontario, Alberta and Saskatchewan. In each of the actions, the Networks and financial institutions are alleged to have been involved in a price-fixing system to maintain and increase the fees paid by merchants on transactions executed using the credit cards of the Networks. In so doing, they would notably be in breach of the *Competition Act*. An unspecified amount of compensatory and punitive damages is being claimed. In 2017, a settlement was reached with the plaintiffs; in 2018 it was approved by the trial courts in each of the five jurisdictions where the action was initiated. The rulings approving the settlement are now the subject of appeal proceedings in multiple jurisdictions.

Defrance

On January 21, 2019, the Quebec Superior Court authorized a class action against the Bank and several other Canadian financial institutions. The originating application was served to the Bank on April 23, 2019. The class action was initiated on behalf of consumers residing in Quebec. The plaintiffs allege that non-sufficient funds charges, billed by all of the defendants when a payment order is refused due to non-sufficient funds, are illegal and prohibited by the *Consumer Protection Act*. The plaintiffs are claiming, in the form of damages, the repayment of these charges as well as punitive damages.

It is impossible to determine the outcome of the claims instituted or which may be instituted against the Bank and its subsidiaries. The Bank estimates, based on the information at its disposal, that while the amount of contingent liabilities pertaining to these claims, taken individually or in the aggregate, could have a material impact on the Bank's consolidated results of operation for a particular period, it would not have a material adverse impact on the Bank's consolidated financial position.

Note 27 – Structured Entities

A structured entity is an entity created to accomplish a narrow and well-defined objective and is designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when any voting rights relate solely to administrative tasks and the relevant activities are directed by means of contractual arrangements. Structured entities are assessed for consolidation in accordance with the accounting treatment described in Note 1 to these consolidated financial statements. The Bank's maximum exposure to loss resulting from its interests in these structured entities consists primarily of the investments in these entities, the fair value of derivative financial instrument contracts entered into with them, and the backstop liquidity and credit enhancement facilities granted to certain structured entities.

In the normal course of business, the Bank may enter into financing transactions with third-party structured entities, including commercial loans, reverse repurchase agreements, prime brokerage margin lending, and similar collateralized lending transactions. While such transactions expose the Bank to the counterparty credit risk of the structured entities, this exposure is mitigated by the collateral related to these transactions. The Bank typically has neither power nor significant variable returns resulting from financing transactions with structured entities and does not consolidate such entities. Financing transactions with third-party-sponsored structured entities are included in the Bank's consolidated financial statements and are not included in the table accompanying this note on page 214.

Non-Consolidated Structured Entities

Multi-Seller Conduits

The Bank administers multi-seller conduits that purchase financial assets from clients and finance those purchases by issuing commercial paper backed by the assets acquired. Clients use these multi-seller conduits to diversify their funding sources and reduce borrowing costs, while continuing to manage the financial assets and providing some amount of first-loss protection. Notes issued by the conduits and held by third parties provide additional credit loss protection. The Bank acts as a financial agent and provides these conduits with administrative and transaction structuring services as well as backstop liquidity and credit enhancement facilities under the commercial paper program. These facilities are presented and described in Note 26. The Bank has concluded derivative financial instrument contracts with these conduits, the fair value of which is presented on the Bank's Consolidated Balance Sheet. Although the Bank has the ability to direct the relevant activities of these conduits, it cannot use its power to affect the amount of the returns it obtains, as it acts as an agent. Consequently, the Bank does not control these conduits and does not consolidate them.

Investment Funds

The Bank enters into derivative or other financial instrument contracts with third parties to provide them with the desired exposure to certain investment funds. The Bank economically hedges the risks related to these derivatives by investing in those investment funds. The Bank can also hold economic interests in certain investment funds as part of its investing activities. In addition, the Bank is sponsor and investment manager of mutual funds in which it has insignificant or no interest. The Bank does not control the funds where its holdings are not significant as in these circumstances, the Bank either acts only as an agent or does not have any power over the relevant activities. In both cases, it does not have significant exposure to the variable returns of the funds. Therefore, the Bank does not consolidate these funds.

Private Investments

As part of its investment banking operations, the Bank invests in several limited liability partnerships and other incorporated entities. These investment companies in turn invest in operating companies with a view to reselling these investments at a profit over the medium or long term. The Bank does not intervene in the operations of these entities; its only role is that of an investor. Consequently, it does not control these companies and does not consolidate them.

Asset-Backed Structured Entities

The Bank invested in certain asset-backed structured entities. The underlying assets consist of residential mortgages, consumer loans, equipment loans and leases. The Bank does not have the ability to direct the relevant activities of these structured entities and has no exposure to their variable returns, other than the right to receive interest income and dividend income from its investments. Consequently, the Bank does not control these structured entities and does not consolidate them.

(millions of Canadian dollars)

Note 27 – Structured Entities (cont.)

The following table presents the carrying amounts of the assets and liabilities relating to the Bank's interests in non-consolidated structured entities, the Bank's maximum exposure to loss from these interests, as well as the total assets of these structured entities. The structured entity Canada Housing Trust is not presented. For additional information, see Note 8 to these consolidated financial statements.

				As at October 31, 2020
	Multi-seller conduits(1)	Investment funds(2)	Private investments(3)	Asset-backed structured entities(4)
Assets on the Consolidated Balance Sheet				
Securities at fair value through profit or loss	23	255	68	–
Securities at fair value through other comprehensive income	100	–	–	–
Securities at amortized cost	–	–	–	2,268
Derivative financial instruments	17	–	–	19
	140	255	68	2,287
As at October 31, 2019	15	540	81	2,465
Maximum exposure to loss				
Securities	140	255	68	2,287
Liquidity, credit enhancement facilities and commitments	3,226	–	–	425
	3,366	255	68	2,712
As at October 31, 2019	2,623	540	81	2,707
Total assets of the structured entities	3,304	1,900	431	8,139
As at October 31, 2019	2,647	1,970	482	6,506

(1) The main underlying assets, located in Canada, are residential mortgages, automobile loans, automobile inventory financings, and other receivables. As at October 31, 2020, the notional committed amount of the global-style liquidity facilities totalled $3.2 billion ($2.6 billion as at October 31, 2019), representing the total amount of commercial paper outstanding. The Bank also provides series-wide credit enhancement facilities for a notional committed amount of $30 million ($30 million as at October 31, 2019). The maximum exposure to loss cannot exceed the amount of commercial paper outstanding. As at October 31, 2020, the Bank held $123 million in commercial paper ($13 million as at October 31, 2019) and, consequently, the maximum potential amount of future payments as at October 31, 2020 is limited to $3.1 billion ($2.6 billion as at October 31, 2019), which represents the undrawn liquidity and credit enhancement facilities.

(2) The underlying assets are various financial instruments and are presented on a net asset basis. Certain investment funds are in a trading portfolio.

(3) The underlying assets are private investments. The amount of total assets of the structured entities corresponds to the amount for the most recent available period.

(4) The underlying assets are residential mortgages, consumer loans, equipment loans and leases.

Consolidated Structured Entities

Securitization Entity for the Bank's Credit Card Receivables

In April 2015, the Bank set up Canadian Credit Card Trust II (CCCT II) to continue its credit card securitization program on a revolving basis and to use the entity for capital management and funding purposes.

The Bank provides first-loss protection against the losses since it retains the excess spread from the portfolio of sold receivables. The excess spread represents the residual net interest income after all the expenses related to this structure have been paid. The Bank also provides second-loss protection as it holds subordinated notes issued by CCCT II. In addition, the Bank acts as an administrative agent and servicer and as such is responsible for the daily administration and management of CCCT II's credit card receivables. The Bank therefore has the ability to direct the relevant activities of CCCT II and can exercise its power to affect the amount of returns it obtains. Consequently, the Bank controls CCCT II and consolidates it.

Multi-Seller Conduit

The Bank administers a multi-seller conduit that purchases financial assets from clients and finances those purchases by issuing debt securities (including commercial paper) backed by the assets acquired. The clients use this multi-seller conduit to diversify their funding sources and reduce borrowing costs, while continuing to manage the financial assets and providing some amount of first-loss protection. The Bank holds the sole note issued by the conduit and has concluded a derivative financial instrument contract with the conduit. The Bank controls the relevant activities of this conduit through its involvement as a financial agent, agent for administrative and transaction structuring services as well as investor in the conduit's sole note. The Bank's functions and investment in the conduit confer to it decision-making power over the composition of assets acquired by the conduit and the selection of the seller as well as some exposure to the conduit's variable returns. Therefore, the Bank consolidates these funds.

Investment Funds

The Bank enters into derivative or other financial instrument contracts with third parties to provide them with the desired exposure to certain investment funds. The Bank economically hedges the risks related to these derivatives by investing in those investment funds. The Bank can also hold economic interests in certain investment funds as part of its investing activities. The Bank controls the relevant activities of these funds through its involvement as an investor and its significant exposure to their variable returns. Therefore, the Bank consolidates these funds.

(millions of Canadian dollars)

Covered Bonds

NBC Covered Bond Guarantor (Legislative) Limited Partnership

In December 2013, the Bank established the covered bond legislative program under which covered bonds are issued. It therefore created NBC Covered Bond Guarantor (Legislative) Limited Partnership (the Guarantor) to guarantee payment of the principal and interest owed to the bondholders. The Bank sold uninsured residential mortgages to the Guarantor and granted it loans to facilitate the acquisition of these assets. The Bank acts as manager of the partnership and has decision-making authority over its relevant activities in accordance with the contractual terms governing the covered bond legislative program. In addition, the Bank is able, in accordance with the contractual terms governing the covered bond legislative program, to affect the variable returns of the partnership, which are directly related to the return on the mortgage loan portfolio and the interest on the loans from the Bank. Consequently, the Bank controls the partnership and consolidates it.

NBC Asset Trust

The Bank had created NBC Asset Trust (the Trust) for its funding and capital management needs. The securities issued by this trust constituted innovative capital instruments and were eligible as additional Tier 1 capital. The issuance proceeds were used to acquire, from the Bank, residential mortgage loans. The Bank continued to administer these loans and was committed to repurchase from the Trust the capital balance and unpaid accrued interest on any loan that was more than 90 days past due. The Bank also managed day-to-day operations and held the special voting securities of the Trust. After the distribution had been paid to the holders of the trust capital securities, the Bank, as the sole holder of the special trust securities, was entitled to receive the balance of net residual funds. Therefore, the Bank had the ability to direct the relevant activities of the Trust and could use its power to affect the amount of returns it obtained. Therefore, the Bank controlled this trust and consolidated it until June 2020.

On June 30, 2020, the Trust redeemed all of the outstanding Trust units (NBC Caps II) – Series 2 and on July 17, 2020, the Trust was dissolved. For additional information, see Note 19 to these consolidated financial statements.

Third-Party Structured Entities

In 2018, the Bank, through one of its subsidiaries, provided financing to a third-party structured entity in exchange for a 100% interest in a loan portfolio, the sole asset held by that entity. The Bank controls and therefore consolidates the structured entity, as it has the ability to direct the entity's relevant activities through its involvement in the decision-making process. The Bank is also exposed to the entity's variable returns.

The following table presents the Bank's investments and other assets in the consolidated structured entities as well as the total assets of these entities.

As at October 31		**2020**		2019
	Investments and other assets	**Total assets[1]**	Investments and other assets	Total assets[1]
Consolidated structured entities				
Securitization entity for the Bank's credit card receivables[2][3]	**1,417**	**1,478**	849	1,765
Multiseller conduit[4]	**172**	**172**	–	–
Investment funds[5]	**174**	**174**	286	311
Covered bonds[6]	**16,771**	**17,197**	16,167	16,515
NBC Asset Trust[7]	**–**	**–**	700	1,063
Third-party structured entities[8]	**191**	**191**	232	232
	18,725	**19,212**	18,234	19,886

(1) There are restrictions that stem mainly from regulatory requirements, corporate or securities laws and contractual arrangements that limit the ability of certain consolidated structured entities to transfer funds to the Bank.
(2) The underlying assets are credit card receivables.
(3) The Bank's investment is presented net of third-party holdings.
(4) The underlying assets, located in Canada, are residential mortgages.
(5) The underlying assets are various financial instruments and are presented on a net asset basis. Certain investment funds are in a trading portfolio.
(6) The underlying assets are uninsured residential mortgage loans of the Bank. The average maturity of these underlying assets is two years. As at October 31, 2020, the total amount of transferred mortgage loans was $16.8 billion ($16.2 billion as at October 31, 2019), and the total amount of covered bonds of $10.1 billion was recognized in *Deposits* on the Consolidated Balance Sheet ($9.5 billion as at October 31, 2019). For additional information, see Note 13 to these consolidated financial statements.
(7) The underlying assets were insured and uninsured residential mortgage loans of the Bank. As at October 31, 2019, insured loans had amounted to $12 million.
(8) The underlying assets consist of a loan portfolio.

(millions of Canadian dollars)

Note 28 – Related Party Disclosures

In the normal course of business, the Bank provides various banking services to related parties and enters into contractual agreements and other operations with related parties. The Bank considers the following to be related parties:

- its key officers and directors and members of their immediate family, i.e., spouses and children under 18 living in the same household;
- entities over which its key officers and directors and their immediate family have control or significant influence through their significant voting power;
- the Bank's associates and joint ventures;
- the Bank's pension plans (for additional information, see Note 23 to these consolidated financial statements).

According to the established definition, the Bank's key officers are those persons having authority and responsibility for planning, directing and controlling the Bank's activities, directly or indirectly.

Related Party Transactions

As at October 31

	Key officers and directors[1]		Related entities	
	2020	2019	**2020**	2019
Assets				
Mortgage loans and other loans	**33**	42	**347** [2]	339 [2]
Liabilities				
Deposits	**59**	39	**517** [3]	632 [3]
Other	**–**	–	**1**	3

(1) As at October 31, 2020, key officers, directors and their immediate family members were holding $66 million of the Bank's common and preferred shares ($69 million as at October 31, 2019).
(2) As at October 31, 2020, mortgage loans and other loans consisted of: (i) $1 million in loans to the Bank's associates (no loans as at October 31, 2019) and (ii) $346 million in loans to entities over which the Bank's key officers, directors or their immediate family members exercise control or significant influence through significant voting power ($339 million as at October 31, 2019).
(3) As at October 31, 2020, deposits consisted of: (i) $210 million in deposits from the Bank's associates ($395 million as at October 31, 2019) and (ii) $307 million in deposits from entities over which the Bank's key officers, directors or their immediate family members exercise control or significant influence through significant voting power ($237 million as at October 31, 2019).

The contractual agreements and other transactions with related entities as well as with directors and key officers are entered into under conditions similar to those offered to non-related third parties. These agreements did not have a significant impact on the Bank's results. The Bank also offers a deferred stock unit plan to directors who are not Bank employees. For additional information, see Notes 9, 22 and 27 to these consolidated financial statements.

Compensation of Key Officers and Directors

Year ended October 31	**2020**	2019
Compensation and other short-term and long-term benefits	**21**	23
Share-based payments	**21**	25

(millions of Canadian dollars)

Principal Subsidiaries of the Bank[1]

Name	Business activity	Principal office address	Voting shares[2]	Investment at cost
			As at October 31, 2020	
Canada and United States				
National Bank Acquisition Holding Inc.	Holding company	Montreal, Canada	100%	1,785
National Bank Financial Inc.	Investment dealer	Montreal, Canada	100%	
NBF International Holdings Inc.	Holding company	Montreal, Canada	100%	
National Bank of Canada Financial Group Inc.	Holding company	New York, NY, United States	100%	
Credigy Ltd.	Holding company	Atlanta, GA, United States	80%	
National Bank of Canada Financial Inc.	Investment dealer	New York, NY, United States	100%	
National Bank Investments Inc.	Mutual funds dealer	Montreal, Canada	100%	441
National Bank Life Insurance Company	Insurance	Montreal, Canada	100%	
Natcan Trust Company	Trustee	Montreal, Canada	100%	238
National Bank Trust Inc.	Trustee	Montreal, Canada	100%	195
National Bank Realty Inc.	Real estate	Montreal, Canada	100%	80
NatBC Holding Corporation	Holding company	Hollywood, FL, United States	100%	31
Natbank, National Association	Commercial bank	Hollywood, FL, United States	100%	
Other countries				
Natcan Global Holdings Ltd.	Holding company	Sliema, Malta	100%	22
NBC Global Finance Limited	Investment services	Dublin, Ireland	100%	
NBC Financial Markets Asia Limited	Investment dealer	Hong Kong, China	100%	5
Advanced Bank of Asia Limited	Commercial bank	Phnom Penh, Cambodia	100%	532
ATA IT Ltd.	Information technology	Bangkok, Thailand	100%	3

(1) Excluding consolidated structured entities. For additional information, see Note 27 to these consolidated financial statements.
(2) The Bank's percentage of voting rights in these subsidiaries.

Note 29 – Management of the Risks Associated With Financial Instruments

The Bank is exposed to credit risk, market risk, liquidity risk and financing risk. The Bank's objectives, policies and procedures for managing risk and the risk measurement methods are presented in the Risk Management section of the MD&A for the year ended October 31, 2020. Text in grey shading and tables identified with an asterisk (*) in the Risk Management section of the MD&A for the year ended October 31, 2020 are an integral part of these consolidated financial statements.

Residual Contractual Maturities of Balance Sheet Items and Off-Balance-Sheet Commitments

The following tables present balance sheet items and off-balance-sheet commitments by residual contractual maturity as at October 31, 2020 and 2019. The information gathered from this maturity analysis is a component of liquidity and funding management. However, this maturity profile does not represent how the Bank manages its interest rate risk nor its liquidity risk and funding needs. The Bank considers factors other than contractual maturity in the assessment of liquid assets or in determining expected future cash flows.

In the normal course of business, the Bank enters into various off-balance-sheet commitments. The credit instruments used to meet the funding needs of its clients represent the maximum amount of additional credit the Bank could be obligated to extend if the commitments were fully drawn.

The Bank also has future minimum commitments under leases for premises as well for other contracts, mainly commitments to purchase loans and contracts for outsourced information technology services. Most of the lease commitments are related to operating leases.

(millions of Canadian dollars)

Note 29 – Management of the Risks Associated With Financial Instruments (cont.)

									As at October 31, 2020	
	1 month or less	Over 1 month to 3 months	Over 3 months to 6 months	Over 6 months to 9 months	Over 9 months to 12 months	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	No specified maturity	Total
Assets										
Cash and deposits with financial institutions	6,126	345	372	264	488	–	–	–	21,547	29,142
Securities										
At fair value through profit or loss	4,084	2,352	2,778	603	1,832	2,383	6,080	9,413	48,801	78,326
At fair value through other comprehensive income	1	–	858	1,060	400	984	5,322	3,482	619	12,726
At amortized cost	20	256	306	367	1,678	2,218	5,450	784	–	11,079
	4,105	2,608	3,942	2,030	3,910	5,585	16,852	13,679	49,420	102,131
Securities purchased under reverse repurchase agreements and securities borrowed	7,984	1,658	133	–	–	666	–	–	4,071	14,512
Loans[1]										
Residential mortgage	1,352	1,230	2,043	3,170	3,152	9,320	38,719	4,690	1,283	64,959
Personal	278	447	660	796	890	3,221	13,435	3,475	14,411	37,613
Credit card									2,038	2,038
Business and government	8,815	2,548	3,608	3,971	4,208	5,679	13,563	3,622	8,408	54,422
Customers' liability under acceptances	6,049	765	52	–	–	–	–	–	–	6,866
Allowances for credit losses									(1,158)	(1,158)
	16,494	4,990	6,363	7,937	8,250	18,220	65,717	11,787	24,982	164,740
Other										
Derivative financial instruments	1,816	2,586	1,139	706	318	968	2,298	3,591	–	13,422
Investments in associates and joint ventures									409	409
Premises and equipment									1,155	1,155
Goodwill									1,414	1,414
Intangible assets									1,434	1,434
Other assets[1]	1,193	351	147	149	134	344	64	12	872	3,266
	3,009	2,937	1,286	855	452	1,312	2,362	3,603	5,284	21,100
	37,718	12,538	12,096	11,086	13,100	25,783	84,931	29,069	105,304	331,625

(1) Amounts collectible on demand are considered to have no specified maturity.

(millions of Canadian dollars)

									As at October 31, 2020	
	1 month or less	Over 1 month to 3 months	Over 3 months to 6 months	Over 6 months to 9 months	Over 9 months to 12 months	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	No specified maturity	Total
Liabilities and equity										
Deposits(1)(2)										
Personal	1,845	2,728	3,462	1,647	2,084	6,909	6,958	2,962	38,904	67,499
Business and government	21,801	7,168	9,916	2,185	2,462	6,860	10,341	3,602	79,452	143,787
Deposit-taking institutions	1,435	111	14	80	17	5	1	42	2,887	4,592
	25,081	10,007	13,392	3,912	4,563	13,774	17,300	6,606	121,243	215,878
Other										
Acceptances	6,049	765	52	–	–	–	–	–	–	6,866
Obligations related to securities sold short(3)	618	620	952	69	92	1,516	2,361	4,321	5,819	16,368
Obligations related to securities sold under repurchase agreements and securities loaned	14,084	3,335	8,803	136	–	1,487	–	–	6,014	33,859
Derivative financial instruments	1,738	2,070	877	603	266	875	3,116	3,378	–	12,923
Liabilities related to transferred receivables(4)	–	2,138	311	1,850	397	3,430	11,059	3,670	–	22,855
Securitization – Credit card(5)	–	–	–	–	–	36	28	–	–	64
Lease liabilities(5)	8	14	21	22	21	85	224	233	–	628
Other liabilities – Other items(1)(5)	1,087	192	200	87	76	85	37	281	2,981	5,026
	23,584	9,134	11,216	2,767	852	7,514	16,825	11,883	14,814	98,589
Subordinated debt	–	–	–	–	–	–	–	775	–	775
Equity									16,383	16,383
	48,665	19,141	24,608	6,679	5,415	21,288	34,125	19,264	152,440	331,625
Off-balance-sheet commitments										
Letters of guarantee and documentary letters of credit	200	1,579	603	948	1,187	1,322	134	–	–	5,973
Credit card receivables(6)									7,999	7,999
Backstop liquidity and credit enhancement facilities(7)	–	15	4,502	15	–	–	–	–	3,126	7,658
Commitments to extend credit(8)	2,846	4,143	4,504	6,429	5,688	5,651	10,690	1,165	29,213	70,329
Obligations related to:										
Lease commitments(9)	1	1	2	2	1	4	2	1	–	14
Other contracts(10)	15	28	41	41	39	145	114	–	278	701

(1) Amounts payable upon demand or notice are considered to have no specified maturity.
(2) The *Deposits* item is presented in greater detail than it is on the Consolidated Balance Sheet.
(3) Amounts are disclosed according to the remaining contractual maturity of the underlying security.
(4) These amounts mainly include liabilities related to the securitization of mortgage loans.
(5) The *Other liabilities* item is presented in greater detail than it is on the Consolidated Balance Sheet.
(6) These amounts are unconditionally revocable at the Bank's discretion at any time.
(7) In the event of payment on one of the backstop liquidity facilities, the Bank will receive as collateral government bonds in an amount up to $4.5 billion.
(8) These amounts include $39.4 billion that is unconditionally revocable at the Bank's discretion at any time.
(9) These amounts include leases for which the underlying asset is of low value and leases other than for real estate of less than one year.
(10) These amounts include $0.3 billion in contractual commitments related to the head office building under construction.

(millions of Canadian dollars)

Note 29 – Management of the Risks Associated With Financial Instruments (cont.)

As at October 31, 2019

	1 month or less	Over 1 month to 3 months	Over 3 months to 6 months	Over 6 months to 9 months	Over 9 months to 12 months	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	No specified maturity	Total
Assets										
Cash and deposits with financial institutions	7,301	1,638	121	111	33	–	–	–	4,494	13,698
Securities										
At fair value through profit or loss	1,228	647	658	256	411	4,215	7,451	6,872	40,085	61,823
At fair value through other comprehensive income	36	14	26	5	1	3,213	4,749	1,982	622	10,648
At amortized cost	33	84	262	331	105	1,704	5,853	1,383	–	9,755
	1,297	745	946	592	517	9,132	18,053	10,237	40,707	82,226
Securities purchased under reverse repurchase agreements and securities borrowed	7,247	1,365	922	495	–	1,317	–	–	6,377	17,723
Loans(1)										
Residential mortgage	734	1,161	1,959	3,093	2,893	10,674	32,601	3,375	681	57,171
Personal	253	430	803	972	843	3,367	11,576	3,407	15,293	36,944
Credit card									2,322	2,322
Business and government	8,469	2,771	2,995	3,203	2,222	6,016	13,445	2,771	8,707	50,599
Customers' liability under acceptances	6,138	710	45	–	–	–	–	–	–	6,893
Allowances for credit losses									(678)	(678)
	15,594	5,072	5,802	7,268	5,958	20,057	57,622	9,553	26,325	153,251
Other										
Derivative financial instruments	564	614	483	262	194	847	2,039	3,126	–	8,129
Investments in associates and joint ventures									385	385
Premises and equipment									490	490
Goodwill									1,412	1,412
Intangible assets									1,406	1,406
Other assets(1)	1,425	142	87	88	88	266	107	38	497	2,738
	1,989	756	570	350	282	1,113	2,146	3,164	4,190	14,560
	33,428	9,576	8,361	8,816	6,790	31,619	77,821	22,954	82,093	281,458

(1) Amounts collectible on demand are considered to have no specified maturity.

(millions of Canadian dollars)

As at October 31, 2019

	1 month or less	Over 1 month to 3 months	Over 3 months to 6 months	Over 6 months to 9 months	Over 9 months to 12 months	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	No specified maturity	Total
Liabilities and equity										
Deposits(1)(2)										
Personal	1,716	1,983	3,045	2,696	3,042	6,105	7,276	2,606	31,596	60,065
Business and government	20,252	6,050	6,630	4,778	2,723	6,411	11,706	6,213	60,503	125,266
Deposit-taking institutions	711	69	79	29	275	–	5	46	3,021	4,235
	22,679	8,102	9,754	7,503	6,040	12,516	18,987	8,865	95,120	189,566
Other										
Acceptances	6,138	710	45	–	–	–	–	–	–	6,893
Obligations related to securities sold short(3)	504	176	195	34	495	315	2,738	5,147	3,245	12,849
Obligations related to securities sold under repurchase agreements and securities loaned	7,493	1,281	2,881	2,743	–	–	–	–	7,502	21,900
Derivative financial instruments	793	763	556	292	214	712	1,959	1,563	–	6,852
Liabilities related to transferred receivables(4)	–	1,491	995	881	375	3,640	10,623	3,307	–	21,312
Securitization – Credit card(5)	–	–	874	–	–	–	37	–	–	911
Other liabilities – Other items(1)(5)	1,298	330	141	63	36	58	84	292	2,964	5,266
	16,226	4,751	5,687	4,013	1,120	4,725	15,441	10,309	13,711	75,983
Subordinated debt	–	–	–	–	–	–	–	773	–	773
Equity									15,136	15,136
	38,905	12,853	15,441	11,516	7,160	17,241	34,428	19,947	123,967	281,458
Off-balance-sheet commitments										
Letters of guarantee and documentary letters of credit	335	1,430	411	1,019	888	1,258	53	–	–	5,394
Credit card receivables(6)									7,630	7,630
Backstop liquidity and credit enhancement facilities(7)	–	15	3,017	15	–	–	–	–	2,608	5,655
Commitments to extend credit(8)	1,916	4,552	4,103	5,064	4,019	4,258	10,326	784	27,102	62,124
Obligations related to:										
Lease commitments	8	17	26	27	26	99	249	239	–	691
Other contracts(9)	158	289	523	423	380	198	257	–	–	2,228

(1) Amounts payable upon demand or notice are considered to have no specified maturity.
(2) The *Deposits* item is presented in greater detail than it is on the Consolidated Balance Sheet.
(3) Amounts have been disclosed according to the remaining contractual maturity of the underlying security.
(4) These amounts mainly include liabilities related to the securitization of mortgage loans.
(5) The *Other liabilities* item is presented in greater detail than it is on the Consolidated Balance Sheet.
(6) These amounts are unconditionally revocable at the Bank's discretion at any time.
(7) In the event of payment on one of the backstop liquidity facilities, the Bank will receive as collateral government bonds in an amount up to $3.0 billion.
(8) These amounts include $35.7 billion that is unconditionally revocable at the Bank's discretion at any time.
(9) These amounts include $0.3 billion in contractual commitments related to the head office building under construction.

(millions of Canadian dollars)

Note 30 – Segment Disclosures

The Bank carries out its activities in four business segments, which are defined below. For presentation purposes, other activities are grouped in the *Other* heading. Each reportable segment is distinguished by services offered, type of clientele and marketing strategy.

Personal and Commercial
The Personal and Commercial segment encompasses the banking, financing, and investing services offered to individuals, advisors and businesses as well as insurance operations.

Wealth Management
The Wealth Management segment comprises investment solutions, trust services, banking services, lending services and other wealth management solutions offered through internal and third-party distribution networks.

Financial Markets
The Financial Markets segment encompasses corporate banking and investment banking and financial solutions for large and mid-size corporations, public sector organizations, and institutional investors.

U.S. Specialty Finance and International (USSF&I)
The USSF&I segment encompasses the specialty finance expertise provided by subsidiary Credigy; the activities of subsidiary ABA Bank, which offers financial products and services to individuals and businesses in Cambodia; and the activities of targeted investments in certain emerging markets.

Other
This heading encompasses treasury activities, liquidity management, Bank funding, asset/liability management activities, certain specified items and the unallocated portion of corporate units.

The segment disclosures have been prepared in accordance with the accounting policies described in Note 1 to these consolidated financial statements, except for the net interest income, non-interest income and income taxes (recovery) of the operating segments, which are presented on a taxable equivalent basis. Taxable equivalent basis is a calculation method that consists in grossing up certain tax-exempt income by the amount of income tax that would have otherwise been payable. The effect of these adjustments is reversed under the *Other* heading. Operations support charges are allocated to each operating segment presented in the business segment results. The Bank assesses performance based on the net income attributable to the Bank's shareholders and holders of other equity instruments. Intersegment revenues are recognized at the exchange amount. Segment assets correspond to average assets used in segment operations.

Results by Business Segment

Year ended October 31(1)

	Personal and Commercial		Wealth Management		Financial Markets		USSF&I		Other		Total	
	2020	2019	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	2019
Net interest income(2)	**2,445**	2,384	**442**	455	**946**	474	**807**	656	**(385)**	(373)	**4,255**	3,596
Non-interest income(2)(3)	**1,018**	1,067	**1,413**	1,288	**1,108**	1,277	**13**	59	**120**	145	**3,672**	3,836
Total revenues	**3,463**	3,451	**1,855**	1,743	**2,054**	1,751	**820**	715	**(265)**	(228)	**7,927**	7,432
Non-interest expenses(4)	**1,849**	1,837	**1,115**	1,073	**809**	756	**319**	285	**453**	350	**4,545**	4,301
Income before provisions for credit losses and income taxes	**1,614**	1,614	**740**	670	**1,245**	995	**501**	430	**(718)**	(578)	**3,382**	3,131
Provisions for credit losses	**517**	237	**7**	–	**239**	30	**80**	80	**3**	–	**846**	347
Income before income taxes (recovery)	**1,097**	1,377	**733**	670	**1,006**	965	**421**	350	**(721)**	(578)	**2,536**	2,784
Income taxes (recovery)(2)	**290**	366	**194**	176	**266**	257	**69**	71	**(366)**	(408)	**453**	462
Net income	**807**	1,011	**539**	494	**740**	708	**352**	279	**(355)**	(170)	**2,083**	2,322
Non-controlling interests	**–**	–	**–**	–	**–**	–	**34**	40	**8**	26	**42**	66
Net income attributable to the Bank's shareholders and holders of other equity instruments	**807**	1,011	**539**	494	**740**	708	**318**	239	**(363)**	(196)	**2,041**	2,256
Average assets	**117,338**	112,798	**5,917**	6,219	**123,943**	112,493	**14,336**	10,985	**56,665**	43,667	**318,199**	286,162

(1) For the year ended October 31, 2019, certain amounts have been reclassified.
(2) For the year ended October 31, 2020, *Net interest income* was grossed up by $208 million ($195 million in 2019), *Non-interest income* was grossed up by $57 million ($135 million in 2019), and an equivalent amount was recognized in *Income taxes (recovery)*. The effect of these adjustments is reversed under the *Other* heading.
(3) For the *Other* heading of segment results, for the year ended October 31, 2020, the *Non-interest income* item includes a foreign currency translation loss of $24 million following the sale, through its subsidiary Credigy Ltd., of two subsidiaries in Brazil. For the *Other* heading of segment results, for the year ended October 31, 2019, the *Non-interest income* item had included a $79 million gain on disposal of Fiera Capital Corporation shares, a $50 million gain on disposal of premises and equipment, and a $33 million loss resulting from the fair value measurement of an investment.
(4) For the year ended October 31, 2020, for the *Other* heading of segment results, the *Non-interest expenses* item includes $71 million in impairment losses on premises and equipment and on intangible assets related to computer equipment and technology developments, a $13 million charge related to Maple, and $48 million in severance pay. For the *Other* heading of segment results, for the year ended October 31, 2019, the *Non-interest expenses* item had included $57 million in impairment losses on premises and equipment and on intangible assets, $45 million in provisions for onerous contracts, an $11 million charge related to Maple, and $10 million in severance pay.

(millions of Canadian dollars)

Results by Geographic Segment

Year ended October 31(1)

	Canada		United States		Other		Total	
	2020	2019	**2020**	2019	**2020**	2019	**2020**	2019
Net interest income	**3,239**	2,930	**642**	550	**374**	116	**4,255**	3,596
Non-interest income(2)	**3,574**	3,645	**5**	85	**93**	106	**3,672**	3,836
Total revenues	**6,813**	6,575	**647**	635	**467**	222	**7,927**	7,432
Non-interest expenses(3)	**4,124**	3,931	**209**	210	**212**	160	**4,545**	4,301
Income before provisions for credit losses and income taxes	**2,689**	2,644	**438**	425	**255**	62	**3,382**	3,131
Provisions for credit losses	**766**	267	**59**	68	**21**	12	**846**	347
Income before income taxes	**1,923**	2,377	**379**	357	**234**	50	**2,536**	2,784
Income taxes	**343**	394	**68**	59	**42**	9	**453**	462
Net income	**1,580**	1,983	**311**	298	**192**	41	**2,083**	2,322
Non-controlling interests	**18**	36	**24**	30	**–**	–	**42**	66
Net income attributable to the Bank's shareholders and holders of other equity instruments	**1,562**	1,947	**287**	268	**192**	41	**2,041**	2,256
Average assets	**258,594**	231,667	**22,654**	20,411	**36,951**	34,084	**318,199**	286,162

(1) For the year ended October 31, 2019, certain amounts have been reclassified.
(2) For the United States results, for the year ended October 31, 2020, the *Non-interest income* item includes a foreign currency translation loss of $24 million following the sale, through its subsidiary Credigy Ltd., of two subsidiaries in Brazil. For Canada results, for the year ended October 31, 2019, the *Non-interest income* item had included a $79 million gain on disposal of Fiera Capital Corporation shares, a $50 million gain on disposal of premises and equipment, and a $33 million loss resulting from the fair value measurement of an investment.
(3) For the year ended October 31, 2020, for Canada results, the *Non-interest expenses* item includes $71 million in impairment losses on premises and equipment and on intangible assets related to computer equipment and technology developments, a $13 million charge related to Maple, and $48 million in severance pay. For the *Other* heading of segment results, for the year ended October 31, 2019, the *Non-interest expenses* item had included $57 million in impairment losses on premises and equipment and on intangible assets, $45 million in provisions for onerous contracts, an $11 million charge related to Maple, and $10 million in severance pay.

Note 31 – Event After the Consolidated Balance Sheet Date

Acquisition

In the first quarter of fiscal 2021, the Bank will acquire the remaining non-controlling interest in the Credigy Ltd. subsidiary following the decision of the non-controlling shareholders to exercise their put options for an amount of approximately US$235 million according to an agreement reached in 2013. Subsequent to this transaction, Credigy Ltd. will become a wholly-owned subsidiary of the Bank.

Supplementary Information

Statistical Review

As at October 31[1] (millions of Canadian dollars)	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Consolidated Balance Sheet data										
Cash and deposits with financial institutions	**29,142**	13,698	12,756	8,802	8,183	7,567	8,086	3,596	3,249	2,851
Securities	**102,131**	82,226	69,783	65,343	64,541	56,040	52,953	53,744	54,898	56,592
Securities purchased under reverse repurchase agreements and securities borrowed	**14,512**	17,723	18,159	20,789	13,948	17,702	24,525	21,449	15,529	12,507
Loans	**164,740**	153,251	146,082	136,457	128,036	116,676	106,959	97,338	90,922	80,758
Other assets	**21,100**	14,560	15,691	14,436	17,498	18,105	12,906	12,092	13,305	14,146
Total assets	**331,625**	281,458	262,471	245,827	232,206	216,090	205,429	188,219	177,903	166,854
Deposits	**215,878**	189,566	170,830	156,671	142,066	130,458	119,883	102,111	93,474	85,787
Other liabilities	**98,589**	75,983	76,539	75,589	77,026	72,755	73,163	74,729	73,948	71,791
Subordinated debt	**775**	773	747	9	1,012	1,522	1,881	2,426	2,470	2,000
Share capital and other equity instruments										
Preferred and other equity instruments	**2,950**	2,450	2,450	2,050	1,650	1,023	1,223	677	762	762
Common	**3,057**	2,949	2,822	2,768	2,645	2,614	2,293	2,160	2,054	1,970
Contributed surplus	**47**	51	57	58	73	67	52	58	58	46
Retained earnings	**10,444**	9,312	8,472	7,706	6,706	6,705	5,850	5,055	4,091	3,366
Accumulated other comprehensive income	**(118)**	16	175	168	218	145	289	214	255	337
Non-controlling interests	**3**	358	379	808	810	801	795	789	791	795
Total liabilities and equity	**331,625**	281,458	262,471	245,827	232,206	216,090	205,429	188,219	177,903	166,854
Average assets	**318,199**	286,162	265,940	248,351	235,913	222,929	206,680	193,509	181,344	165,942
Net impaired loans[2][3] under IFRS 9	**465**	450	404							
Net impaired loans[3] under IAS 39				206	281	254	248	183	179	175
Consolidated Statement of Income data										
Net interest income	**4,255**	3,596	3,382	3,436	3,205	2,929	2,761	2,478	2,365	2,318
Non-interest income	**3,672**	3,836	3,784	3,173	2,635	2,817	2,703	2,673	2,936	2,336
Total revenues	**7,927**	7,432	7,166	6,609	5,840	5,746	5,464	5,151	5,301	4,654
Non-interest expenses	**4,545**	4,301	4,063	3,857	3,875	3,665	3,423	3,206	3,207	2,952
Income before provisions for credit losses and income taxes	**3,382**	3,131	3,103	2,752	1,965	2,081	2,041	1,945	2,094	1,702
Provisions for credit losses	**846**	347	327	244	484	228	208	181	180	184
Income taxes	**453**	462	544	484	225	234	295	252	317	264
Net income	**2,083**	2,322	2,232	2,024	1,256	1,619	1,538	1,512	1,597	1,254
Non-controlling interests	**42**	66	87	84	75	70	69	63	61	60
Net income attributable to the Bank's shareholders and holders of other equity instruments	**2,041**	2,256	2,145	1,940	1,181	1,549	1,469	1,449	1,536	1,194

(1) Certain amounts from fiscal years 2013, 2012 and 2011 have been adjusted to reflect changes to the accounting standards in 2014.
(2) Given the adoption of IFRS 9, all loans classified in Stage 3 of the expected credit loss model are impaired loans. Under IAS 39, loans were considered impaired according to different criteria. Net impaired loans are presented net of allowances for credit losses on Stage 3 loan amounts drawn and, in this table, the net impaired loans presented exclude POCI loans.
(3) Includes customers' liability under acceptances.

As at October 31[1]	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Number of common shares[2] *(thousands)*	335,998	334,172	335,071	339,592	338,053	337,236	329,297	325,983	322,617	320,948
Number of common shareholders on record	20,674	20,894	21,325	21,542	21,966	22,152	22,394	22,737	23,180	23,588
Basic earnings per share[2]	$ 5.73	$ 6.39	$ 6.01	$ 5.44	$ 3.31	$ 4.56	$ 4.36	$ 4.34	$ 4.63	$ 3.41
Diluted earnings per share[2]	$ 5.70	$ 6.34	$ 5.94	$ 5.38	$ 3.29	$ 4.51	$ 4.32	$ 4.31	$ 4.58	$ 3.37
Dividend per share[2]	$ 2.84	$ 2.66	$ 2.44	$ 2.28	$ 2.18	$ 2.04	$ 1.88	$ 1.70	$ 1.54	$ 1.37
Share price[2]										
High	$ 74.79	$ 68.02	$ 65.63	$ 62.74	$ 47.88	$ 55.06	$ 53.88	$ 45.24	$ 40.64	$ 40.72
Low	$ 38.73	$ 54.97	$ 58.69	$ 46.83	$ 35.83	$ 40.75	$ 41.60	$ 36.18	$ 31.64	$ 32.43
Close	$ 63.94	$ 68.02	$ 59.76	$ 62.61	$ 47.88	$ 43.31	$ 52.68	$ 45.24	$ 38.59	$ 35.57
Book value[2]	$ 39.97	$ 36.89	$ 34.40	$ 31.51	$ 28.52	$ 28.26	$ 25.76	$ 22.97	$ 20.02	$ 17.82
Dividends on preferred shares										
Series 15	–	–	–	–	–	–	–	$ 0.2444	$ 1.4625	$ 1.4625
Series 16	–	–	–	–	–	–	$ 1.2125	$ 1.2125	$ 1.2125	$ 1.2125
Series 20	–	–	–	–	–	$ 1.5000	$ 1.5000	$ 1.5000	$ 1.5000	$ 1.5000
Series 21	–	–	–	–	–	–	–	$ 1.0078	$ 1.3438	$ 1.3438
Series 24	–	–	–	–	–	–	$ 0.4125	$ 1.6500	$ 1.6500	$ 1.6500
Series 26	–	–	–	–	–	–	$ 0.4125	$ 1.6500	$ 1.6500	$ 1.6500
Series 28	–	–	–	$ 0.9500	$ 0.9500	$ 0.9500	$ 0.9500	$ 0.9728	–	–
Series 30	$ 1.0063	$ 1.0156	$ 1.0250	$ 1.0250	$ 1.0250	$ 1.0250	$ 0.7849	–	–	–
Series 32	$ 0.9636	$ 0.9750	$ 0.9750	$ 0.9750	$ 0.9750	$ 1.0760	–	–	–	–
Series 34	$ 1.4000	$ 1.4000	$ 1.4000	$ 1.4000	$ 1.1373	–	–	–	–	–
Series 36	$ 1.3500	$ 1.3500	$ 1.3500	$ 1.3500	$ 0.5733	–	–	–	–	–
Series 38	$ 1.1125	$ 1.1125	$ 1.1125	$ 0.4724	–	–	–	–	–	–
Series 40	$ 1.1500	$ 1.1500	$ 0.9310	–	–	–	–	–	–	–
Series 42	$ 1.2375	$ 1.2375	$ 0.5323	–	–	–	–	–	–	–
Financial ratios										
Return on common shareholders' equity	14.9 %	18.0 %	18.4 %	18.1 %	11.7 %	16.9 %	17.9 %	20.1 %	24.1 %	19.8 %
Return on average assets	0.65 %	0.81 %	0.84 %	0.81 %	0.53 %	0.73 %	0.74 %	0.78 %	0.88 %	0.76 %
Regulatory ratios under Basel III[3]										
Capital ratios[4]										
CET1[5]	11.8 %	11.7 %	11.7 %	11.2 %	10.1 %	9.9 %	9.2 %	8.7 %	7.3 %	7.6 %
Tier 1[5]	14.9 %	15.0 %	15.5 %	14.9 %[6]	13.5 %	12.5 %[7]	12.3 %[8]	11.4 %	10.1 %	10.8 %
Total[5]	16.0 %	16.1 %	16.8 %	15.1 %[6]	15.3 %	14.0 %[9]	15.1 %[8]	15.0 %	14.1 %	14.3 %
Leverage ratio[5]	4.4 %	4.0 %	4.0 %	4.0 %	3.7 %	4.0 %				
Other information										
Number of employees[10][11]	25,604	24,557	22,426	20,584	20,600	19,026	18,725	16,675	16,636	16,217
Branches in Canada	403	422	428	429	450	452	452	453	451	448
Banking machines in Canada	940	939	937	931	938	930	935	937	923	893

(1) Certain amounts from fiscal years 2013, 2012 and 2011 have been adjusted to reflect changes to the accounting standards in 2014.
(2) The figures for 2014 and prior years have been adjusted to reflect the stock dividend paid in 2014.
(3) The ratios as at October 31, 2020 include the transitional measures granted by OSFI. For additional information, see the COVID-19 Pandemic – Key Measures introduced by the Regulatory Authorities on pages 20 and 21 of this MD&A.
(4) The October 31, 2013, 2012 and 2011 ratios have not been adjusted to reflect changes in accounting standards.
(5) Since October 31, 2013, the capital ratios were calculated using the "all-in" methodology and the October 31, 2012 and 2011 ratios are presented on a pro forma basis.
(6) Taking into account the redemption of the Series 28 preferred shares on November 15, 2017.
(7) Taking into account the redemption of the Series 20 preferred shares on November 15, 2015.
(8) Taking into account the redemption of the Series 16 preferred shares on November 15, 2014.
(9) Taking into account the redemption of the Series 20 preferred shares on November 15, 2015 and the $500 million redemption of notes on November 2, 2015.
(10) Full-time equivalent.
(11) Includes employees from Credigy Ltd. and Advanced Bank of Asia Limited for fiscal years 2014 to 2020.

Glossary of Financial Terms

Acceptances
Acceptances constitute a guarantee of payment by a bank and can be traded in the money market. The Bank earns a "stamping fee" for providing this guarantee.

Allowances for credit losses
Allowances for credit losses represent management's unbiased estimate of expected credit losses as at the balance sheet date. These allowances are primarily related to loans and off-balance-sheet items such as loan commitments and financial guarantees.

Assets under administration
Assets in respect of which a financial institution provides administrative services such as custodial services, collection of investment income, settlement of purchase and sale transactions and record-keeping. Assets under administration, which are beneficially owned by clients, are not reported on the balance sheet of the institution offering such services.

Assets under management
Assets managed by a financial institution that are beneficially owned by clients. Management services are more comprehensive than administrative services, and include selecting investments or offering investment advice. Assets under management, which may also be administered by the financial institution, are not reported on the financial institution's balance sheet.

Average interest-bearing assets
Average interest-bearing assets include deposits with financial institutions, certain interest-bearing cash items, securities, securities purchased under reverse repurchase agreements and securities borrowed, and loans but excludes other assets. The average is calculated based on the daily averages for the year.

Basis point
Unit of measure equal to one one-hundredth of a percentage point (0.01%).

Common Equity Tier 1 (CET1) capital ratio
Common Equity Tier 1 capital consists of common shareholders' equity less goodwill, intangible assets and other capital deductions. Common Equity Tier 1 capital ratio is calculated by dividing Common Equity Tier 1 capital by the corresponding risk-weighted assets.

Derivative financial instruments
Derivative financial instruments are financial contracts whose value is derived from an underlying interest rate, exchange rate or equity, commodity or credit instrument or index. Examples of derivatives include swaps, options, forward rate agreements and futures. The notional amount of the derivative is the contract amount used as a reference point to calculate the payments to be exchanged between the two parties, and the notional amount itself is generally not exchanged by the parties.

Dividend payout ratio
Common dividends as a percentage of net income after preferred share dividends.

Economic capital
Economic capital is the internal measure used by the Bank to determine the capital required for its solvency and to pursue its business operations. Economic capital takes into consideration the credit, market, operational, business and other risks to which the Bank is exposed, as well as the risk diversification effect among them and among the business segments. Economic capital thus helps the Bank to determine the capital required to protect itself against such risks and ensure its long-term viability.

Efficiency ratio
Non-interest expenses as a percentage of total revenue, the efficiency ratio measures the efficiency of the Bank's operations.

Fair value
The fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction in the principal market at the measurement date under current market conditions (i.e., an exit price).

Hedging
The purpose of a hedging transaction is to modify the Bank's exposure to one or more risks by creating an offset between changes in the fair value of, or the cash flows attributable to, the hedged item and the hedging instrument.

Impaired loans
The Bank considers a financial asset, other than a credit card receivable, to be credit-impaired when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred or when contractual payments are 90 days past due. Credit card receivables are considered credit-impaired and are fully written off at the earlier of the following: when a notice of bankruptcy is received, a settlement proposal is made, or contractual payments are 180 days past due.

Leverage ratio
The leverage ratio is calculated by dividing Tier 1 capital by total exposure. Total exposure is defined as the sum of on-balance-sheet assets (including derivative exposures and securities financing transaction exposures) and off-balance-sheet items.

Liquidity coverage ratio
The liquidity coverage ratio is a measure designed to ensure that the Bank has sufficient high-quality liquid assets to cover net cash outflows given a severe, 30-day liquidity crisis.

Master netting agreement
Legal agreement between two parties that have multiple derivative contracts with each other that provides for the net settlement of all contracts through a single payment, in the event of default, insolvency or bankruptcy.

Net interest margin
Net interest income as a percentage of average interest-bearing assets.

Office of the Superintendent of Financial Institutions (Canada) (OSFI)
The mandate of the Office of the Superintendent of Financial Institutions (OSFI) is to regulate and supervise financial institutions and private pension plans subject to federal oversight, to help minimize undue losses to depositors and policyholders and, thereby, to contribute to public confidence in the Canadian financial system.

Operating leverage
Operating leverage is the difference between the growth rate for total revenues and the growth rate for non-interest expenses.

Provisions for credit losses
The amount charged to income necessary to bring the allowances for credit losses to a level determined appropriate by management.

Return on common shareholders' equity (ROE)
Net income, less dividends on preferred shares, expressed as a percentage of the average value of common shareholders' equity.

Risk-weighted assets
Assets are risk weighted according to the guidelines established by OSFI. In the Standardized calculation approach, factors are applied to the face value of certain assets in order to reflect comparable risk levels. In the Advanced Internal Rating-Based (AIRB) approach, risk-weighted assets are derived from the Bank's internal models, which represent the Bank's own assessment of the risks it incurs. Off-balance-sheet instruments are converted to balance sheet (or credit) equivalents by adjusting the notional values before applying the appropriate risk-weighting factors.

Securities purchased under reverse repurchase agreements
Securities purchased by the Bank from a client pursuant to an agreement under which the securities will be resold to the same client on a specified date and at a specified price. Such an agreement is a form of short-term collateralized lending.

Securities sold under repurchase agreements
Financial obligations related to securities sold pursuant to an agreement under which the securities will be repurchased on a specified date and at a specified price. Such an agreement is a form of short-term funding.

Structured entity
A structured entity is an entity created to accomplish a narrow and well-defined objective and is designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when voting rights relate solely to administrative tasks and the relevant activities are directed by means of contractual arrangements.

Taxable equivalent basis
Taxable equivalent basis is a calculation method that consists in grossing up certain tax-exempt income by the amount of income tax that would have otherwise been payable.

Tier 1 capital ratio
Tier 1 capital ratio consists of Common Equity Tier 1 capital and Additional Tier 1 instruments, namely, eligible non-cumulative preferred shares and the eligible amount of innovative instruments. Tier 1 capital ratio is calculated by dividing Tier 1 capital, less regulatory adjustments, by the corresponding risk-weighted assets.

Total capital ratio
Total capital is the sum of Tier 1 and Tier 2 capital. Tier 2 capital consists of the eligible portion of subordinated debt and certain credit loss allowances. Total capital ratio is calculated by dividing total capital, less regulatory adjustments, by the corresponding risk-weighted assets.

Total shareholder return
The total shareholder return (TSR) represents the average total return on an investment in the Bank's common shares. The return includes changes in share price and assumes that the dividends received were reinvested in additional common shares of the Bank.

Value-at-Risk (VaR)
VaR is a statistical measure of risk that is used to quantify market risks across products, per types of risks and aggregate risk on a portfolio basis. VaR is defined as the maximum loss at a specific confidence level over a certain horizon under normal market conditions. The VaR method has the advantage of providing a uniform measurement of financial instrument-related market risks based on a single statistical confidence level and time horizon.

Information for Shareholders

Description of Share Capital

The authorized share capital of the Bank consists of an unlimited number of common shares, without par value, an unlimited number of first preferred shares, without par value, issuable for a maximum aggregate consideration of $5 billion, and 15 million second preferred shares, without par value, issuable for a maximum aggregate consideration of $300 million. As at October 31, 2020, the Bank had a total of 335,997,660 common shares and 98,000,000 first preferred shares issued and outstanding.

Stock Exchange Listings

The Bank's common shares and Series 30, 32, 34, 36, 38, 40 and 42 First Preferred Shares are listed on the Toronto Stock Exchange in Canada.

Issue or class	Ticker symbol
Common shares	NA
First Preferred Shares	
Series 30	NA.PR.S
Series 32	NA.PR.W
Series 34	NA.PR.X
Series 36	NA.PR.A
Series 38	NA.PR.C
Series 40	NA.PR.E
Series 42	NA.PR.G

Number of Registered Shareholders

As at October 31, 2020, there were 20,674 common shareholders recorded in the Bank's common share register.

Dividends

Dividend Dates in Fiscal 2021
(subject to approval by the Board of Directors of the Bank)

Record date	Payment date
Common shares	
December 28, 2020	February 1, 2021
March 29, 2021	May 1, 2021
June 28, 2021	August 1, 2021
September 27, 2021	November 1, 2021
Preferred shares,	
Series 30, 32, 34, 36, 38, 40 and 42	
January 6, 2021	February 15, 2021
April 5, 2021	May 15, 2021
July 6, 2021	August 15, 2021
October 6, 2021	November 15, 2021

Dividends Declared on Common Shares During Fiscal 2020

Record date	Payment date	Dividend per share ($)
December 30, 2019	February 1, 2020	0.71
March 30, 2020	May 1, 2020	0.71
June 29, 2020	August 1, 2020	0.71
September 28, 2020	November 1, 2020	0.71

Dividends Declared on Preferred Shares During Fiscal 2020

		Dividend per share ($)						
Record date	Payment date	Series 30	Series 32	Series 34	Series 36	Series 38	Series 40	Series 42
Jan. 6, 2020	Feb. 15, 2020	0.2516	0.2438	0.3500	0.3375	0.2781	0.2875	0.3094
Apr. 6, 2020	May 15, 2020	0.2515	0.2399	0.3500	0.3375	0.2782	0.2875	0.3094
Jul. 6, 2020	Aug. 15, 2020	0.2516	0.2399	0.3500	0.3375	0.2781	0.2875	0.3093
Oct. 6, 2020	Nov. 15, 2020	0.2516	0.2400	0.3500	0.3375	0.2781	0.2875	0.3094

Dividends paid are "eligible dividends" in accordance with the *Income Tax Act* (Canada).

Dividend Reinvestment and Share Purchase Plan

National Bank has a Dividend Reinvestment and Share Purchase Plan for holders of its common and preferred shares under which they can acquire common shares of the Bank without paying commissions or administration fees. Participants acquire common shares through the reinvestment of cash dividends paid on the shares they hold or through optional cash payments of at least $1 per payment, up to a maximum of $5,000 per quarter.

For additional information, shareholders may contact National Bank's registrar and transfer agent, Computershare Trust Company of Canada, at 1-888-838-1407. To participate in the plan, National Bank's beneficial or non-registered common shareholders must contact their financial institution or broker.

Direct Deposit
Shareholders may elect to have their dividend payments deposited directly via electronic funds transfer to their bank account at any financial institution that is a member of the Canadian Payments Association. To do so, they must send a written request to the Transfer Agent, Computershare Trust Company of Canada.

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National Bank of Canada
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Montreal, Quebec H3B 4L2 Canada

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Website: nbc.ca

Annual Meeting
The Annual Meeting of Holders of Common Shares of the Bank will be held on April 23, 2021.

Corporate Social Responsibility Statement
The information will be available in March 2021 on the Bank's website at nbc.ca.

Communication with Shareholders
For information about stock transfers, address changes, dividends, lost certificates, tax forms and estate transfers, shareholders of record may contact the Transfer Agent at the following address:

Computershare Trust Company of Canada
Share Ownership Management
100 University Avenue, 8th Floor
Toronto, Ontario M5J 2Y1 Canada

Telephone: 1-888-838-1407
Fax: 1-888-453-0330
E-mail: *service@computershare.com*
Website: computershare.com

Shareholders whose shares are held by a market intermediary are asked to contact the market intermediary concerned.

Other shareholder inquiries can be addressed to:
Investor Relations
National Bank of Canada
National Bank Tower
600 De La Gauchetière Street West, 7th Floor
Montreal, Quebec H3B 4L2 Canada

Telephone: 1-866-517-5455
E-mail: investorrelations@nbc.ca
Website: nbc.ca/investorrelations

Caution Regarding Forward-Looking Statements
From time to time, National Bank of Canada makes written and oral forward-looking statements, including in this Annual Report, in other filings with Canadian regulators, in reports to shareholders, in press releases and in other communications. All such statements are made pursuant to the Canadian and American securities legislation and the provisions of the United States *Private Securities Litigation Reform Act of 1995*.

Additional information about these statements can be found on page 15 of this Annual Report.

Trademarks
The trademarks belonging to National Bank of Canada and used in this report include National Bank of Canada, National Bank, NBC, National Bank All-In-One, National Bank Financial, National Bank Financial Wealth Management, Private Banking 1859, National Bank Direct Brokerage, National Bank Investments, National Bank Independent Network, National Bank Trust, NBC CapS II, NBC Asset Trust, NBC Capital Trust, National Bank Life Insurance, Natcan Trust Company, National Bank Realty, Natbank and their respective logos. Certain trademarks owned by third parties are also mentioned in this report.

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NATIONAL BANK