2019 ANNUAL REPORT

CIBC

$50
BILLION
Market Capitalization

11.6%
BASEL III
CET1 Ratio

10
MILLION
Clients

Who We Are

CIBC is a leading North American financial institution with a market capitalization of $50 billion and a Basel III Common Equity Tier 1 capital ratio of 11.6%.

Across Personal and Small Business Banking, Commercial Banking and Wealth Management, and Capital Markets businesses, our 45,000 employees provide a full range of financial products and services to 10 million personal banking, business, public sector and institutional clients in Canada, the U.S. and around the world.

Our Purpose

CIBC's purpose is to help make your ambition a reality.

Our Strategy

At CIBC, we're building a relationship-oriented bank for a modern world that delivers superior client experience and shareholder returns by focusing on four key areas:

1. Delivering a modern relationship-banking value proposition to our clients
2. Diversifying our earnings growth
3. Optimizing our operational efficiency
4. Maintaining capital and balance sheet discipline

Creating Value for Our Shareholders

At CIBC, we are committed to delivering sustainable earnings growth to our shareholders and creating a relationship-oriented bank for our clients. We continue to identify initiatives to free up resources that allow us to reinvest in our business to accelerate revenue growth and reduce our structural cost base. We will do so with a keen focus on industry-leading fundamentals in capital, expenses and risk management.

Table of Contents

2019 Performance at a Glance
ii Message from the President and Chief Executive Officer
iv Executive Team
vii Message from the Chair of the Board
viii Enhanced Disclosure Task Force
1 Management's Discussion and Analysis
94 Consolidated Financial Statements
108 Notes to the Consolidated Financial Statements
191 Quarterly Review
193 Ten-Year Statistical Review
196 Glossary
202 Shareholder Information

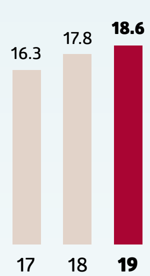
2019 Performance at a Glance

In 2019, as a purpose-driven bank, we advanced our client-focused strategy and delivered solid performance for our shareholders.

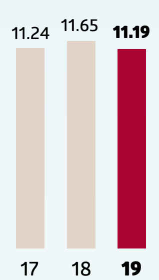
Financial Highlights

For the year ended October 31 (Canadian $ in billions, except as noted)	2018	2019
Financial results		
Revenue	17.8	**18.6**
Provision for credit losses	0.9	**1.3**
Expenses	10.3	**10.9**
Reported/Adjusted net income[1]	5.3/5.5	**5.1/5.4**
Financial measures (%)		
Reported/Adjusted efficiency ratio[1]	57.5/55.6	**58.3/55.5**
Reported/Adjusted return on common shareholders' equity (ROE)[1]	16.6/17.4	**14.5/15.4**
Net interest margin	1.68	**1.65**
Total shareholder return	4.7	**4.2**
Common share information		
Reported/Adjusted earnings per share[1]	11.65/12.21	**11.19/11.92**
Market capitalization	50.3	**50.0**
Dividends (%)		
Dividend yield	4.7	**5.0**
Reported/Adjusted dividend payout ratio[1]	45.5/43.4	**49.9/46.9**
Net income by Strategic Business Unit		
Canadian Personal and Small Business Banking	2.5	**2.3**
Canadian Commercial Banking and Wealth Management	1.3	**1.3**
U.S. Commercial Banking and Wealth Management	0.6	**0.7**
Capital Markets	1.1	**0.9**

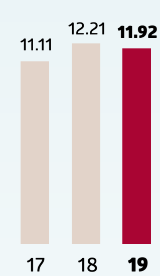
Reported revenue
($ billions)



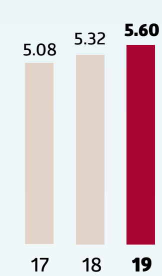
Reported earnings per share ($)



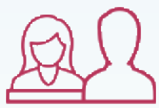
Adjusted earnings per share[1] ($)



Dividend
($/share)



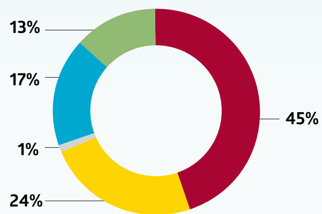
CIBC Client Experience
Net Promoter Score Index[2]



60.9

2019

Business mix
% adjusted net income[1]



- 45% Canadian Personal and Small Business Banking
- 24% Canadian Commercial Banking and Wealth Management
- 17% Capital Markets
- 13% U.S. Commercial Banking and Wealth Management
- 1% Corporate and Other

[1] For additional information, see the "Non-GAAP measures" section of the MD&A.
[2] Index based on internal NPS scores from across all of our SBUs.

Financial Scorecard

	Target	2019 Reported Results	2019 Adjusted Results[1]
Earnings per share (EPS) growth	5%–10% on average, annually	**$11.19, down 4% from 2018**	**$11.92, down 2% from 2018**
Return on equity (ROE)	15%+	**14.5%**	**15.4%**
Efficiency ratio	52% run rate in 2022[2]	**58.3%, increased 80 basis points from 2018**	**55.5%, an improvement of 10 basis points from 2018**
Basel III CET1 ratio	Strong buffer to regulatory minimum	**11.6%**	
Dividend payout ratio	40%–50%	**49.9%**	**46.9%**
Total shareholder return	Outperform the S&P/TSX Composite Banks Index over a rolling five-year period	**CIBC – 38.4% Banks Index – 51.3%**	

[1] For additional information, see the "Non-GAAP measures" section of the MD&A.
[2] Medium-term through the cycle.

Environmental, Social and Governance (ESG) Scorecard

		2019 Progress	Goal
ENVIRONMENT	**Responsible Finance**	• Achieved 17% of our 10-year goal for sustainable finance[3]	• $150 billion in support for environmental and sustainable financing over 10 years (2018–2027)
	Climate Change	• 7% reduction in greenhouse gas (GHG) emissions[4]	• 10% reduction in GHG emissions from our operations over five years (2019–2023)
SOCIAL	**Client Experience**	• CIBC Client Experience Net Promoter Score Index was 60.9	• Continuous improvement year over year
	Employee Engagement	• CIBC's Engagement score of 89% or 109.9% of the global financial services norm exceeded our target	• 109% of the global financial services norm
	Inclusion and Diversity	• 32% women in boarded executive roles	• At a minimum, between 35% and 40% women in board-approved executive roles by the end of 2022 (global)
	Community Investment	• Invested $78 million in community organizations across Canada and the U.S., including $57 million in corporate contributions and $21 million in employee-led fundraising and giving	• $350 million over five years (2019–2023) in total corporate and employee giving
GOVERNANCE	**Corporate Governance**	• 47% women on the CIBC Board of Directors • 100% of non-executive directors on the Board are independent	• At least 30% women on the CIBC Board of Directors • A substantial majority of independent directors
	Business Ethics	• 100% of employees completed ethical training on our Code of Conduct	• 100% completion rate

[3] 17% is for the combined results of 2018 and 2019 and is an estimate as the final taxonomy is still under development.
[4] Applies only to CIBC's Canadian-based real estate operations (Scope 1 and 2 GHG emissions which have not been adjusted to exclude the impacts of weather or other factors) and is based on unassured data. Third-party assured data will be published in CIBC's 2019 Sustainability Report in March 2020.

Q1

- Acquisition of The PrivateBank became accretive
- CIBC confirmed participation in Air Canada's new loyalty program

Q2

- Launched CIBC Global Money Transfer™ for business clients
- CIBC introduced all-encompassing banking offer for physicians

Q3

- Announced acquisition of U.S. investment banking firm Cleary Gull
- Launched CIBC SmartBanking™ for Business and CIBC SmartPlus Account

Q4

- CIBC Private Wealth Management® acquired Lowenhaupt Global Advisors
- Announced $150 billion sustainable finance target

2019 ANNUAL REPORT

In 2019, we made significant progress in building a strong, relationship-oriented bank for a modern world, as we further unlocked the potential of our highly connected team to better serve our clients.

CIBC reported solid earnings last year of $5.4 billion on an adjusted basis, as we continued to focus on transforming our bank to further increase client engagement and strengthen our culture. Our adjusted efficiency ratio ended the year at 55.5% and we achieved a return on common shareholders' equity of 15.4%, helping to enhance shareholder value in a challenging market. Our reported and adjusted diluted EPS declined 4% and 2% respectively. While our performance was solid in the year, our financial results did not reflect the full potential of our bank.

We delivered these results against a backdrop of significant changes in the environment. A shifting economic outlook globally has amplified the value of sound, long-term advice for both businesses and individuals. In parallel, technology is reshaping every facet of our society and every industry, including banking. Banks must meaningfully address both of these trends to deliver growth for shareholders and meet the evolving needs of clients.

In times where the pace of change is accelerating, a shared purpose is integral. At defining moments of change and transformation throughout our 152-year history, when our clients and communities have needed us most, CIBC has done extraordinary work because of a clear sense of purpose, helping make our clients' ambitions a reality.

As a bank, we exist to serve our clients. This is at the forefront of our thinking and our strategy, and is essential to becoming a leading bank in the modern era. That's how we focused our investments in 2019, as measured against our strategic priorities of delivering a modern relationship-banking proposition to our clients, diversifying our earnings growth, optimizing our operational efficiency, and maintaining capital and balance sheet discipline.

A connected team is a differentiator for us. CIBC is investing in our culture and capabilities to build on the advantage we have in this area. Client relationships can only be retained for the long-term by taking a full view of the business and personal financial needs of clients, and working across business units to deliver integrated solutions.

That means having the right people with the right capability, culture, tools and technology to do right by our clients and to make it easy for them to bank with us – whether they are students or start-ups, farmers or families, small businesses or the world's largest companies or governments.

It also means further strengthening our commitment to a sustainable future through a continued focus on environmental, social and governance factors in our business. We're committed to working with all stakeholders to play a role in furthering these important areas of focus.

Investing in relationships for a modern world

In 2019, we continued to invest in our people and our business to ensure we are well positioned to meet the needs of our clients as they increasingly engage with us on both sides of the border. Strong connectivity across Capital Markets, Commercial Banking, Wealth Management, and Personal and Small Business Banking is delivering a greater breadth of services and growth opportunities for our bank and our clients.

In the U.S., we further strengthened our capabilities with the acquisition of Cleary Gull, a boutique investment banking firm in the U.S. Midwest. This business builds on our established investment banking advisory services by enhancing our capabilities for mid-market, privately-owned businesses, and supports our diversification and growth objectives. We also continued to build our Commercial

"In 2019, we continued to invest in our people and our business to ensure we are well positioned to meet the needs of our clients as they increasingly engage with us on both sides of the border."

Victor G. Dodig,
President and Chief Executive Officer

EXECUTIVE TEAM


Victor G. Dodig
President and
Chief Executive Officer


Shawn Beber
Senior Executive Vice-President,
General Counsel and Corporate Development


Michael G. Capatides
Senior Executive Vice-President and Group Head,
U.S. Region; President and CEO, CIBC Bank USA


Harry Culham
Senior Executive Vice-President and
Group Head, Capital Markets


Laura Dottori-Attanasio
Senior Executive Vice-President and
Chief Risk Officer


Jon Hountalas
Senior Executive Vice-President and
Group Head, Commercial Banking and
Wealth Management, Canada


Deepak Khandelwal
Senior Executive Vice-President and
Chief Client Experience Officer


Christina Kramer
Senior Executive Vice-President
and Group Head, Personal and
Small Business Banking, Canada


Hratch Panossian
Senior Executive Vice-President
and Chief Financial Officer
Prior to November 1, 2019 Kevin Glass held this role.


Kevin Patterson
Senior Executive Vice-President and
Group Head, Technology and Operations


Sandy Sharman
Senior Executive Vice-President
and Chief Human Resources and
Communications Officer

Banking presence in new markets; CIBC now has offices in 25 U.S. cities. We are taking a high-touch, relationship-oriented approach across borders – and across business lines – to offer banking services to the U.S. private economy.

For our personal clients, we are investing to build on our position as a recognized leader in enabling clients to use digital channels for their everyday banking – and, increasingly, to do things that weren't possible a few short years ago. For example, our clients can now use their mobile device to send money globally with no upfront fee.

We continue to transform our banking centres so that we are focused on having essential advice-based conversations with our clients on topics such as buying a new home or sending a child to post-secondary education. Those are moments of truth for all of us, and we want to be there to help our clients realize their ambitions. With over 200 banking centres now operating under our transformed model, we are further empowering local leaders to work together to meet the needs of clients in the communities where they live and work.

With relationships at the centre of our strategy, our highly connected and client-focused Capital Markets team is driving growth by staying close to our clients during market volatility. We recognize that our clients' long-term goals don't change with short-term market fluctuations, and our team continues to offer advice and innovative solutions to meet our clients' needs.

$8.8 BILLION
Revenue, Canadian Personal and Small Business Banking

$4.0 BILLION
Revenue, Canadian Commercial Banking and Wealth Management

Modernizing our bank for the future

Part of building good client relationships is making it easy for people to bank with us.

This comes from our people, but also the platforms and technology we employ to transform our bank around our clients. This year we made strategic investments to enhance the client experience, modernize and protect our bank and strengthen our industry. For example, in addition to our leadership in mobile and online banking, we became the first major Canadian bank to offer installment plans on credit card purchases over $250 with the CIBC Pace It™ program, helping clients better manage their cash flow. In addition, we launched CIBC SmartBanking™ for Business – a first-of-its-kind banking platform integrating key business functions, such as payroll and accounts payable alongside banking, to help small and medium-sized businesses operate and grow their companies. We also invested in industry-leading investment tools, like the all-in-one CIBC Smart Investment Solutions portfolios, to help our clients navigate changing markets.

To protect our clients and prepare our industry for the future of banking, we also made foundational investments in initiatives that are modernizing Canada's payments industry, combatting money laundering and further strengthening our cyber security.

Our people are our greatest asset

While technology will help enable our transformation, it is our people that are at the heart of helping our clients achieve their ambitions. We've made several significant investments over the past year to help our team be at their best, including enhancements to how we manage performance and lead our team.

We're modernizing the way we work to further our client-focused culture, including our continued migration to cloud-based technologies such as Workday, a unified human resources platform that further aligns our team by providing better tools, data and analytics to enhance business performance.

$2.0

BILLION

Revenue, U.S. Commercial Banking and Wealth Management

$2.9

BILLION

Revenue, Capital Markets

Our purpose is the "north star" for our team as we focus on meeting the needs of our clients in a changing world.

We're investing in our leaders today to build the bank of tomorrow through ongoing leadership development that is anchored in our purpose and targeted to the realities of each level of CIBC's leadership. Our CIBC Leadership Institute, featuring three distinct academies, focuses on building a clear connection between effective leadership and top-line business performance to accelerate the execution of our strategy.

We're also here to help our team members achieve their ambitions by making their goals a priority, empowering them to excel every day, recognizing their achievements and supporting their well-being. This year on our Employee Appreciation Day, we announced that each team member will receive a day each year to invest in realizing their own ambitions.

Our Global Workplace Experience Strategy is putting our clients at the centre of all that we do and setting a new standard for how we work together to bring the best of our bank to our team members and clients. The strategy is prioritizing our team's well-being and providing the tools and space they need to perform at their very best. The cornerstone of the strategy is our new global headquarters, CIBC Square, which will open next year, enabling our team to better connect and collaborate with each other in service of our clients.

Each of these enhancements is aimed at ensuring that CIBC continues to attract not just the best and brightest talent to our bank, but also people who share our commitment to clients. We are proud of our consistent recognition as a top employer. For the eighth and seventh straight year respectively, we were recognized as one of Canada's Top 100 Employers, as well as a Top Employer for Young People. Our inclusive and diverse workplace is a major asset in helping us tap into the potential and strength of our team. Last year we were ranked second among Canadian companies and 57th globally in Equileap's 2019 Global Top 100 ranking and report for gender equality. We were also included in the Bloomberg Gender Equality Index for our strong commitment to fostering gender-balanced leadership.

Our team also made a positive impact on the communities where we live and work again in 2019. Thousands of CIBC team members took part in the Canadian Cancer Society CIBC Run for the Cure, to help create a future without breast cancer. We also made a difference through CIBC Miracle Day, and through our One for Change initiative, which allows team members to contribute to causes that matter to them in their community.

Growing our business in 2020 and beyond

Our purpose is the "north star" for our team as we focus on meeting the needs of our clients in a changing world. As one highly interconnected team, we will continue to help make our clients' ambitions a reality on both sides of the border, while making it easier to do business with us. We will further modernize our bank to reflect the way our clients feel about the CIBC of today – an energized, client-centric bank, focused on delivering enduring value for all of our stakeholders.

I'm proud of what we have accomplished so far and I'm excited for our future. On behalf of our executive team, thank you to each and every member of our team for your client focus; to our clients – thank you for allowing us to help make your ambition a reality; and to our shareholders – thank you for putting your trust in us, as we build a relationship-oriented bank for a modern world.

Victor G. Dodig
President and Chief Executive Officer

Creating sustainable value for our stakeholders

At CIBC, we recognize the important role we play in supporting and engaging our clients, shareholders, employees and communities in fostering long-term sustainability.

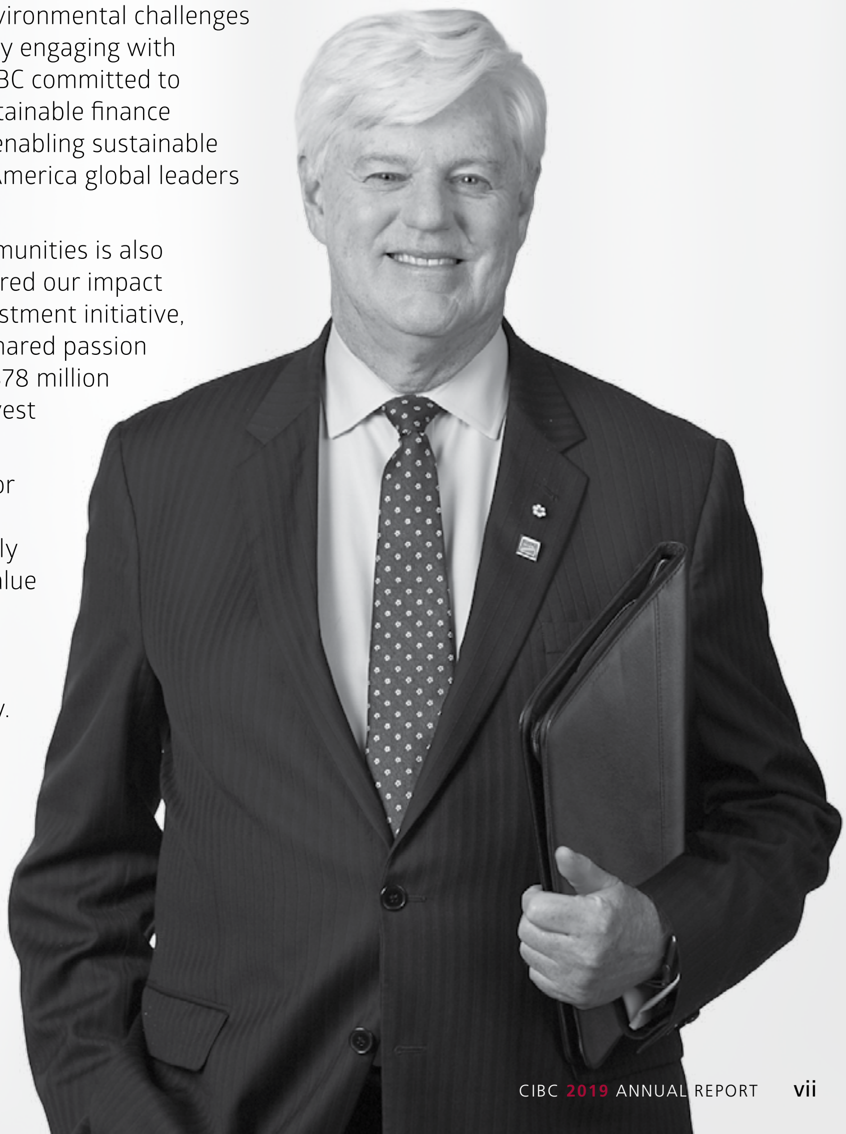
In 2019, your Board provided strategic oversight and advice to management as CIBC delivered solid business results and value for our stakeholders. We continue to invest in long-term growth as we build a relationship-oriented bank for a modern world.

At CIBC, we believe that having a strong and diverse base of talent at all levels is a key driver of our current and future progress. I am pleased to report that 47% of the directors on your Board are women, exceeding our target for gender diversity. In 2019, we announced several executive appointments that underscore our focus on talent and succession planning, drawing on the depth of the bank's leadership team and further strengthening our focus on clients. We also continued to focus on increasing diversity. Your Board and senior management team are working closely together on succession planning to advance our purpose-led organization and accelerate our growth.

Creating value also means helping address environmental challenges including climate change. Your Board is actively engaging with management on this critical task. This year, CIBC committed to support $150 billion in environmental and sustainable finance activities by 2027, underscoring our focus on enabling sustainable growth and helping make Canada and North America global leaders in environmental stewardship.

CIBC's commitment to strengthening our communities is also foundational to our focus. This year, we bolstered our impact through our successful global community investment initiative, One for Change, inspired by the CIBC team's shared passion for giving back. One for Change has invested $78 million in communities this year, and our goal is to invest $350 million by 2024.

In closing, I would like to thank your CEO, Victor Dodig, as well as your senior management team, for their leadership in 2019 in responsibly managing our business to deliver long-term value for our stakeholders. On behalf of your Board, I also thank every member of CIBC's team for their shared commitment to our purpose of helping make our clients' ambitions a reality.



The Honourable John P. Manley
Chair of the Board

The Enhanced Disclosure Task Force (EDTF), established by the Financial Stability Board, released its report "Enhancing the Risk Disclosures of Banks" in 2012, which included thirty-two disclosure recommendations. The index below provides the listing of these disclosures, along with their locations. EDTF disclosures are located in our management's discussion and analysis, consolidated financial statements, and supplementary packages, which may be found on our website (www.cibc.com). No information on CIBC's website, including the supplementary packages, should be considered incorporated herein by reference.

Topics	Recommendations	Disclosures	Management's discussion and analysis	Consolidated financial statements	Pillar 3 Report and Supplementary regulatory capital disclosure
			Page references		
General	1	Index of risk information – current page			
	2	Risk terminology and measures [1]			68–69
	3	Top and emerging risks	46		
	4	Key future regulatory ratio requirements	30, 32, 70, 72	162	9, 16
Risk governance, risk management and business model	5	Risk management structure	41, 42		
	6	Risk culture and appetite	40, 43, 44		
	7	Risks arising from business activities	45, 49		
	8	Bank-wide stress testing	35, 46, 53, 59, 65, 68, 75		
Capital adequacy and risk-weighted assets	9	Minimum capital requirements	28	162	
	10	Components of capital and reconciliation to the consolidated regulatory balance sheet	30		8–11
	11	Regulatory capital flow statement	32		12
	12	Capital management and planning	34	162	
	13	Business activities and risk-weighted assets	31, 49		4
	14	Risk-weighted assets and capital requirements	29, 31		4
	15	Credit risk by major portfolios	51–57		26–35
	16	Risk-weighted assets flow statement	31		4, 5
	17	Back-testing of models	45, 53, 64, 75		66, 67
Liquidity	18	Liquid assets	69		
Funding	19	Encumbered assets	69		
	20	Contractual maturity of assets, liabilities and off-balance sheet instruments	73		
	21	Funding strategy and sources	71		
Market risk	22	Reconciliation of trading and non-trading portfolios to the consolidated balance sheet	63		
	23	Significant trading and non-trading market risk factors	63–67		
	24	Model assumptions, limitations and validation procedures	63–67		
	25	Stress testing and scenario analysis	35, 65		
Credit risk	26	Analysis of credit risk exposures	54–61	136–142, 184	6–7, 62–65
	27	Impaired loan and forbearance policies	51, 59, 79	111, 112	
	28	Reconciliation of impaired loans and the allowance for credit losses	59	137	
	29	Counterparty credit risk arising from derivatives	51, 55	152–153	65, 36 [2]
	30	Credit risk mitigation	51, 56	152–153	19, 51, 65
Other risks	31	Other risks	74–77		
	32	Discussion of publicly known risk events	74	177	

(1) A detailed glossary of our risk and capital terminology is included on page 198.
(2) Included in supplementary financial information package.

Management's discussion and analysis

Management's discussion and analysis (MD&A) is provided to enable readers to assess CIBC's financial condition and results of operations as at and for the year ended October 31, 2019, compared with prior years. The MD&A should be read in conjunction with the audited consolidated financial statements. Unless otherwise indicated, all financial information in this MD&A has been prepared in accordance with International Financial Reporting Standards (IFRS or GAAP) and all amounts are expressed in Canadian dollars. Certain disclosures in the MD&A have been shaded as they form an integral part of the consolidated financial statements. The MD&A is current as of December 4, 2019. Additional information relating to CIBC, including the Annual Information Form, is available on SEDAR at www.sedar.com and on the U.S. Securities and Exchange Commission's (SEC) website at www.sec.gov. No information on CIBC's website (www.cibc.com) should be considered incorporated herein by reference. A glossary of terms used in the MD&A and the audited consolidated financial statements is provided on pages 196 to 201 of this Annual Report.

2 Overview
2 CIBC's strategy
2 Performance against objectives

4 Financial highlights

5 Economic and market environment
5 Year in review – 2019
5 Outlook for calendar year 2020

5 Significant events

6 Financial performance overview
6 2019 Financial results review
6 Net interest income and margin
7 Non-interest income
7 Trading activities (TEB)
8 Provision for credit losses
8 Non-interest expenses
9 Taxes
9 Foreign exchange
10 Fourth quarter review
10 Quarterly trend analysis
11 Review of 2018 financial performance

13 Non-GAAP measures

16 Strategic business units overview
17 Canadian Personal and Small Business Banking
19 Canadian Commercial Banking and Wealth Management
21 U.S. Commercial Banking and Wealth Management
23 Capital Markets
26 Corporate and Other

27 Financial condition
27 Review of condensed consolidated balance sheet
28 Capital management
38 Off-balance sheet arrangements

40 Management of risk

78 Accounting and control matters
78 Critical accounting policies and estimates
83 Accounting developments
84 Other regulatory developments
85 Related-party transactions
85 Policy on the Scope of Services of the Shareholders' Auditor
85 Controls and procedures

86 Supplementary annual financial information

A NOTE ABOUT FORWARD-LOOKING STATEMENTS: From time to time, we make written or oral forward-looking statements within the meaning of certain securities laws, including in this Annual Report, in other filings with Canadian securities regulators or the SEC and in other communications. All such statements are made pursuant to the "safe harbour" provisions of, and are intended to be forward-looking statements under applicable Canadian and U.S. securities legislation, including the U.S. Private Securities Litigation Reform Act of 1995. These statements include, but are not limited to, statements made in the "Message from the President and Chief Executive Officer", "Overview – Performance against objectives", "Economic and market environment – Outlook for calendar year 2020", "Significant events", "Financial performance overview – Taxes", "Strategic business units overview – Canadian Personal and Small Business Banking", "Strategic business units overview – Canadian Commercial Banking and Wealth Management", "Strategic business units overview – U.S. Commercial Banking and Wealth Management", "Strategic business units overview – Capital Markets", "Financial condition – Capital management", "Financial condition – Off-balance sheet arrangements", "Management of risk – Risk overview", "Management of risk – Top and emerging risks", "Management of risk – Credit risk", "Management of risk – Market risk", "Management of risk – Liquidity risk", "Accounting and control matters – Critical accounting policies and estimates", "Accounting and control matters – Accounting developments", "Accounting and control matters – Other regulatory developments" and "Accounting and control matters – Controls and procedures" sections of this report and other statements about our operations, business lines, financial condition, risk management, priorities, targets, ongoing objectives, strategies, the regulatory environment in which we operate and outlook for calendar year 2020 and subsequent periods. Forward-looking statements are typically identified by the words "believe", "expect", "anticipate", "intend", "estimate", "forecast", "target", "objective" and other similar expressions or future or conditional verbs such as "will", "should", "would" and "could". By their nature, these statements require us to make assumptions, including the economic assumptions set out in the "Economic and market environment – Outlook for calendar year 2020" section of this report, and are subject to inherent risks and uncertainties that may be general or specific. A variety of factors, many of which are beyond our control, affect our operations, performance and results, and could cause actual results to differ materially from the expectations expressed in any of our forward-looking statements. These factors include: credit, market, liquidity, strategic, insurance, operational, reputation, conduct and legal, regulatory and environmental risk; the effectiveness and adequacy of our risk management and valuation models and processes; legislative or regulatory developments in the jurisdictions where we operate, including the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations issued and to be issued thereunder, the Organisation for Economic Co-operation and Development Common Reporting Standard, and regulatory reforms in the United Kingdom and Europe, the Basel Committee on Banking Supervision's global standards for capital and liquidity reform, and those relating to bank recapitalization legislation and the payments system in Canada; amendments to, and interpretations of, risk-based capital guidelines and reporting instructions, and interest rate and liquidity regulatory guidance; the resolution of legal and regulatory proceedings and related matters; the effect of changes to accounting standards, rules and interpretations; changes in our estimates of reserves and allowances; changes in tax laws; changes to our credit ratings; political conditions and developments, including changes relating to economic or trade matters; the possible effect on our business of international conflicts and terrorism; natural disasters, public health emergencies, disruptions to public infrastructure and other catastrophic events; reliance on third parties to provide components of our business infrastructure; potential disruptions to our information technology systems and services; increasing cyber security risks which may include theft or disclosure of assets, unauthorized access to sensitive information, or operational disruption; social media risk; losses incurred as a result of internal or external fraud; anti-money laundering; the accuracy and completeness of information provided to us concerning clients and counterparties; the failure of third parties to comply with their obligations to us and our affiliates or associates; intensifying competition from established competitors and new entrants in the financial services industry including through internet and mobile banking; technological change; global capital market activity; changes in monetary and economic policy; currency value and interest rate fluctuations, including as a result of market and oil price volatility; general business and economic conditions worldwide, as well as in Canada, the U.S. and other countries where we have operations, including increasing Canadian household debt levels and global credit risks; our success in developing and introducing new products and services, expanding existing distribution channels, developing new distribution channels and realizing increased revenue from these channels; changes in client spending and saving habits; our ability to attract and retain key employees and executives; our ability to successfully execute our strategies and complete and integrate acquisitions and joint ventures; the risk that expected synergies and benefits of an acquisition will not be realized within the expected time frame or at all; and our ability to anticipate and manage the risks associated with these factors. This list is not exhaustive of the factors that may affect any of our forward-looking statements. These and other factors should be considered carefully and readers should not place undue reliance on our forward-looking statements. Any forward-looking statements contained in this report represent the views of management only as of the date hereof and are presented for the purpose of assisting our shareholders and financial analysts in understanding our financial position, objectives and priorities and anticipated financial performance as at and for the periods ended on the dates presented, and may not be appropriate for other purposes. We do not undertake to update any forward-looking statement that is contained in this report or in other communications except as required by law.

Overview

CIBC is a leading North American financial institution with a market capitalization of $50 billion and a Basel III Common Equity Tier 1 (CET1) ratio of 11.6% as at October 31, 2019. Through our four strategic business units (SBUs) – Canadian Personal and Small Business Banking, Canadian Commercial Banking and Wealth Management, U.S. Commercial Banking and Wealth Management, and Capital Markets – CIBC provides a full range of financial products and services to 10 million personal banking, business, public sector and institutional clients in Canada, the U.S. and around the world. We have approximately 45,000 employees dedicated to providing our clients with banking for a modern world, delivering consistent and sustainable earnings growth for our shareholders, and giving back to our communities.

CIBC's strategy

We are building a relationship-oriented bank for a modern world. To achieve our strategic objectives of delivering superior client experience and shareholder returns, we are focused on four key areas:

- Delivering a modern relationship-banking value proposition to our clients;
- Diversifying our earnings growth;
- Optimizing our operational efficiency; and
- Maintaining capital and balance sheet discipline.

Performance against objectives

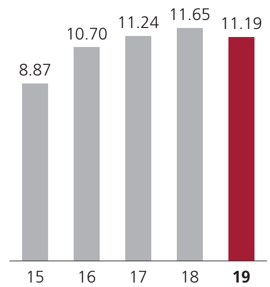
For many years, CIBC has reported a scorecard of financial measures that we use to evaluate and report on our progress to external stakeholders. These measures can be categorized into five key areas – earnings growth, efficiency ratio, return on common shareholders' equity (ROE), shareholder value and balance sheet strength. We have set targets for each of these measures over the medium term, which we define as three to five years.

Earnings growth[1]

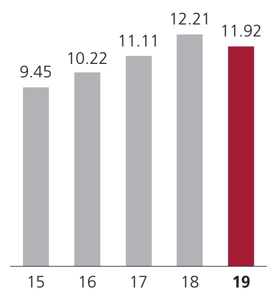
To assess our earnings growth, we monitor our earnings per share (EPS). Our target is average annual EPS growth of 5% to 10%. In 2019, against a backdrop of a challenging market environment, reported and adjusted[1] diluted EPS declined by 4% and 2%, respectively.

Going forward, we are maintaining our target to deliver average annual EPS growth of 5% to 10% through the cycle.

Reported diluted EPS
($)



Adjusted diluted EPS[1]
($)

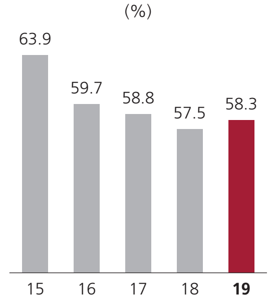


Efficiency ratio[1]

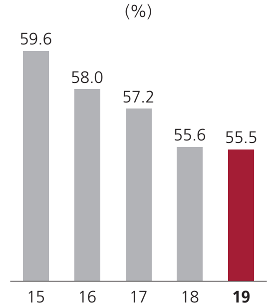
To assess how well we use our resources to generate net income, we measure and monitor our efficiency ratio, defined as the ratio of non-interest expenses to total revenue. In 2019, CIBC's reported and adjusted[1] efficiency ratios were 58.3% and 55.5%, respectively, compared with 57.5% and 55.6% in 2018.

CIBC has set a medium-term target of achieving a run rate efficiency ratio of 52% by 2022.

Reported efficiency ratio
(%)



Adjusted efficiency ratio[1]
(%)

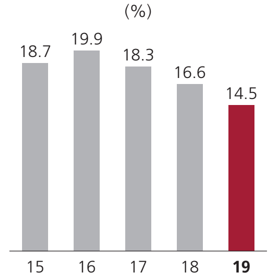


Return on common shareholders' equity[1]

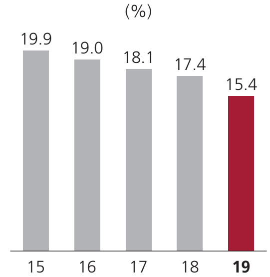
ROE is another key measure of shareholder value. In 2019, CIBC's reported and adjusted[1] ROE were at 14.5% and 15.4%, respectively.

Going forward, we will continue to target a strong ROE of at least 15% through the cycle.

Reported return on common shareholders' equity
(%)



Adjusted return on common shareholders' equity[1]
(%)



(1) For additional information, see the "Non-GAAP measures" section.

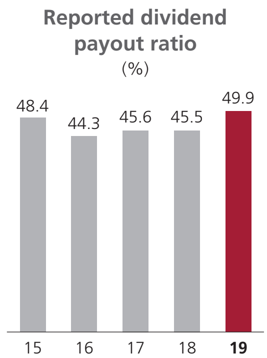
Shareholder value

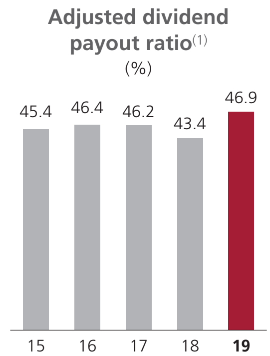
We have two shareholder value targets:

1. Dividend payout ratio

For many years, we have consistently delivered adjusted dividend payout ratios in the range of 40% to 50% of earnings to common shareholders. Our key criteria for considering dividend increases are our current level of payout relative to our target and our view on the sustainability of our current earnings level through the cycle. In 2019, our reported and adjusted[(1)] dividend payout ratios were 49.9% and 46.9%, respectively.

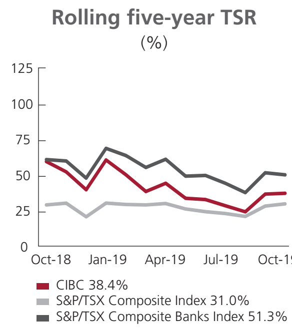
Going forward, we will continue to target a dividend payout ratio of 40% to 50%.





2. Total shareholder return (TSR)

TSR is the ultimate measure of shareholder value, and the output of delivering against the financial targets within our control. We have an objective to deliver a TSR that exceeds the industry average, which we have defined as the Standard & Poor's (S&P)/Toronto Stock Exchange (TSX) Composite Banks Index, over a rolling five-year period. For the five years ended October 31, 2019, our TSR was 38.4%, which was below the Banks Index return over the same period of 51.3%.

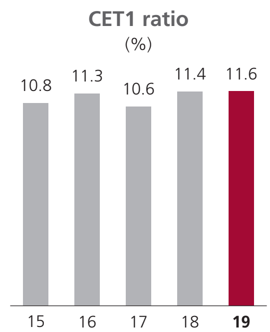


Balance sheet strength

Maintaining a strong balance sheet is foundational to our long-term success. Our goal is to maintain strong capital ratios that comfortably exceed regulatory targets.

We look to constantly balance our objectives of holding a prudent amount of excess capital for unexpected events and environmental uncertainties, investing in our core businesses, growing through acquisitions and returning capital to our shareholders. At the end of 2019, our Basel III CET1 ratio was 11.6%, well above the current regulatory target set by the Office of the Superintendent of Financial Institutions (OSFI).

In addition to our capital objectives, we remain focused on asset quality and a strong funding profile as key underpinnings of a strong and stable balance sheet.



Client experience

We continue to have a strong and ongoing focus on client experience. Aligned to our journey as a purpose-led bank, we have enhanced our internal client experience index in 2019 to improve the transparency and accuracy of our client experience measurement program. The index has been renamed the CIBC Client Experience Net Promoter Score Index (CIBC CXNPS) and reflects the balanced weighting of nine internal net promoter scores from across all of our SBUs. As at October 31, 2019, the CIBC CXNPS score was 60.9. Our goal is to achieve continuous improvement year over year.

(1) For additional information, see the "Non-GAAP measures" section.

Financial highlights

As at or for the year ended October 31		2019	2018	2017	2016	2015
Financial results ($ millions)						
Net interest income		**$ 10,551**	$ 10,065	$ 8,977	$ 8,366	$ 7,915
Non-interest income		**8,060**	7,769	7,303	6,669	5,941
Total revenue		**18,611**	17,834	16,280	15,035	13,856
Provision for credit losses		**1,286**	870	829	1,051	771
Non-interest expenses		**10,856**	10,258	9,571	8,971	8,861
Income before income taxes		**6,469**	6,706	5,880	5,013	4,224
Income taxes		**1,348**	1,422	1,162	718	634
Net income		**$ 5,121**	$ 5,284	$ 4,718	$ 4,295	$ 3,590
Net income attributable to non-controlling interests		**25**	17	19	20	14
Preferred shareholders		**111**	89	52	38	45
Common shareholders		**4,985**	5,178	4,647	4,237	3,531
Net income attributable to equity shareholders		**$ 5,096**	$ 5,267	$ 4,699	$ 4,275	$ 3,576
Financial measures						
Reported efficiency ratio		**58.3 %**	57.5 %	58.8 %	59.7 %	63.9 %
Adjusted efficiency ratio (1)		**55.5 %**	55.6 %	57.2 %	58.0 %	59.6 %
Loan loss ratio (2)		**0.29 %**	0.26 %	0.25 %	0.31 %	0.27 %
Reported return on common shareholders' equity		**14.5 %**	16.6 %	18.3 %	19.9 %	18.7 %
Adjusted return on common shareholders' equity (1)		**15.4 %**	17.4 %	18.1 %	19.0 %	19.9 %
Net interest margin		**1.65 %**	1.68 %	1.66 %	1.64 %	1.74 %
Net interest margin on average interest-earning assets		**1.84 %**	1.88 %	1.85 %	1.88 %	2.00 %
Return on average assets		**0.80 %**	0.88 %	0.87 %	0.84 %	0.79 %
Return on average interest-earning assets		**0.89 %**	0.99 %	0.97 %	0.96 %	0.91 %
Total shareholder return		**4.19 %**	4.70 %	18.30 %	5.19 %	1.96 %
Reported effective tax rate		**20.8 %**	21.2 %	19.8 %	14.3 %	15.0 %
Adjusted effective tax rate (1)		**20.6 %**	20.0 %	20.3 %	16.6 %	15.5 %
Common share information						
Per share ($)	– basic earnings	**$ 11.22**	$ 11.69	$ 11.26	$ 10.72	$ 8.89
	– reported diluted earnings	**11.19**	11.65	11.24	10.70	8.87
	– adjusted diluted earnings (1)	**11.92**	12.21	11.11	10.22	9.45
	– dividends	**5.60**	5.32	5.08	4.75	4.30
	– book value	**79.87**	73.83	66.55	56.59	51.25
Share price ($)	– high	**116.19**	124.59	119.86	104.46	107.16
	– low	**98.20**	110.11	97.76	83.33	86.00
	– closing	**112.31**	113.68	113.56	100.50	100.28
Shares outstanding (thousands)	– weighted-average basic (3)	**444,324**	443,082	412,636 (4)	395,389	397,213
	– weighted-average diluted	**445,457**	444,627	413,563 (4)	395,919	397,832
	– end of period (3)	**445,342**	442,826	439,313 (4)	397,070	397,291
Market capitalization ($ millions)		**$ 50,016**	$ 50,341	$ 49,888	$ 39,906	$ 39,840
Value measures						
Dividend yield (based on closing share price)		**5.0 %**	4.7 %	4.5 %	4.7 %	4.3 %
Reported dividend payout ratio		**49.9 %**	45.5 %	45.6 %	44.3 %	48.4 %
Adjusted dividend payout ratio (1)		**46.9 %**	43.4 %	46.2 %	46.4 %	45.4 %
Market value to book value ratio		**1.41**	1.54	1.71	1.78	1.96
On- and off-balance sheet information ($ millions)						
Cash, deposits with banks and securities		**$ 138,669**	$ 119,355	$ 107,571	$ 101,588	$ 93,619
Loans and acceptances, net of allowance		**398,108**	381,661	365,558	319,781	290,981
Total assets		**651,604**	597,099	565,264	501,357	463,309
Deposits		**485,712**	461,015	439,706	395,647	366,657
Common shareholders' equity		**35,569**	32,693	29,238	22,472	20,360
Average assets		**639,716**	598,441	542,365	509,140	455,324
Average interest-earning assets		**572,677**	536,059	485,837	445,134	395,616
Average common shareholders' equity		**34,467**	31,184	25,393	21,275	18,857
Assets under administration (AUA) (5)(6)		**2,425,651**	2,303,962	2,192,947	2,041,887	1,846,142
Assets under management (AUM) (6)		**252,007**	225,379	221,571	183,715	170,465
Balance sheet quality (All-in basis) and liquidity measures						
Risk-weighted assets (RWA) ($ millions) (7)						
Total RWA		**$ 239,863**	n/a	n/a	n/a	n/a
CET1 capital RWA		**n/a**	$ 216,144	$ 203,321	$ 168,996	$ 156,107
Tier 1 capital RWA		**n/a**	216,303	203,321	169,322	156,401
Total capital RWA		**n/a**	216,462	203,321	169,601	156,652
Capital ratios						
CET1 ratio		**11.6 %**	11.4 %	10.6 %	11.3 %	10.8 %
Tier 1 capital ratio		**12.9 %**	12.9 %	12.1 %	12.8 %	12.5 %
Total capital ratio		**15.0 %**	14.9 %	13.8 %	14.8 %	15.0 %
Leverage ratio		**4.3 %**	4.3 %	4.0 %	4.0 %	3.9 %
Liquidity coverage ratio (LCR) (8)		**125 %**	128 %	120 %	124 %	119 %
Other information						
Full-time equivalent employees		**45,157**	44,220	44,928	43,213	44,201

(1) For additional information, see the "Non-GAAP measures" section.
(2) The ratio is calculated as the provision for credit losses on impaired loans to average loans and acceptances, net of allowance for credit losses. In 2019, following our adoption of IFRS 9 on November 1, 2017, provision for credit losses on impaired loans (stage 3) is calculated in accordance with IFRS 9. 2017 and prior amounts were calculated in accordance with IAS 39.
(3) Excludes nil restricted shares as at October 31, 2019 (2018: 60,764).
(4) Excludes 2,010,890 common shares which were issued and outstanding, but which had not been acquired by a third party as at October 31, 2017. These shares were issued as a component of our acquisition of The PrivateBank.
(5) Includes the full contract amount of AUA or custody under a 50/50 joint venture between CIBC and The Bank of New York Mellon of $1,923.2 billion as at October 31, 2019 (2018: $1,834.0 billion).
(6) AUM amounts are included in the amounts reported under AUA.
(7) Beginning in 2019, the capital ratios are calculated by reference to the same level of RWA. Prior to 2019, before any capital floor requirement, there were three different levels of RWA for the calculation of CIBC's CET1, Tier 1 and Total capital ratios as CIBC elected in 2014 to phase in the credit valuation adjustment (CVA) capital charge as permitted under the OSFI guideline; different scalars were applied to the CVA included in the RWA calculation applicable to each of the three tiers of capital. RWA as at October 31, 2017 include a capital floor adjustment.
(8) Average for the three months ended October 31 for each respective year.
n/a Not applicable.

Economic and market environment

Year in review – 2019

CIBC operated in an environment of decelerating economic growth in both the U.S. and Canada in 2019. Canada experienced low unemployment rates that supported household credit quality, but credit performance has normalized from very strong levels in the prior year. Both consumer and mortgage credit growth grew at a much slower pace than earlier in this expansion but showed a modest acceleration in the latter half of the year as mortgage rates eased and housing activity rebounded. Corporate credit quality remained generally healthy despite a slowing in profit growth, but was impacted by softer conditions in some regions and sectors. A drop in business capital spending drove slower growth in financing activity that manifested in the form of softer growth in bonds and equity issuance while business loan growth remained healthy. The U.S. economy showed a moderation in growth, as earlier fiscal stimulus impacts faded and trade uncertainties grew. Conversely, labour markets remained very healthy, with the consumer side of the economy helped by income gains and interest rate cuts in the second half of the year. Loan growth remained steady, while equities recovered ground and interest rate relief offset sluggish earnings.

Outlook for calendar year 2020

A slowing global backdrop is expected to result in a further slight moderation in Canadian real gross domestic product (GDP) growth to just under 1.5%. Risks on the trade front and soft capital spending could see the Bank of Canada ease interest rates by 25 basis points from what are already low levels, potentially prompting a softening in the Canadian dollar over the course of 2020. While the unemployment rate is likely to edge above 6% in 2020, it is still expected to remain at historically low levels. Housing construction should be fairly steady, supported by lower mortgage rates, while only modest growth is expected in business capital spending until global uncertainties dissipate. Global crude oil prices look to be rangebound and, while Canadian production should gradually recover from earlier constraints, a lift to capital spending in the energy sector is likely contingent on further progress on pipeline capacity.

The U.S. economy is expected to decelerate to approximately 1.7% real GDP growth in 2020 as trade and global growth uncertainties are expected to hold back business capital spending and hiring. Despite this, labour markets are still anticipated to remain tight by historical standards. The U.S. Federal Reserve is expected to hold rates through 2020.

Escalating trade tensions between China and both the U.S. and Canada, and the threat of recession in Europe, pose downside risks to our U.S. and Canadian outlooks, but ones that may be offset by greater interest rate reductions than those currently projected.

Canadian Personal and Small Business Banking is expected to see a continuation of low growth in consumer and mortgage lending, with demand constrained by modest growth in housing prices and the regulatory tightening introduced in 2018.

Low interest rates and moderate growth in corporate earnings should support activity in Capital Markets and Canadian Commercial Banking and Wealth Management. Government bond issuance will likely increase to finance larger federal deficits, an impact that could be offset by reduced deficits in some provinces. Credit quality should remain healthy with low unemployment and moderate profit growth. Wealth management should benefit from ongoing growth in the pool of savings, but modest economic growth could constrain the extent to which AUM benefit from equity price gains.

In U.S. Commercial Banking and Wealth Management, commercial banking faces slower growth in the manufacturing-weighted Midwest, but would benefit from any improvement in trade uncertainties that are currently holding back capital spending plans, while lower interest rates should support growth in commercial lending activity. Wealth management has benefited from a greater pool of after-tax savings, although a soft path for further equity price gains is expected to contain growth in AUM.

Significant events

Sale of FirstCaribbean International Bank Limited

On November 8, 2019, we announced that we had entered into a definitive agreement to sell our controlling interest in FirstCaribbean International Bank Limited (CIBC FirstCaribbean) to GNB Financial Group Limited (GNB). Under the terms of the agreement, GNB will acquire 66.73% of CIBC FirstCaribbean's outstanding shares from CIBC for total consideration of approximately US$797 million, subject to closing adjustments to reflect certain changes in CIBC FirstCaribbean's book value prior to closing. The total consideration is comprised of approximately US$200 million in cash and secured financing provided by CIBC for the remainder. CIBC will also provide secured financing to facilitate the purchase of any shares tendered by the minority shareholders of CIBC FirstCaribbean under the take-over bid required by local securities laws. We expect to retain a minority interest in CIBC FirstCaribbean of approximately 24.9% after closing. This transaction is subject to regulatory approvals and is expected to close in 2020.

Due to the valuation implied from the expected sale of our controlling interest in CIBC FirstCaribbean, we recognized a goodwill impairment charge of $135 million in the fourth quarter of 2019, shown as an item of note. For additional information, see Note 3 and Note 8 to our consolidated financial statements.

Acquisition of Cleary Gull

On September 9, 2019, we completed the acquisition of substantially all of the assets and operations of Cleary Gull Inc. (Cleary Gull), a Milwaukee-based boutique investment banking firm specializing in middle-market mergers and acquisitions, private capital placement and debt advisory across the U.S. Goodwill and intangible assets of $16 million were recognized as a result of the acquisition. The results of the acquired business have been consolidated from the date of close and are included in our Capital Markets SBU.

Acquisition of Lowenhaupt Global Advisors

On September 1, 2019, we completed the acquisition of substantially all of the assets and operations of Lowenhaupt Global Advisors, LLC (LGA), a wealth advisory firm in St. Louis and New York that provides independent advice on family wealth transfer, taxation, investment portfolio allocation and business structuring. Goodwill and intangible assets of $14 million were recognized as a result of the acquisition. The results of the acquired business have been consolidated from the date of close and are included in our U.S. Commercial Banking and Wealth Management SBU.

Finalization of arrangement with Air Canada

Following the close of Air Canada's acquisition of the Aeroplan loyalty business from Aimia Inc. on January 10, 2019, we will be offering credit cards under Air Canada's new loyalty program, which is expected to launch in 2020. This program will allow CIBC's Aeroplan cardholders to transfer their Aeroplan Miles to Air Canada's new loyalty program.

To secure our participation in Air Canada's new loyalty program for a period of 10 years, we paid Air Canada $200 million plus applicable sales tax, which we recognized as an expense in the first quarter of 2019. We have shown this payment, together with related transaction costs, as an item of note related to the first quarter of 2019. In addition, we made a payment of $92 million plus applicable sales tax in the first quarter of 2019 as a prepayment to be applied towards future monthly payments in respect of Aeroplan Miles over a 10-year period.

Financial performance overview

This section provides a review of our consolidated financial results for 2019. A review of our SBU results follows on pages 16 to 25. Refer to page 11 for a review of our financial performance for 2018.

2019 Financial results review

Reported net income for the year was $5,121 million, compared with $5,284 million in 2018.

Adjusted net income[1] for the year was $5,444 million, compared with $5,541 million in 2018.

Reported diluted EPS for the year was $11.19, compared with $11.65 in 2018.

Adjusted diluted EPS[1] for the year was $11.92, compared with $12.21 in 2018.

2019

Net income was affected by the following items of note:

- $227 million ($167 million after-tax) charge for a payment made to Air Canada, including related sales tax and transaction costs, to secure our participation in the new loyalty program (Canadian Personal and Small Business Banking);
- $135 million ($135 million after-tax) goodwill impairment charge related to the expected sale of our controlling interest in CIBC FirstCaribbean (Corporate and Other);
- $109 million ($82 million after-tax) amortization of acquisition-related intangible assets ($7 million after-tax in Canadian Personal and Small Business Banking, $1 million after-tax in Canadian Commercial Banking and Wealth Management, $65 million after-tax in U.S. Commercial Banking and Wealth Management, and $9 million after-tax in Corporate and Other);
- $67 million ($49 million after-tax) of interest income related to the settlement of certain income tax matters (Corporate and Other);
- $45 million ($33 million after-tax net positive impact) in purchase accounting adjustments net of transaction and integration-related costs[2] associated with the acquisitions of The PrivateBank, Geneva Advisors and Wellington Financial (income of $25 million after-tax in U.S. Commercial Banking and Wealth Management, and $8 million after-tax in Corporate and Other); and
- $28 million ($21 million after-tax) increase in legal provisions (Corporate and Other).

The above items of note increased revenue by $101 million and non-interest expenses by $488 million, and decreased income taxes by $64 million. In aggregate, these items of note decreased net income by $323 million.

2018

Net income was affected by the following items of note:

- $115 million ($85 million after-tax) amortization of acquisition-related intangible assets ($9 million after-tax in Canadian Personal and Small Business Banking, $1 million after-tax in Canadian Commercial Banking and Wealth Management, $65 million after-tax in U.S. Commercial Banking and Wealth Management, and $10 million after-tax in Corporate and Other);
- $89 million ($65 million after-tax and minority interest) of incremental losses on debt securities and loans in CIBC FirstCaribbean recognized in the fourth quarter resulting from the Barbados government debt restructuring (Corporate and Other);
- $88 million charge from net tax adjustments resulting from the U.S. tax reforms enacted in the first quarter of 2018 (Corporate and Other); and
- $16 million ($14 million after-tax) in transaction and integration-related costs net of purchase accounting adjustments[2] associated with the acquisitions of The PrivateBank and Geneva Advisors (income of $38 million after-tax in U.S. Commercial Banking and Wealth Management, and charge of $52 million after-tax in Corporate and Other).

The above items of note increased revenue by $2 million, provision for credit losses by $28 million, non-interest expenses by $194 million, and income taxes by $37 million. In aggregate, these items of note decreased net income by $257 million and net income attributable to common shareholders by $252 million.

(1) For additional information, see the "Non-GAAP measures" section.
(2) Transaction costs include interest adjustments relating to the obligation payable to dissenting shareholders. Integration costs are comprised of direct and incremental costs incurred as part of the integration of the businesses of The PrivateBank (subsequently rebranded as CIBC Bank USA) and Geneva Advisors with CIBC, including enabling cross-sell opportunities and expansion of services in the U.S. market, the upgrade and conversion of systems and processes, project management, integration-related travel, severance, consulting fees and marketing costs related to rebranding activities. Purchase accounting adjustments, included as items of note beginning in the fourth quarter of 2017, include the accretion of the acquisition date fair value discount on the acquired loans of The PrivateBank and changes in the fair value of contingent consideration relating to the Geneva Advisors and Wellington Financial acquisitions.

Net interest income and margin

$ millions, for the year ended October 31	**2019**	2018	2017
Average interest-earning assets	**$ 572,677**	$ 536,059	$ 485,837
Net interest income	**10,551**	10,065	8,977
Net interest margin on average interest-earning assets	**1.84 %**	1.88 %	1.85 %

Net interest income was up $486 million or 5% from 2018, primarily due to volume growth across our businesses, wider spreads in Canadian Personal and Small Business Banking, and the impact of foreign exchange translation, partially offset by lower trading income and narrower spreads in U.S. Commercial Banking and Wealth Management. The current year also included interest income related to the settlement of certain income tax matters, shown as an item of note.

Net interest margin on average interest-earning assets was down four basis points, primarily due to a shift in the mix of average interest-earning assets, partially offset by higher margins in Canadian Personal and Small Business Banking.

Additional information on net interest income and margin is provided in the "Supplementary annual financial information" section.

Non-interest income

$ millions, for the year ended October 31	2019	2018	2017
Underwriting and advisory fees	**$ 475**	$ 420	$ 452
Deposit and payment fees	**908**	877	843
Credit fees	**958**	851	744
Card fees	**458**	510	463
Investment management and custodial fees (1)(2)	**1,305**	1,247	1,034
Mutual fund fees (2)	**1,595**	1,624	1,573
Insurance fees, net of claims	**430**	431	427
Commissions on securities transactions	**313**	357	349
Gains (losses) from financial instruments measured/designated at fair value through profit or loss (FVTPL), net (2017: Trading income (loss) and designated at fair value (FVO) gains (losses), net) (3)	**761**	603	227
Gains (losses) from debt securities measured at fair value through other comprehensive income (FVOCI) and amortized cost, net (2017: Available-for-sale (AFS) securities gains, net)	**34**	(35)	143
Foreign exchange other than trading	**304**	310	252
Income from equity-accounted associates and joint ventures (1)	**92**	121	101
Other	**427**	453	695
	$ 8,060	$ 7,769	$ 7,303

(1) Custodial fees directly recognized by CIBC are included in Investment management and custodial fees. Our proportionate share of CIBC Mellon's custodial fees are included within Income from equity-accounted associates and joint ventures.
(2) Investment management fees and mutual fund fees are driven by various factors, including the amount of AUM. Investment management fees in our asset management and private wealth management businesses are generally driven by the amount of AUM, while investment management fees in our retail brokerage business are driven by a combination of the amount of AUA and, to a lesser extent, other factors unrelated to the amount of AUA (e.g. flat fees on a per account basis).
(3) Includes $54 million of loss (2018: $46 million of income; 2017: $1 million of income) relating to non-trading financial instruments measured/designated at FVTPL.

Non-interest income was up $291 million or 4% from 2018.

Underwriting and advisory fees were up $55 million or 13%, primarily due to higher advisory activity, debt issuance and loan syndication revenue, partially offset by lower equity issuance revenue.

Deposit and payment fees were up $31 million or 4%, primarily driven by lower acquisition costs and higher fees in Canadian Personal and Small Business Banking.

Credit fees were up $107 million or 13%, primarily due to growth in commercial loans.

Card fees were down $52 million or 10%, primarily due to presentation changes relating to our adoption of IFRS 15 "Revenue from Contracts with Customers" (IFRS 15) on November 1, 2018 (see Note 1 for additional details), offset in Non-interest expenses – Other (see "Non-interest expenses" section below).

Investment management and custodial fees were up $58 million or 5%, primarily due to AUM growth in our wealth management businesses.

Commissions on securities transactions were down $44 million or 12%, primarily due to lower trading volume in our retail brokerage business.

Gains (losses) from financial instruments measured/designated at FVTPL, net were up $158 million or 26%, primarily due to higher trading income, partially offset by lower treasury revenue. See the "Trading activities (TEB)" section which follows for further details.

Gains (losses) from debt securities measured at FVOCI and amortized cost, net were up $69 million, as the prior year included losses on debt securities measured at FVOCI as a result of the Barbados government debt restructuring, of which $61 million was shown as an item of note in the fourth quarter of 2018.

Trading activities (TEB)

$ millions, for the year ended October 31	2019	2018	2017
Trading income consists of:			
Net interest income (1)	**$ 633**	$ 856	$ 1,143
Non-interest income	**815**	557	226
	$ 1,448	$ 1,413	$ 1,369
Trading income by product line:			
Interest rates	**$ 300**	$ 246	$ 276
Foreign exchange	**585**	573	524
Equities	**386**	452	401
Commodities	**117**	94	111
Other	**60**	48	57
	$ 1,448	$ 1,413	$ 1,369

(1) Includes taxable equivalent basis (TEB) adjustment of $177 million (2018: $278 million; 2017: $298 million) reported within Capital Markets. See "Strategic business units overview" section for further details.

Net interest income comprises interest and dividends relating to financial assets and liabilities associated with trading activities, net of interest expense and interest income associated with funding these assets and liabilities. Non-interest income includes realized and unrealized gains and losses on securities mandatorily measured at FVTPL and income relating to changes in fair value of derivative financial instruments. Trading activities and related risk management strategies can periodically shift income between net interest income and non-interest income. Therefore, we view total trading revenue as the most appropriate measure of trading performance.

Trading income was up $35 million or 2% from 2018, primarily due to higher interest rate, commodities and foreign exchange trading income, partially offset by lower equity trading income.

Provision for credit losses[1]

$ millions, for the year ended October 31	**2019**	2018	2017
	In accordance with IFRS 9	In accordance with IFRS 9	In accordance with IAS 39
Provision for (reversal of) credit losses – impaired			
Canadian Personal and Small Business Banking	**$ 809**	$ 760	$ 760
Canadian Commercial Banking and Wealth Management	**159**	15	16
U.S. Commercial Banking and Wealth Management	**68**	67	37
Capital Markets	**90**	8	(4)
Corporate and Other	**21**	102	20
	1,147	952	829
Provision for (reversal of) credit losses – performing			
Canadian Personal and Small Business Banking	**87**	(19)	6
Canadian Commercial Banking and Wealth Management	**4**	(10)	n/a
U.S. Commercial Banking and Wealth Management	**5**	12	47
Capital Markets	**63**	(38)	n/a
Corporate and Other	**(20)**	(27)	(53)
	139	(82)	–
	$ 1,286	$ 870	$ 829

(1) As a result of our adoption of IFRS 9 effective November 1, 2017, we now recognize provision for credit losses on both impaired and performing loans in the SBUs. In prior periods, provision for credit losses on performing loans was recognized in Corporate and Other, with the exception of provision for credit losses related to CIBC Bank USA, which was recognized in U.S. Commercial Banking and Wealth Management, and provision for credit losses on: (i) performing residential mortgages greater than 90 days delinquent; and (ii) performing personal loans and scored small business loans greater than 30 days delinquent, which was recognized in Canadian Personal and Small Business Banking. Provision for credit losses related to CIBC FirstCaribbean continues to be recognized in Corporate and Other.

n/a Not applicable.

Provision for credit losses was up $416 million or 48% from 2018. Provision for credit losses on performing loans was up $221 million, as the prior year included a reduction in allowance driven by an economic outlook that had improved since our adoption of IFRS 9 "Financial Instruments" (IFRS 9) on November 1, 2017, while the current year included an increase in allowance, reflective of the impact of certain unfavourable changes to our economic outlook, as well as unfavourable credit migration in certain portfolios. Provision for credit losses on impaired loans was up $195 million, due to higher provisions including one fraud-related impairment in Canadian Commercial Banking and Wealth Management, higher provisions in the utility and the oil and gas sectors within Capital Markets, higher provisions and write-offs in personal lending within Canadian Personal and Small Business Banking, partially offset by lower provisions in CIBC FirstCaribbean, included in Corporate and Other, as the prior year included losses on sovereign loans resulting from the Barbados government debt restructuring, of which $28 million was shown as an item of note in the fourth quarter of 2018.

For further details regarding provision for credit losses in our SBUs, refer to the "Strategic business units overview" section.

Non-interest expenses

$ millions, for the year ended October 31	**2019**	2018	2017
Employee compensation and benefits			
Salaries	**$ 3,081**	$ 2,934	$ 2,738
Performance-based compensation	**1,873**	1,966	1,745
Benefits	**772**	765	715
	5,726	5,665	5,198
Occupancy costs	**892**	875	822
Computer, software and office equipment	**1,874**	1,742	1,630
Communications	**303**	315	317
Advertising and business development	**359**	327	282
Professional fees	**226**	226	229
Business and capital taxes	**110**	103	96
Other	**1,366**	1,005	997
	$ 10,856	$ 10,258	$ 9,571

Non-interest expenses were up $598 million or 6% from 2018.

Employee compensation and benefits were up $61 million or 1%, primarily due to higher salaries, driven in part by the impact of foreign exchange translation, partially offset by lower performance-based compensation.

Computer, software and office equipment were up $132 million or 8%, primarily due to higher spending on strategic initiatives.

Other expenses were up $361 million or 36%, as the current year included a charge for a payment made to Air Canada, including related sales tax and transaction costs, to secure our participation in the new loyalty program, a goodwill impairment charge related to the expected sale of our controlling interest in CIBC FirstCaribbean, and an increase in legal provisions, all shown as items of note, partially offset by lower expenses due to presentation changes relating to our adoption of IFRS 15 (see the "Non-interest income" section above).

Taxes

$ millions, for the year ended October 31	2019	2018	2017
Income taxes	**$ 1,348**	$ 1,422	$ 1,162
Indirect taxes [1]			
Goods and Services Tax (GST), Harmonized Sales Tax (HST) and sales taxes	**418**	354	390
Payroll taxes	**271**	271	242
Capital taxes	**76**	68	61
Property and business taxes	**72**	77	72
Total indirect taxes	**837**	770	765
Total taxes	**$ 2,185**	$ 2,192	$ 1,927
Reported effective tax rate	**20.8 %**	21.2 %	19.8 %
Total taxes as a percentage of net income before deduction of total taxes	**29.9 %**	29.3 %	29.0 %

(1) Certain amounts are based on a paid or payable basis and do not factor in capitalization and subsequent amortization.

Income taxes include those imposed on CIBC as a Canadian legal entity, as well as on our domestic and foreign subsidiaries. Indirect taxes comprise GST, HST and sales, payroll, capital, property and business taxes. Indirect taxes are included in non-interest expenses.

Total income and indirect taxes were down $7 million from 2018.

Income tax expense was $1,348 million, down $74 million from 2018. This was primarily due to net tax adjustments resulting from the U.S. tax reforms enacted in the first quarter of 2018, shown as an item of note, as well as lower income in the current year, partially offset by lower tax-exempt income and the goodwill impairment charge related to the expected sale of our controlling interest in CIBC FirstCaribbean, which is not deductible for tax purposes. The current year also included a net tax recovery of $38 million resulting from the Enron settlement discussed below, largely offset by a $28 million revaluation of certain deferred tax assets due to tax rate changes enacted by the Barbados government in the first quarter of 2019.

Indirect taxes were up $67 million, primarily due to the sales taxes applicable to the payment that we made to Air Canada to secure our participation in its new loyalty program and higher spending on strategic initiatives.

On December 22, 2017, the President of the United States signed into law the Tax Cuts and Jobs Act (U.S. tax reforms), which reduced the U.S. federal corporate income tax rate to 21% effective January 1, 2018, resulting in a significant decrease in CIBC's U.S. deferred tax assets in the first quarter of 2018. The U.S. tax reforms introduced other important changes to U.S. corporate income tax laws including the creation of a new Base Erosion Anti-abuse Tax (BEAT) that subjects certain payments from a U.S. corporation to foreign related parties to additional taxes. In December 2018 and 2019, the Internal Revenue Service released proposed and final regulations to implement certain aspects of the U.S. tax reforms, including BEAT. CIBC continues to evaluate the impact of these regulations on our U.S. operations.

In prior years, the Canada Revenue Agency (CRA) issued reassessments disallowing the deduction of approximately $3 billion of the 2005 Enron settlement payments and related legal expenses (the "Enron expenses"). In January 2019, CIBC entered into a settlement agreement (the "Agreement") with the CRA that provides certainty with respect to the portion of the Enron expenses that are deductible in Canada. The impact of this Agreement resulted in the recognition of a net $38 million tax recovery in the first quarter of 2019. This recovery was determined after taking into account the portion of the Enron expenses that we expect to deduct in the United States, but which has not yet been agreed to by the Internal Revenue Service, and the taxable refund interest that we expect to collect from the CRA upon the reassessment of certain prior year tax returns in accordance with the Agreement. It is possible that adjustments may be required to the amount of the tax benefits recognized in the United States.

The 2015 Canadian federal budget which became law effective on November 1, 2015, contained new rules for "synthetic equity arrangements" which eliminated the tax deductibility of Canadian inter-corporate dividends for Canadian corporations in certain circumstances. A set of transition rules applied between November 1, 2015 and April 30, 2017. The new rules have resulted in a higher effective tax rate, as the tax deductibility of certain Canadian corporate dividends is diminished. On February 27, 2018, the 2018 Canadian federal budget was released which extended the denial of the deductibility of Canadian inter-corporate dividends for Canadian corporations to include dividends received on share buyback transactions.

In prior years, the CRA reassessed CIBC approximately $527 million of additional income tax by denying the tax deductibility of certain 2011 to 2013 Canadian corporate dividends on the basis that they were part of a "dividend rental arrangement". In March 2018, CIBC filed a Notice of Appeal with the Tax Court of Canada with respect to the 2011 taxation year. The matter is now in litigation. The circumstances of the dividends subject to the reassessments are similar to those prospectively addressed by the rules in the 2015 and 2018 Canadian federal budgets. In May 2019, the CRA reassessed CIBC in respect of the 2014 taxation year for approximately $273 million of additional income tax. It is possible that subsequent years may be reassessed for similar activities. CIBC is confident that its tax filing positions were appropriate and intends to defend itself vigorously. Accordingly, no amounts have been accrued in the consolidated financial statements.

Foreign exchange

The estimated impact of U.S. dollar translation on key lines of our consolidated statement of income, as a result of changes in average exchange rates, is as follows:

$ millions, for the year ended October 31	2019 vs. 2018	2018 vs. 2017	2017 vs. 2016
Estimated increase (decrease) in:			
Total revenue	**$ 124**	$ (55)	$ (36)
Provision for credit losses	**7**	(2)	(1)
Non-interest expenses	**66**	(30)	(20)
Income taxes	**5**	(3)	(1)
Net income	**46**	(20)	(14)
Impact on EPS:			
Basic	**$ 0.10**	$ (0.05)	$ (0.03)
Diluted	**0.10**	(0.05)	(0.03)
Average USD appreciation (depreciation) relative to CAD	**3.2 %**	(1.5) %	(1.3) %

Fourth quarter review

$ millions, except per share amounts, for the three months ended	Oct. 31 2019	Jul. 31 2019	Apr. 30 2019	Jan. 31 2019	Oct. 31 2018	Jul. 31 2018	Apr. 30 2018	Jan. 31 2018
Revenue								
Canadian Personal and Small Business Banking	$ 2,225	$ 2,239	$ 2,128	$ 2,166	$ 2,201	$ 2,176	$ 2,090	$ 2,138
Canadian Commercial Banking and Wealth Management	1,028	1,023	1,003	992	986	988	937	954
U.S. Commercial Banking and Wealth Management (1)	503	509	475	479	457	448	429	432
Capital Markets (1)	735	746	751	705	649	752	710	801
Corporate and Other (1)	281	215	185	223	159	183	210	134
Total revenue	$ 4,772	$ 4,732	$ 4,542	$ 4,565	$ 4,452	$ 4,547	$ 4,376	$ 4,459
Net interest income	$ 2,801	$ 2,694	$ 2,460	$ 2,596	$ 2,539	$ 2,577	$ 2,476	$ 2,473
Non-interest income	1,971	2,038	2,082	1,969	1,913	1,970	1,900	1,986
Total revenue	4,772	4,732	4,542	4,565	4,452	4,547	4,376	4,459
Provision for credit losses	402	291	255	338	264	241	212	153
Non-interest expenses	2,838	2,670	2,588	2,760	2,591	2,572	2,517	2,578
Income before income taxes	1,532	1,771	1,699	1,467	1,597	1,734	1,647	1,728
Income taxes	339	373	351	285	329	365	328	400
Net income	$ 1,193	$ 1,398	$ 1,348	$ 1,182	$ 1,268	$ 1,369	$ 1,319	$ 1,328
Net income attributable to:								
Non-controlling interests	$ 8	$ 6	$ 7	$ 4	$ 2	$ 4	$ 6	$ 5
Equity shareholders	1,185	1,392	1,341	1,178	1,266	1,365	1,313	1,323
EPS – basic	$ 2.59	$ 3.07	$ 2.96	$ 2.61	$ 2.81	$ 3.02	$ 2.90	$ 2.96
– diluted	2.58	3.06	2.95	2.60	2.80	3.01	2.89	2.95

(1) Capital Markets and U.S. Commercial Banking and Wealth Management revenue and income taxes are reported on a TEB with an equivalent offset in the revenue and income taxes of Corporate and Other.

Compared with Q4/18

Net income for the quarter was $1,193 million, down $75 million or 6% from the fourth quarter of 2018.

Net interest income was up $262 million or 10%, primarily due to volume growth, interest income related to the settlement of certain income tax matters, shown as an item of note, and higher trading income, partially offset by narrower spreads in U.S. Commercial Banking and Wealth Management.

Non-interest income was up $58 million or 3% as the fourth quarter of 2018 had losses on debt securities measured at FVOCI as a result of the Barbados government debt restructuring, of which $61 million was shown as an item of note. The current quarter also included higher credit fees, largely offset by lower treasury revenue and card fees.

Provision for credit losses was up $138 million or 52% from the same quarter last year. Provision for credit losses on performing loans was up $67 million, due to an unfavourable change to our economic outlook and unfavourable credit migration in certain portfolios. Provision for credit losses on impaired loans was up $71 million, due to a provision for one fraud-related impairment in Canadian Commercial Banking and Wealth Management, higher provisions in the oil and gas sector within Capital Markets, higher provisions and write-offs in personal lending within Canadian Personal and Small Business Banking, partially offset by lower provisions in CIBC FirstCaribbean, as the prior year included losses on sovereign loans resulting from the Barbados government debt restructuring, shown as an item of note.

Non-interest expenses were up $247 million or 10%, primarily due to the goodwill impairment charge related to the expected sale of our controlling interest in CIBC FirstCaribbean, shown as an item of note, higher spending on strategic initiatives, and an increase in legal provisions, shown as an item of note.

Income tax expense was up $10 million or 3%, despite lower income, primarily due to the goodwill impairment charge related to the expected sale of our controlling interest in CIBC FirstCaribbean, which is not deductible for tax purposes.

Compared with Q3/19

Net income for the quarter was down $205 million or 15% from the prior quarter.

Net interest income was up $107 million or 4%, primarily due to interest income related to the settlement of certain income tax matters, shown as an item of note, and volume growth.

Non-interest income was down $67 million or 3%, primarily due to lower treasury revenue, lower trading income, and lower underwriting and advisory and card fees.

Provision for credit losses was up $111 million or 38% from the prior quarter. Provision for credit losses on performing loans was up $53 million, due to an unfavourable change to our economic outlook and unfavourable credit migration in certain portfolios. Provision for credit losses on impaired loans was up $58 million, due to a provision for one fraud-related impairment in Canadian Commercial Banking and Wealth Management, higher provisions and write-offs in personal lending within Canadian Personal and Small Business Banking, partially offset by lower provisions within U.S. Commercial Banking and Wealth Management.

Non-interest expenses were up $168 million or 6%, primarily due to the goodwill impairment charge related to the expected sale of our controlling interest in CIBC FirstCaribbean and an increase in legal provisions, both shown as items of note.

Income tax expense was down $34 million or 9%, primarily due to lower income.

Quarterly trend analysis

Our quarterly results are modestly affected by seasonal factors. The second quarter has fewer days as compared with the other quarters, generally leading to lower earnings. The summer months (July – third quarter and August – fourth quarter) typically experience lower levels of market activity, which affects our brokerage, investment management, and Capital Markets activities.

Revenue

Canadian Personal and Small Business Banking revenue has benefited from volume growth and widening spreads over the period.

Canadian Commercial Banking and Wealth Management has benefited from strong volume growth in deposits and loans, and continued growth in AUA and AUM as a result of market appreciation over the period. Increases in interest rates throughout 2018 contributed to improved margins over the period.

U.S. Commercial Banking and Wealth Management has benefited from strong volume growth in both loans and deposits. Reductions in interest rates during the latter half of 2019 resulted in narrower margins as deposit re-pricing lagged the predominantly LIBOR-indexed loan portfolio. The third quarter of 2019 benefited from an elevated level of interest recoveries.

Capital Markets revenue is influenced, to a large extent, by market conditions and activity in the equity derivatives business, which includes tax-exempt income. The first quarter of 2018 included higher equity derivatives trading revenue, with the TEB component of revenue offset in Corporate and Other.

Corporate and Other includes interest income related to the settlement of certain income tax matters in the fourth quarter of 2019.

Provision for credit losses

Provision for credit losses is dependent upon the credit cycle in general, on the credit performance of the loan portfolios, and changes in economic outlook.

In Canadian Personal and Small Business Banking, the first quarter of 2018 included a reduction in allowance on performing loans, reflective of an economic outlook that improved in that quarter. The second and the fourth quarters of 2019 included an increase in allowance on performing loans, reflective of the impact of certain changes to our economic outlook, and model parameter updates.

In Canadian Commercial Banking and Wealth Management, all four quarters of 2019 included increased provisions for impaired loans in the Canadian commercial banking portfolio. The fourth quarter of 2019 also included one fraud-related impairment.

In U.S. Commercial Banking and Wealth Management, the third and fourth quarters of 2018 and the third quarter of 2019 included higher provisions on impaired loans in the U.S. commercial banking portfolio.

In Capital Markets, the first half of 2018 included reductions in allowance for performing loans, reflective of better portfolio credit quality and an improved outlook with respect to the oil and gas sector. The first quarter of 2019 included an increase in allowance on performing loans, reflective of the impact of increased uncertainty on our economic outlook, as well as higher provisions on impaired loans. The third quarter of 2019 included an increase in allowance on performing loans in the oil and gas sector to reflect expectations of potentially higher losses resulting from low natural gas prices, as well as higher provisions on impaired loans in the oil and gas sector. The fourth quarter of 2019 included an increase in allowance on performing loans to reflect an unfavourable change to our economic outlook, as well as unfavourable credit migration within the performing portfolio.

In Corporate and Other, the third and fourth quarters of 2018 included higher provisions on impaired loans in CIBC FirstCaribbean resulting from the Barbados government debt restructuring.

Non-interest expenses

Non-interest expenses have fluctuated over the period largely due to changes in employee-related compensation and benefits, spending on strategic initiatives, and movement in foreign exchange rates. The first quarter of 2019 included a charge for a payment made to Air Canada, including related sales tax and transaction costs, to secure our participation in its new loyalty program. The fourth quarter of 2019 included a goodwill impairment charge related to the expected sale of our controlling interest in CIBC FirstCaribbean and an increase in legal provisions in Corporate and Other, shown as an item of note.

Income taxes

Income taxes vary with changes in income subject to tax, and the jurisdictions in which the income is earned. Taxes can also be affected by the impact of significant items and the level of tax-exempt income. The first quarter of 2018 included net tax adjustments resulting from U.S. tax reforms. The favourable impact of the U.S. tax reforms on the effective tax rate in the U.S. has benefited the U.S. Commercial Banking and Wealth Management SBU beginning in the first quarter of 2018. The first quarter of 2019 included a net tax recovery resulting from the Enron settlement, largely offset by the revaluation of certain deferred tax assets due to tax rate changes enacted by the Barbados government in that quarter.

Review of 2018 financial performance

$ millions, for the year ended October 31		Canadian Personal and Small Business Banking	Canadian Commercial Banking and Wealth Management	U.S. Commercial Banking and Wealth Management (1)	Capital Markets (1)	Corporate and Other (1)	CIBC Total
2018	Net interest income	$ 6,167	$ 1,120	$ 1,236	$ 1,413	$ 129	$ 10,065
	Non-interest income	2,438	2,745	530	1,499	557	7,769
	Total revenue	8,605	3,865	1,766	2,912	686	17,834
	Provision for (reversal of) credit losses	741	5	79	(30)	75	870
	Non-interest expenses	4,395	2,068	1,023	1,492	1,280	10,258
	Income (loss) before income taxes	3,469	1,792	664	1,450	(669)	6,706
	Income taxes	922	485	99	381	(465)	1,422
	Net income (loss)	$ 2,547	$ 1,307	$ 565	$ 1,069	$ (204)	$ 5,284
	Net income (loss) attributable to:						
	Non-controlling interests	$ –	$ –	$ –	$ –	$ 17	$ 17
	Equity shareholders	2,547	1,307	565	1,069	(221)	5,267
2017	Net interest income	$ 5,752	$ 984	$ 545	$ 1,647	$ 49	$ 8,977
	Non-interest income	2,620	2,606	331	1,176	570	7,303
	Total revenue	8,372	3,590	876	2,823	619	16,280
	Provision for (reversal of) credit losses	766	16	84	(4)	(33)	829
	Non-interest expenses	4,348	2,021	534	1,373	1,295	9,571
	Income (loss) before income taxes	3,258	1,553	258	1,454	(643)	5,880
	Income taxes	838	415	55	364	(510)	1,162
	Net income (loss)	$ 2,420	$ 1,138	$ 203	$ 1,090	$ (133)	$ 4,718
	Net income (loss) attributable to:						
	Non-controlling interests	$ –	$ –	$ –	$ –	$ 19	$ 19
	Equity shareholders	2,420	1,138	203	1,090	(152)	4,699

(1) Capital Markets and U.S. Commercial Banking and Wealth Management revenue and income taxes are reported on a TEB with an equivalent offset in the revenue and income taxes of Corporate and Other.

The following discussion provides a comparison of our results of operations for the years ended October 31, 2018 and 2017.

Overview

Net income for 2018 was $5,284 million, compared with $4,718 million in 2017. The increase in net income of $566 million was due to higher revenue, partially offset by higher non-interest expenses.

Consolidated CIBC

Net interest income

Net interest income was up $1,088 million or 12% from 2017, primarily due to the inclusion of the results of CIBC Bank USA for the full year, volume growth and wider spreads in Canadian personal and commercial products, and higher treasury revenue. These factors were partially offset by lower trading income.

Non-interest income

Non-interest income was up $466 million or 6% from 2017. The results of CIBC Bank USA were included following the acquisition on June 23, 2017. The increase in non-interest income was primarily due to higher investment management and custodial fees, credit fees, and mutual fund fees, as well as higher revenue from trading activities, partially offset by lower revenue from other activities, as 2017 included a gain on the sale and lease back of certain retail properties, shown as an item of note.

Provision for credit losses

Provision for credit losses was up $41 million or 5% from 2017. Provision for credit losses on impaired loans was up $123 million, primarily due to higher provisions on impaired loans in CIBC FirstCaribbean and the U.S. commercial banking portfolio. The higher provisions on impaired loans in CIBC FirstCaribbean included losses on sovereign loans resulting from the Barbados government debt restructuring, of which $28 million was shown as an item of note in the fourth quarter of 2018. Provision for credit losses on performing loans was down $82 million from 2017, driven by an economic outlook that improved since our adoption of IFRS 9 on November 1, 2017, and the transfer of certain loans to the impaired portfolio.

Non-interest expenses

Non-interest expenses were up $687 million or 7% from 2017, primarily due to the inclusion of the non-interest expenses of CIBC Bank USA for the full year and higher spending on strategic initiatives.

Income taxes

Income tax expense was up $260 million from 2017, primarily due to higher income and net tax adjustments resulting from the U.S. tax reforms enacted in the first quarter of 2018, shown as an item of note.

Revenue by segment

Canadian Personal and Small Business Banking

Revenue was up $233 million or 3% from 2017, primarily due to volume growth, wider spreads and higher fees, partially offset by the gain on the sale and lease back of certain retail properties in 2017, shown as an item of note.

Canadian Commercial Banking and Wealth Management

Revenue was up $275 million or 8% from 2017. Commercial banking revenue was up primarily due to volume growth, wider spreads, and higher fees. Wealth management revenue was up primarily due to higher investment management and custodial fees and mutual fund fees from higher average AUM and AUA, partially offset by lower commission revenue driven by lower equity issuance activity and a decline in transaction volume.

U.S. Commercial Banking and Wealth Management

Revenue was up $890 million or 102% from 2017, primarily due to the inclusion of the results of CIBC Bank USA for the full year, which included accretion of the acquisition date fair value discount on the acquired loans of The PrivateBank.

Capital Markets

Revenue was up $89 million or 3% from 2017. Global markets revenue was up primarily due to higher revenue from our foreign exchange and equity derivatives trading business and global markets financing activities, partially offset by lower revenue from our interest rate and commodities trading businesses. Corporate and investment banking revenue was up primarily due to higher corporate banking and advisory revenue, partially offset by lower investment portfolio gains and lower revenue from equity and debt underwriting.

Corporate and Other

Revenue was up $67 million or 11% from 2017, primarily due to higher treasury revenue, partially offset by losses recognized on debt securities in CIBC FirstCaribbean as a result of the Barbados government debt restructuring, of which $61 million was shown as an item of note in the fourth quarter of 2018.

Non-GAAP measures

We use a number of financial measures to assess the performance of our business lines as described below. Some measures are calculated in accordance with GAAP (IFRS), while other measures do not have a standardized meaning under GAAP, and accordingly, these measures may not be comparable to similar measures used by other companies. Investors may find these non-GAAP measures useful in understanding how management views underlying business performance.

Adjusted measures

Management assesses results on a reported and adjusted basis and considers both as useful measures of performance. Adjusted results remove items of note from reported results and are used to calculate our adjusted measures noted below. Items of note include the amortization of intangibles, and certain items of significance that arise from time to time which management believes are not reflective of underlying business performance. We believe that adjusted measures provide the reader with a better understanding of how management assesses underlying business performance and facilitate a more informed analysis of trends. While we believe that adjusted measures may facilitate comparisons between our results and those of some of our Canadian peer banks which make similar adjustments in their public disclosure, it should be noted that there is no standardized meaning for adjusted measures under GAAP.

We also adjust our results to gross up tax-exempt revenue on certain securities to a TEB, being the amount of fully taxable revenue, which, were it to have incurred tax at the statutory income tax rate, would yield the same after-tax revenue.

Adjusted diluted EPS

We adjust our reported diluted EPS to remove the impact of items of note, net of income taxes, to calculate the adjusted EPS.

Adjusted efficiency ratio

We adjust our reported revenue and non-interest expenses to remove the impact of items of note and gross up tax-exempt revenue to bring it to a TEB, as applicable.

Adjusted dividend payout ratio

We adjust our reported net income attributable to common shareholders to remove the impact of items of note, net of income taxes, to calculate the adjusted dividend payout ratio.

Adjusted return on common shareholders' equity

We adjust our reported net income attributable to common shareholders to remove the impact of items of note, net of income taxes, to calculate the adjusted ROE.

Adjusted effective tax rate

We adjust our reported income before income taxes and reported income taxes to remove the impact of items of note to calculate the adjusted effective tax rate.

Economic capital

Economic capital provides a framework to evaluate the returns of each SBU, commensurate with risk assumed. The economic capital measure is based upon an estimate of equity capital required by the businesses to absorb unexpected losses consistent with our targeted risk rating over a one-year horizon. Economic capital comprises primarily credit, market, operational and strategic risk capital. The difference between our total equity capital and economic capital is held in Corporate and Other. There is no comparable GAAP measure for economic capital.

Economic profit

Net income attributable to equity shareholders, adjusted for a charge on economic capital, determines economic profit. This measures the return generated by each SBU in excess of our cost of capital, thus enabling users of our financial information to identify relative contributions to shareholder value. Reconciliation of net income attributable to equity shareholders to economic profit is provided with segmented information.

Segmented return on equity

We use ROE on a segmented basis as one of the measures for performance evaluation and resource allocation decisions. While ROE for total CIBC provides a measure of return on common equity, ROE on a segmented basis provides a similar metric relating to the economic capital allocated to the segments. As a result, segmented ROE is a non-GAAP measure.

The following table provides a reconciliation of non-GAAP to GAAP measures related to CIBC on a consolidated basis.

$ millions, for the year ended October 31		**2019**	2018	2017	2016	2015
Reported and adjusted diluted EPS						
Reported net income attributable to common shareholders	A	**$ 4,985**	$ 5,178	$ 4,647	$ 4,237	$ 3,531
After-tax impact of items of note [1]		**323**	257	(53)	(191)	232
After-tax impact of items of note on non-controlling interests		**–**	(5)	–	–	(2)
Adjusted net income attributable to common shareholders [2]	B	**$ 5,308**	$ 5,430	$ 4,594	$ 4,046	$ 3,761
Diluted weighted-average common shares outstanding (thousands)	C	**445,457**	444,627	413,563	395,919	397,832
Reported diluted EPS ($)	A/C	**$ 11.19**	$ 11.65	$ 11.24	$ 10.70	$ 8.87
Adjusted diluted EPS ($) [2]	B/C	**11.92**	12.21	11.11	10.22	9.45
Reported and adjusted efficiency ratio						
Reported total revenue	D	**$ 18,611**	$ 17,834	$ 16,280	$ 15,035	$ 13,856
Pre-tax impact of items of note [1]		**(101)**	(2)	(305)	(505)	(40)
TEB		**179**	280	300	474	482
Adjusted total revenue (TEB) [2]	E	**$ 18,689**	$ 18,112	$ 16,275	$ 15,004	$ 14,298
Reported non-interest expenses	F	**$ 10,856**	$ 10,258	$ 9,571	$ 8,971	$ 8,861
Pre-tax impact of items of note [1]		**(488)**	(194)	(259)	(262)	(338)
Adjusted non-interest expenses [2]	G	**$ 10,368**	$ 10,064	$ 9,312	$ 8,709	$ 8,523
Reported efficiency ratio	F/D	**58.3 %**	57.5 %	58.8 %	59.7 %	63.9 %
Adjusted efficiency ratio [2]	G/E	**55.5 %**	55.6 %	57.2 %	58.0 %	59.6 %
Reported and adjusted dividend payout ratio						
Dividends paid to common shareholders	H	**$ 2,488**	$ 2,356	$ 2,121	$ 1,879	$ 1,708
Reported dividend payout ratio	H/A	**49.9 %**	45.5 %	45.6 %	44.3 %	48.4 %
Adjusted dividend payout ratio [2]	H/B	**46.9 %**	43.4 %	46.2 %	46.4 %	45.4 %
Reported and adjusted return on common shareholders' equity						
Average common shareholders' equity	I	**$ 34,467**	$ 31,184	$ 25,393	$ 21,275	$ 18,857
Reported return on common shareholders' equity	A/I	**14.5 %**	16.6 %	18.3 %	19.9 %	18.7 %
Adjusted return on common shareholders' equity [2]	B/I	**15.4 %**	17.4 %	18.1 %	19.0 %	19.9 %
Reported and adjusted effective tax rate						
Reported income before income taxes	J	**$ 6,469**	$ 6,706	$ 5,880	$ 5,013	$ 4,224
Pre-tax impact of items of note [1]		**387**	220	(29)	(94)	298
Adjusted income before income taxes [2]	K	**$ 6,856**	$ 6,926	$ 5,851	$ 4,919	$ 4,522
Reported income taxes	L	**$ 1,348**	$ 1,422	$ 1,162	$ 718	$ 634
Tax impact of items of note [1]		**64**	(37)	24	97	66
Adjusted income taxes [2]	M	**$ 1,412**	$ 1,385	$ 1,186	$ 815	$ 700
Reported effective tax rate	L/J	**20.8 %**	21.2 %	19.8 %	14.3 %	15.0 %
Adjusted effective tax rate [2]	M/K	**20.6 %**	20.0 %	20.3 %	16.6 %	15.5 %

$ millions, for the year ended October 31		Canadian Personal and Small Business Banking	Canadian Commercial Banking and Wealth Management	U.S. Commercial Banking and Wealth Management	Capital Markets	Corporate and Other	CIBC Total
2019	**Reported net income (loss)**	**$ 2,291**	**$ 1,301**	**$ 683**	**$ 937**	**$ (91)**	**$ 5,121**
	After-tax impact of items of note [1]	**174**	**1**	**40**	**–**	**108**	**323**
	Adjusted net income (loss) [2]	**$ 2,465**	**$ 1,302**	**$ 723**	**$ 937**	**$ 17**	**$ 5,444**
2018	Reported net income (loss)	$ 2,547	$ 1,307	$ 565	$ 1,069	$ (204)	$ 5,284
	After-tax impact of items of note [1]	9	1	27	–	220	257
	Adjusted net income (loss) [2]	$ 2,556	$ 1,308	$ 592	$ 1,069	$ 16	$ 5,541
2017	Reported net income (loss)	$ 2,420	$ 1,138	$ 203	$ 1,090	$ (133)	$ 4,718
	After-tax impact of items of note [1]	(170)	1	19	–	97	(53)
	Adjusted net income (loss) [2]	$ 2,250	$ 1,139	$ 222	$ 1,090	$ (36)	$ 4,665
2016	Reported net income (loss)	$ 2,160	$ 991	$ 87	$ 992	$ 65	$ 4,295
	After-tax impact of items of note [1]	(25)	2	6	28	(202)	(191)
	Adjusted net income (loss) [2]	$ 2,135	$ 993	$ 93	$ 1,020	$ (137)	$ 4,104
2015	Reported net income (loss)	$ 2,026	$ 921	$ 104	$ 847	$ (308)	$ 3,590
	After-tax impact of items of note [1]	(28)	2	7	8	243	232
	Adjusted net income (loss) [2]	$ 1,998	$ 923	$ 111	$ 855	$ (65)	$ 3,822

(1) Reflects impact of items of note described under "2019 Financial results review" section and below.
(2) Non-GAAP measure.

Impact of items of note in prior years

2017

Net income was affected by the following items of note:

- $299 million ($245 million after-tax) gain on the sale and lease back of certain retail properties (Canadian Personal and Small Business Banking);
- $104 million ($73 million after-tax) in transaction and integration-related costs as well as purchase accounting adjustments[(1)] associated with the acquisition of The PrivateBank and Geneva Advisors ($3 million after-tax in U.S. Commercial Banking and Wealth Management, and $70 million after-tax in Corporate and Other);
- $98 million ($71 million after-tax) in fees and charges related to the launch of Simplii Financial and the related wind-down of President's Choice Financial (Canadian Personal and Small Business Banking);
- $45 million ($33 million after-tax) increase in legal provisions in the third quarter (Corporate and Other);
- $41 million ($28 million after-tax) amortization of acquisition-related intangible assets ($4 million after-tax in Canadian Personal and Small Business Banking, $1 million after-tax in Canadian Commercial Banking and Wealth Management, $16 million after-tax in U.S. Commercial Banking and Wealth Management, and $7 million after-tax in Corporate and Other); and
- $18 million ($13 million after-tax) reduction in the portion of the collective allowance recognized in Corporate and Other[(2)] in the fourth quarter.

The above items of note increased revenue by $305 million, provision for credit losses by $17 million and non-interest expenses by $259 million, and decreased income taxes by $24 million. In aggregate, these items of note increased net income by $53 million.

2016

Net income was affected by the following items of note:

- $428 million ($383 million after-tax) gain, net of related transaction costs, on the sale of our minority investment in American Century Investments (ACI) (Corporate and Other);
- $134 million ($98 million after-tax) in restructuring charges primarily relating to employee severance (Corporate and Other);
- $109 million ($80 million after-tax) increase in the portion of the collective allowance recognized in Corporate and Other[(2)];
- $77 million ($56 million after-tax) increase in legal provisions (Corporate and Other);
- $53 million ($47 million after-tax) gain, net of related transaction and severance costs, on the sale of a processing centre (Corporate and Other);
- $40 million ($30 million after-tax) of loan losses in our exited European leveraged finance portfolio (Capital Markets);
- $30 million ($22 million after-tax) amortization of acquisition-related intangible assets ($5 million after-tax in Canadian Personal and Small Business Banking, $2 million after-tax in Canadian Commercial Banking and Wealth Management, $6 million after-tax in U.S. Commercial Banking and Wealth Management, and $9 million after-tax in Corporate and Other);
- $30 million income tax recovery due to the settlement of transfer pricing-related matters (Canadian Personal and Small Business Banking);
- $15 million income tax recovery arising from a change in our expected utilization of certain tax loss carryforwards, primarily due to the sale of our minority investment in ACI (Corporate and Other); and
- $3 million ($2 million after-tax) gain from the structured credit run-off business (Capital Markets).

The above items of note increased revenue by $505 million, provision for credit losses by $149 million and non-interest expenses by $262 million, and decreased income taxes by $97 million. In aggregate, these items of note increased net income by $191 million.

2015

Net income was affected by the following items of note:

- $296 million ($225 million after-tax) in cumulative restructuring charges primarily relating to employee severance (Corporate and Other);
- $46 million ($34 million after-tax) gain arising from accounting adjustments on credit card-related balance sheet amounts (Canadian Personal and Small Business Banking);
- $42 million ($33 million after-tax) amortization of acquisition-related intangible assets ($6 million after-tax in Canadian Personal and Small Business Banking, $2 million after-tax in Canadian Commercial Banking and Wealth Management, $7 million after-tax in U.S. Commercial Banking and Wealth Management, and $18 million after-tax in Corporate and Other);
- $29 million ($21 million after-tax) loss from the structured credit run-off business (Capital Markets); and
- $23 million ($13 million after-tax) gain on sale of an investment in our merchant banking portfolio (Capital Markets).

The above items of note increased revenue by $40 million and non-interest expenses by $338 million, and decreased income taxes by $66 million. In aggregate, these items of note decreased net income by $232 million.

(1) Transaction costs include legal and other advisory fees, financing costs associated with pre-funding the cash component of the merger consideration, and interest incurred on the obligation payable to dissenting shareholders. Integration costs are comprised of direct and incremental costs incurred as part of planning for and executing the integration of the businesses of The PrivateBank (subsequently rebranded as CIBC Bank USA) and Geneva Advisors with CIBC, including enabling cross-sell opportunities and expansion of services in the U.S. market, the upgrade and conversion of systems and processes, project management, integration-related travel, severance, consulting fees and marketing costs related to rebranding activities. Purchase accounting adjustments, included as items of note beginning in the fourth quarter of 2017, include the accretion of the acquisition date fair value discount on the acquired loans of The PrivateBank, the collective allowance established for new loan originations and renewals of acquired loans (prior to the adoption of IFRS 9 in the first quarter of 2018), and changes in the fair value of contingent consideration relating to the Geneva Advisors acquisition.

(2) Relates to collective allowance, except for: (i) residential mortgages greater than 90 days delinquent; (ii) personal loans and scored small business loans greater than 30 days delinquent; and (iii) net write-offs for the cards portfolio, which were all reported in the respective SBUs prior to our adoption of IFRS 9.

Strategic business units overview

CIBC has four SBUs – Canadian Personal and Small Business Banking, Canadian Commercial Banking and Wealth Management, U.S. Commercial Banking and Wealth Management, and Capital Markets. These SBUs are supported by the following functional groups – Technology and Operations, Risk Management, Culture and Brand, and Finance, as well as other support groups, which all form part of Corporate and Other. The expenses of these functional and support groups are generally allocated to the business lines within the SBUs. The majority of the functional and support costs of CIBC Bank USA are recognized directly in the U.S. Commercial Banking and Wealth Management SBU. Corporate and Other also includes the results of CIBC FirstCaribbean and other strategic investments, as well as other income statement and balance sheet items not directly attributable to the business lines.

Business unit allocations

Revenue, expenses, and other balance sheet resources related to certain activities are generally allocated to the lines of business within the SBUs.

Treasury activities impact the financial results of the SBUs. Each line of business within our SBUs is charged or credited with a market-based cost of funds on assets and liabilities, respectively, which impacts the revenue performance of the SBUs. Once the interest and liquidity risks inherent in our client-driven assets and liabilities are transfer priced into Treasury, they are managed within CIBC's risk framework and limits. The residual financial results associated with Treasury activities are reported in Corporate and Other, with the exception of certain Treasury activities in U.S. Commercial Banking and Wealth Management, which are reported in that SBU. Capital is attributed to the SBUs in a manner that is intended to consistently measure and align economic costs with the underlying benefits and risks associated with SBU activities. Earnings on unattributed capital remain in Corporate and Other. We review our transfer pricing methodologies on an ongoing basis to ensure they reflect changing market environments and industry practices.

To measure and report the results of operations of the lines of business within our Canadian Personal and Small Business Banking and Canadian Commercial Banking and Wealth Management SBUs, we use a Manufacturer/Customer Segment/Distributor Management Model. The model uses certain estimates and allocation methodologies to process internal payments between lines of business for sales, renewals and trailer commissions to facilitate preparation of segmented financial information. Periodically, the sales, renewals and trailer commission rates paid to customer segments for certain products/services are revised and applied prospectively.

Non-interest expenses incurred by our functional groups are attributed to the SBUs to which they relate based on appropriate criteria.

We recognize provision for credit losses on both impaired (stage 3) and performing (stages 1 and 2) loans in the respective SBUs. Prior to November 1, 2017, provision for credit losses on performing loans was recognized in Corporate and Other, with the exception of provision for credit losses related to CIBC Bank USA, which was recognized in U.S. Commercial Banking and Wealth Management, and provision for credit losses on: (i) performing residential mortgages greater than 90 days delinquent; and (ii) performing personal loans and scored small business loans greater than 30 days delinquent, which was recognized in Canadian Personal and Small Business Banking.

Revenue, taxable equivalent basis

The SBUs evaluate revenue on a TEB. In order to arrive at the TEB amount, the SBUs gross up tax-exempt revenue on certain securities to a TEB, being the amount of fully taxable revenue, which, were it to have incurred tax at the statutory income tax rate, would yield the same after-tax revenue. Simultaneously, an equivalent amount is booked as an income tax expense resulting in no impact on the net income of the SBUs. This measure enables comparability of revenue arising from both taxable and tax-exempt sources. The total TEB adjustments of the SBUs are offset in revenue and income tax expense in Corporate and Other.

Canadian Personal and Small Business Banking

Canadian Personal and Small Business Banking provides personal and business clients across Canada with financial advice, products and services through a team in our banking centres, as well as through our direct, mobile and remote channels.

Our business strategy

Our goal is to build a modern consumer and small business relationship bank to help our clients achieve their ambitions by focusing on three key strategic priorities:

- Winning at relationships
- Delivering market-leading solutions
- Being easy to bank with

2019 progress

In 2019, we made good progress on our strategy.

Winning at relationships

- For the fifth consecutive year, CIBC was ranked #1 in *Investment Executive* magazine's Report Card on Banks, as voted by our Imperial Service advisors.
- Amplified our focus on providing exceptional advice and solutions by increasing the number and quality of financial and retirement plans, increasing the accreditation of our advisors and engaging more than 25,000 clients through financial education seminars and national education events. Topics included women and wealth, retirement planning and cash flow planning, among others.
- Successfully piloted a new business advisor role in key markets to provide specialized support for our growing business client segment. Expanded the number in Ontario throughout the year, and expansion in Western Canada is planned for 2020.
- Restructured our banking centre network into a community model to be closer to our clients and communities where we operate, while investing in local leadership to help bring the depth and breadth of our expertise to our clients.
- Reached a total of more than 200 redesigned urban banking centres across Canada as part of a multi-year network transformation strategy, positioning CIBC for the future of banking through a clear focus on advice and client relationships, and supported by innovative digital banking capabilities.

Delivering market-leading solutions

- Launched CIBC SmartBanking for Business, a first-of-its kind banking platform in Canada that is designed to help businesses manage their banking, accounting and payroll in one place.
- Introduced a Full-Service Physician Package and Medical/Dental Student Offer to bring the best of our bank to clients as they progress through various stages of their career.
- Expanded our CIBC Global Money Transfer service to business clients so they can now send money internationally with no transfer fee at a preferred exchange rate to more than 75 countries.
- Launched Pace It on our credit cards, allowing clients to convert larger purchases into installment plans, enabling clients to spread their payments out over a fixed time period at a lower interest rate – a first among the large Canadian banks.
- Introduced Shopping with Points, a new feature on our Aventura card enabling clients to redeem their points directly for purchases and giving them greater flexibility and choice in using their reward points beyond travel.
- Introduced the CIBC Smart Plus account, providing clients with an exceptional all-in-one, everyday banking solution that provides unlimited transactions, overdraft protection, no CIBC fees on ATM withdrawals worldwide, and an annual fee rebate on a premium CIBC credit card.
- Expanded Simplii Financial's suite of banking products with the introduction of the no annual fee Simplii Financial Cash Back Visa card.

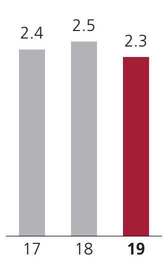
Being easy to bank with

- Awarded the highest overall score by Forrester for mobile banking for the 6th year in a row.
- Received the highest ranking in Surviscor's 2019 Canadian Mobile Banking scorCard for the best overall mobile banking experience in the Canadian digital banking landscape.
- Earned the top ranking in customer satisfaction for mobile credit card apps by J.D. Power.
- Named the Best Consumer Digital Bank in Canada by *Global Finance* magazine, recognizing our mobile banking, mobile app and website design as top in the country.
- Over 1,000 of our CIBC banking centres can now leverage eSignatures, saving our clients time and delivering a radically simple banking experience when they visit us.
- Clients now have access to enriched transaction information online and in their mobile app, including recognizable merchant names, transaction details and merchant locations on a map – a first among the large Canadian banks.
- Continued to significantly invest in technology and innovations to make it easier for our clients to bank with us – from document scanning that saves our clients' time, to a simplified and faster mortgage application system, to a centralized power of attorney and estates process to ensure we are bringing the best of our bank to our clients.

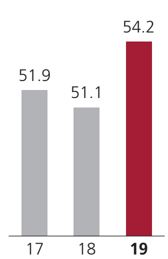
2019 financial review

Revenue
($ billions)

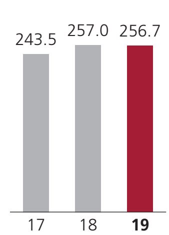
Net income
($ billions)



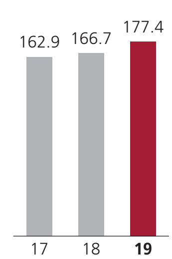
Efficiency ratio
(%)



Average loans and acceptances(1)
($ billions)



Average deposits
($ billions)



(1) Loan amounts are stated before any related allowances.

Our focus for 2020

We are continuing to deliver on our client-focused strategy with a clear focus on relationship-building and advice, with the objective of helping to make our clients' ambitions a reality. Our priorities in 2020 are:

- Winning at relationships through deeper needs-based conversations including more financial planning;
- Delivering market-leading solutions that offer clients great value and benefits, are easy to use and provide a more focused product line; and
- Being easy to bank with by implementing meaningful process enhancements and helping clients experience radically simple banking.

Results(1)

$ millions, for the year ended October 31	**2019**	2018	2017
Revenue	**$ 8,758**	$ 8,605	$ 8,372
Provision for (reversal of) credit losses			
Impaired (2)	**809**	760	760
Performing (2)	**87**	(19)	6
Provision for credit losses	**896**	741	766
Non-interest expenses	**4,745**	4,395	4,348
Income before income taxes	**3,117**	3,469	3,258
Income taxes	**826**	922	838
Net income	**$ 2,291**	$ 2,547	$ 2,420
Net income attributable to:			
Equity shareholders (a)	**$ 2,291**	$ 2,547	$ 2,420
Efficiency ratio	**54.2 %**	51.1 %	51.9 %
Return on equity (3)	**62.4 %**	67.2 %	64.3 %
Charge for economic capital (3) (b)	**$ (359)**	$ (372)	$ (367)
Economic profit (3) (a+b)	**$ 1,932**	$ 2,175	$ 2,053
Average assets ($ billions)	**$ 259.1**	$ 259.1	$ 246.3
Average loans and acceptances ($ billions)	**$ 256.7**	$ 257.0	$ 243.5
Average deposits ($ billions)	**$ 177.4**	$ 166.7	$ 162.9
Full-time equivalent employees	**13,431**	14,086	14,709

(1) For additional segmented information, see Note 30 to the consolidated financial statements.
(2) As a result of our adoption of IFRS 9 effective November 1, 2017, we now recognize provision for credit losses on both impaired and performing loans in the SBU. In prior years, provision for credit losses on performing loans was recognized in Corporate and Other, with the exception of provision for credit losses on: (i) performing residential mortgages greater than 90 days delinquent; and (ii) performing personal loans and scored small business loans greater than 30 days delinquent, which was recognized in Canadian Personal and Small Business Banking.
(3) For additional information, see the "Non-GAAP measures" section.

Financial overview

Net income was down $256 million or 10% from 2018, primarily due to higher non-interest expenses as the current year included a charge for a payment made to Air Canada to secure our participation in its new loyalty program, shown as an item of note, and a higher provision for credit losses, partially offset by higher revenue.

Revenue

Revenue was up $153 million or 2% from 2018, primarily due to wider spreads and volume growth, partially offset by lower fee income.

Provision for credit losses

Provision for credit losses was up $155 million or 21% from 2018. The current year included a provision for credit losses on performing loans due to the impact of certain unfavourable changes to our economic outlook and unfavourable credit migration in certain portfolios. The prior year included a reversal of credit losses on performing loans, driven by an economic outlook that had improved since our adoption of IFRS 9 on November 1, 2017, partially offset by an unfavourable impact from model parameter updates. Provision for credit losses on impaired loans was up due to higher write-offs and an increase in allowance driven by higher impaired balances in the personal lending portfolio.

Non-interest expenses

Non-interest expenses were up $350 million or 8% from 2018, primarily due to the charge noted above and higher spending on strategic initiatives.

Income taxes

Income taxes were down $96 million or 10% from 2018, primarily due to lower income.

Average assets

Average assets were comparable with 2018.

Canadian Commercial Banking and Wealth Management

Canadian Commercial Banking and Wealth Management provides high-touch, relationship-oriented banking and wealth management services to middle-market companies, entrepreneurs, high-net-worth individuals and families across Canada, as well as asset management services to institutional investors.

Our business strategy

We are focused on building and enhancing client relationships, being Canada's leader in financial advice and generating long-term consistent growth. To deliver on this, our three strategic priorities are:

- Scaling commercial banking
- Increasing agility and efficiency in wealth management
- Deepening client relationships across our bank

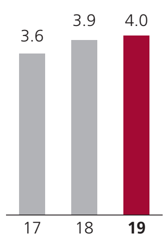
2019 progress

In 2019, we made good progress on our strategy.

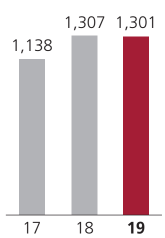
Scaling commercial banking	Increasing agility and efficiency in wealth management	Deepening client relationships across our bank
• Expanded our commercial banking team by adding talent to help meet the unique needs of our diverse clients. • Continued to meet clients' needs on both sides of the border through cross-border client referrals with CIBC Bank USA. • Expanded CIBC Innovation Banking to other high-growth centres in North America in order to extend our service offering to technology and innovation clients across North America.	• Launched CIBC Smart Investment Solutions – all-in-one portfolios that blend active and passive investment strategies to deliver on value and expertise. • Continued to focus on enhancing value for our clients by finding opportunities to simplify our product lineup and optimize costs.	• Increased partnership referrals to deepen client relationships across CIBC and better satisfy the needs of our clients. • Upgraded the financial planning capabilities and capacity of our team.

2019 financial review

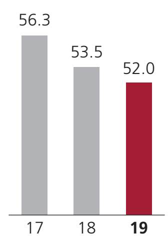
Revenue
($ billions)



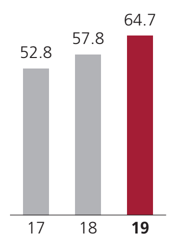
Net income
($ millions)



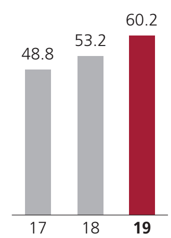
Efficiency ratio
(%)



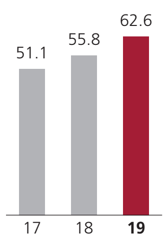
Average loans[1]
($ billions)



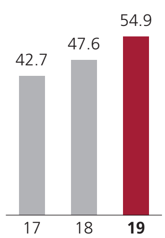
Average deposits
($ billions)



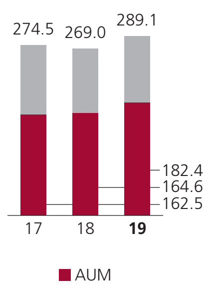
Average commercial banking loans[1][2]
($ billions)



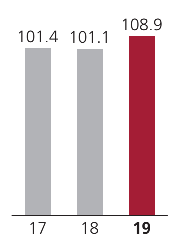
Average commercial banking deposits
($ billions)



Assets under administration and management[3]
($ billions)



Canadian retail mutual funds
($ billions)



(1) Loan amounts are stated before any related allowances.
(2) Comprises loans and acceptances and notional amount of letters of credit.
(3) AUM amounts are included in the amounts reported under AUA.

Our focus for 2020

To build on our momentum across Canadian Commercial Banking and Wealth Management, we will continue to focus on helping our clients achieve their ambitions by:

- Developing and deepening client relationships through a full-service, solutions-based approach that includes commercial and private banking, as well as wealth management services;
- Continuing to invest in financial planning to further our role as a leader in financial advice;
- Simplifying and optimizing our business to align with changing market dynamics to better meet the needs of our clients; and
- Expanding our workforce to seize strategic opportunities in commercial banking.

Results(1)

$ millions, for the year ended October 31	**2019**	2018	2017
Revenue			
Commercial banking	**$ 1,651**	$ 1,488	$ 1,324
Wealth management	**2,395**	2,377	2,266
Total revenue	**4,046**	3,865	3,590
Provision for (reversal of) credit losses			
Impaired (2)	**159**	15	16
Performing (2)	**4**	(10)	n/a
Provision for credit losses	**163**	5	16
Non-interest expenses	**2,106**	2,068	2,021
Income before income taxes	**1,777**	1,792	1,553
Income taxes	**476**	485	415
Net income	**$ 1,301**	$ 1,307	$ 1,138
Net income attributable to:			
Equity shareholders (a)	**$ 1,301**	$ 1,307	$ 1,138
Efficiency ratio	**52.0 %**	53.5 %	56.3 %
Return on equity (3)	**36.8 %**	39.8 %	37.6 %
Charge for economic capital (3) (b)	**$ (345)**	$ (322)	$ (295)
Economic profit (3) (a+b)	**$ 956**	$ 985	$ 843
Average assets ($ billions)	**$ 62.6**	$ 55.7	$ 50.8
Average loans ($ billions)	**$ 64.7**	$ 57.8	$ 52.8
Average deposits ($ billions)	**$ 60.2**	$ 53.2	$ 48.8
AUA ($ billions)	**$ 289.1**	$ 269.0	$ 274.5
AUM ($ billions)	**$ 182.4**	$ 164.6	$ 162.5
Full-time equivalent employees	**5,048**	4,999	5,081

(1) For additional segmented information, see Note 30 to the consolidated financial statements.
(2) As a result of our adoption of IFRS 9 effective November 1, 2017, we now recognize provision for credit losses on both impaired and performing loans in the SBU. In prior years, provision for credit losses on performing loans was recognized in Corporate and Other.
(3) For additional information, see the "Non-GAAP measures" section.
n/a Not applicable.

Financial overview

Net income was down $6 million from 2018, primarily due to a higher provision for credit losses and higher non-interest expenses, partially offset by higher revenue.

Revenue

Revenue was up $181 million or 5% from 2018.

Commercial banking revenue was up $163 million or 11%, primarily due to volume growth from loans and deposits, and higher fees.

Wealth management revenue was up $18 million or 1%, primarily due to higher investment management and custodial fees driven by higher AUM and AUA, wider spreads, and volume growth, partially offset by lower commission revenue and mutual fund fees.

Provision for credit losses

Provision for credit losses was up $158 million from 2018, primarily due to higher provisions on impaired loans in the Canadian commercial banking portfolio, including one fraud-related impairment in the fourth quarter.

Non-interest expenses

Non-interest expenses were up $38 million or 2% from 2018, primarily due to higher spending on strategic initiatives and higher employee-related compensation, partially offset by lower performance-based compensation.

Income taxes

Income taxes were down $9 million or 2% from 2018, primarily due to lower income.

Average assets

Average assets were up $6.9 billion or 12% from 2018, primarily due to growth in commercial loans.

Assets under administration

AUA were up $20.1 billion or 7% from 2018, primarily due to market appreciation. AUM amounts are included in the amounts reported under AUA.

U.S. Commercial Banking and Wealth Management

U.S. Commercial Banking and Wealth Management provides high-touch, relationship-oriented commercial, personal and small business banking, as well as wealth management services to meet the needs of middle-market companies, executives, entrepreneurs, high-net-worth individuals and families in the markets we serve in the U.S.

Our business strategy

Our goal is to build the best-in-class commercial and wealth management bank for our chosen client segments and markets with a focus on developing deep, profitable relationships leveraging the full complement of CIBC's products and services across our North American platform. To deliver on this, our three key strategic priorities are:

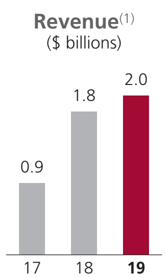
- Growing organically by adding and deepening our client relationships and selectively entering additional markets and specialty businesses
- Continuing to build a strong U.S. operating platform by investing appropriately in our growth
- Maintaining our risk discipline through selective evaluation of new opportunities, portfolio diversification, and quality of funding sources

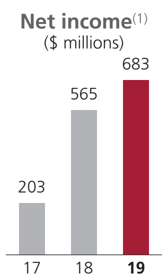
2019 progress

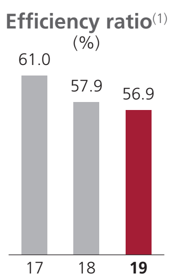
In 2019, we made strong progress on our strategy.

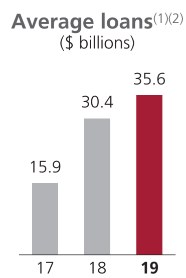
Growing organically by adding and deepening our client relationships and selectively entering additional markets and specialty businesses	Continuing to build a strong U.S. operating platform by investing appropriately in our growth	Maintaining our risk discipline through selective evaluation of new opportunities, portfolio diversification, and quality of funding sources
• Achieved solid revenue growth, reflecting strong business performance and our continued focus on building full, profitable client relationships. • Generated robust loan and deposit growth, as we continue to capitalize on referral opportunities to do more for our combined North American client base. • Generated strong growth in AUM and AUA, reflecting continued client development efforts and an acquisition.	• Managed expenses while appropriately investing in our growth, with an efficiency ratio of 56.9% for 2019. • Expanded our private wealth management capabilities by acquiring LGA, a leading family office in St. Louis and New York. • Refined client-facing processes, making it easier for clients to bank with us.	• Maintained focus on strong asset quality which remained stable during 2019. • Continued growing deposits via CIBC Agility, an online savings and certificate of deposit account platform for U.S. clients that provides us with some diversification of our deposit base.

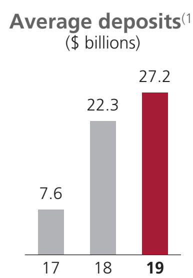
2019 financial review

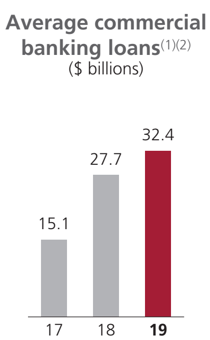


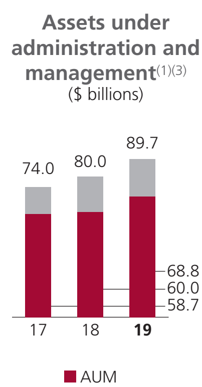












(1) Included the results of CIBC Bank USA following the acquisition on June 23, 2017.
(2) Loan amounts are stated before any related allowances. Average commercial banking loans are stated before purchase accounting adjustments.
(3) AUM amounts are included in the amounts reported under AUA.

Our focus for 2020

To build on our momentum across U.S. Commercial Banking and Wealth Management, we will continue to focus on helping our clients achieve their ambitions by:

- Adding new client relationships in commercial banking and wealth management through our strategically located U.S. offices and national specialty groups, while maintaining our focus on asset quality, as well as loan and deposit portfolio diversification;
- Expanding relationships with existing clients by leveraging cross-border and cross-business capabilities; and
- Investing appropriately in the growth of our business while managing expenses.

Results(1)

$ millions, for the year ended October 31	2019	2018	2017
Revenue			
Commercial banking	**$ 1,349**	$ 1,197	$ 532
Wealth management	**611**	563	324
Other	**6**	6	20
Total revenue (2)(3)	**1,966**	1,766	876
Provision for (reversal of) credit losses			
Impaired (4)	**68**	67	37
Performing (4)	**5**	12	47
Provision for credit losses	**73**	79	84
Non-interest expenses	**1,119**	1,023	534
Income before income taxes	**774**	664	258
Income taxes (2)	**91**	99	55
Net income	**$ 683**	$ 565	$ 203
Net income attributable to:			
Equity shareholders (a)	**$ 683**	$ 565	$ 203
Efficiency ratio	**56.9 %**	57.9 %	61.0 %
Return on equity (5)	**9.1 %**	8.1 %	7.5 %
Charge for economic capital (5) (b)	**$ (713)**	$ (664)	$ (256)
Economic profit (5) (a+b)	**$ (30)**	$ (99)	$ (53)
Average assets ($ billions)	**$ 48.7**	$ 42.0	$ 19.9
Average loans ($ billions)	**$ 35.6**	$ 30.4	$ 15.9
Average deposits ($ billions)	**$ 27.2**	$ 22.3	$ 7.6
AUA ($ billions)	**$ 89.7**	$ 80.0	$ 74.0
AUM ($ billions)	**$ 68.8**	$ 60.0	$ 58.7
Full-time equivalent employees	**2,113**	1,947	1,753

(1) For additional segmented information, see Note 30 to the consolidated financial statements.
(2) Revenue and income taxes are reported on a TEB. Accordingly, revenue and income taxes include a TEB adjustment of $2 million (2018: $2 million; 2017: $2 million). The equivalent amounts are offset in the revenue and income taxes of Corporate and Other.
(3) Included $35 million of accretion of the acquisition date fair value discount on the acquired loans of The PrivateBank, shown as an item of note beginning in the fourth quarter of 2017 (2018: $55 million; 2017: $45 million, of which $31 million was included as an item note in the fourth quarter of 2017).
(4) As a result of our adoption of IFRS 9 effective November 1, 2017, we now recognize provision for credit losses on both impaired and performing loans in the SBU. In prior years, provision for credit losses on performing loans other than that of CIBC Bank USA was recognized in Corporate and Other.
(5) For additional information, see the "Non-GAAP measures" section.

Financial overview

Net income was up $118 million or 21% from 2018, primarily due to higher revenue, partially offset by higher non-interest expenses.

Revenue

Revenue was up $200 million or 11% from 2018.

Commercial banking revenue was up $152 million or 13%, primarily due to volume growth and the impact of foreign exchange translation, partially offset by narrower spreads and lower revenue from the accretion of the acquisition date fair value discount on the acquired loans of The PrivateBank, shown as an item of note.

Wealth management revenue was up $48 million or 9%, primarily due to volume growth, higher investment management and custodial fees driven by higher AUM, and the impact of foreign exchange translation, partially offset by narrower spreads.

Other revenue was comparable with 2018. Other revenue primarily includes the treasury activities of CIBC Bank USA.

Provision for credit losses

Provision for credit losses was down $6 million or 8% from 2018. The current year included a provision for credit losses on performing loans that reflects the unfavourable impact of changes to our economic outlook and unfavourable credit migration within the performing portfolio. The prior year also included a provision for credit losses on performing loans driven by unfavourable credit migration within the performing portfolio, partially offset by improvements in our economic outlook since our adoption of IFRS 9 on November 1, 2017. The provision for credit losses on impaired loans was comparable with the prior year.

Non-interest expenses

Non-interest expenses were up $96 million or 9% from 2018, primarily due to higher spending on strategic initiatives, higher employee-related compensation, and the impact of foreign exchange translation, partially offset by lower performance-based compensation.

Income taxes

Income taxes were down $8 million or 8% from 2018, as higher income in the current year was more than offset by a lower effective tax rate due to the impact of the U.S. tax reforms.

Average assets

Average assets were up $6.7 billion or 16% from 2018, primarily due to growth in commercial loans.

Assets under administration

AUA were up $9.7 billion or 12% from 2018, primarily due to the impact of foreign exchange rates, net sales, and market appreciation. AUM amounts are included in the amounts reported under AUA.

Capital Markets

Capital Markets provides integrated global markets products and services, investment banking advisory and execution, corporate banking solutions and top-ranked research to corporate, government and institutional clients around the world.

Our business strategy

Our goal is to be the leading capital markets franchise for our core clients in Canada and the lead relationship bank for our key clients globally by delivering best-in-class insight, advice and execution. To enable CIBC's strategy and priorities, we collaborate with our partners across our bank to deepen and enhance client relationships. To deliver on our goal, our three key strategic priorities are:

- Being the leading capital markets platform in Canada for our core clients
- Building a North American client platform with global capabilities
- Increasing connectivity across CIBC to deliver better service for clients

2019 progress

In 2019, we made good progress on our strategy.

Being the leading capital markets platform in Canada for our core clients	Building a North American client platform with global capabilities	Increasing connectivity across CIBC to deliver better service for clients
• Supported our clients by investing in our talent, further developing our proprietary technology, expanding our structuring expertise and advice, and leveraging our market expertise.	• Acquired Cleary Gull, a Milwaukee-based boutique investment banking firm specializing in middle-market mergers and acquisitions, private capital placement and debt advisory across the U.S.	• Eliminated transfer fees for businesses sending money overseas with CIBC's Global Money Transfer service, making it easier and faster to do business in more than 75 countries around the world.
• Continued to hold leadership positions in syndicated loans, debt and equity underwriting, advisory services, equity trading, commodities and foreign exchange.	• Expanded our U.S. Prime Service business, focused on meeting the needs of U.S.-based alternative asset managers and other cross-border clients, and furthering our North American platform for growth.	• Launched our Multi-Currency Pricing business, a market-leading foreign exchange solution for Canadian businesses who transact with international cardholders online.
• Strengthened our platform by continuing to evolve our research coverage framework and provide specialized advice and solutions, aligned to the macro trends influencing the global economy and our clients, including renewable energy, private capital, technology and innovation.	• Announced our commitment to support $150 billion in environmental and sustainable finance activities by 2027, underscoring our focus on enabling growth, and helping to make Canada and North America global leaders in environmental stewardship and sustainability.	• Expanded our U.S. investment banking team in Chicago, further strengthening partnerships with commercial banking to bring our suite of commercial and capital markets solutions to mid-market businesses.
	• Announced distribution of CIBC's top-ranked Canadian equity research, analyst expertise and execution capabilities to European-based clients through partnership with Kepler Cheuvreux.	• Expanded our client teams and product capabilities to bring our suite of wealth and capital markets solutions to small businesses, family offices, ultra high-net-worth clients, foundations and endowments.

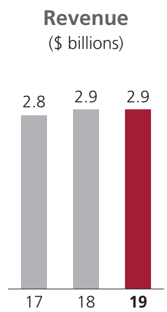
As a leading capital markets franchise in Canada and banking partner to our clients around the world, Capital Markets acted as:

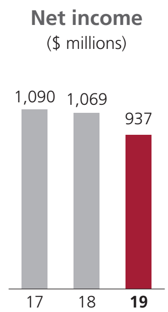
- Financial advisor to Barrick Gold Corporation on its creation of a joint venture in Nevada with Newmont Mining Corporation representing one of the largest mining joint ventures; CIBC also acted as financial advisor to Randgold Resources on its merger with Barrick Gold Corporation;
- Financial advisor, co-lead arranger and joint bookrunner on the sale of 10.01% of SNC-Lavalin's interest in Highway 407 for up to $3.25 billion to a Canadian pension fund and the refinancing of associated credit facilities;
- Exclusive financial advisor to Kilmer Infrastructure and HMSHost on the sale of their respective interests in the ONRoute Service Centres business to a consortium of infrastructure investors led by Arjun Infrastructure Partners and Fengate Asset Management; CIBC also acted as sole underwriter and lead arranger to Arjun and Fengate in support of the acquisition;
- Exclusive financial advisor and sole lead to ENMAX Corporation on the acquisition of operations in Maine from Emera Inc. for approximately US$1.3 billion and associated credit facilities representing CIBC's first advisory role for a Canadian utility acquiring assets in the U.S.;
- Financial advisor and sole bookrunner, administrative agent and lead arranger to Northland Power on its acquisition of a 99.2% interest in Empresa de Energía de Boyacá (EBSA) for approximately $1.05 billion, $347 million subscription receipts offering and $1.1 billion bridge facility. CIBC also acted as sole bookrunner on a $863 million secondary offering of Northland Power common shares for Northland Power Holdings Inc.;
- Exclusive financial advisor to TC Energy on the sale of its interests in three Ontario natural gas-fired power plants to Ontario Power Generation for approximately $2.87 billion representing the largest power asset sale in Canada. CIBC also acted as sole bookrunner on a $1 billion issue of medium-term note debentures for TransCanada Pipelines Limited;
- Financial advisor to WestJet on its sale to ONEX Corporation for approximately $5 billion;
- Financial advisor to Starlight Investments on the US$1.4 billion sale of Starlight U.S. Multi-Family (No. 5) Core Fund to Tricon Capital Group; and
- Joint lead agent, mandated lead arranger and swap provider on a A$2.5 billion corporate refinancing for Port of Melbourne.

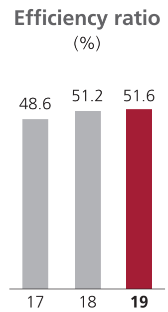
Capital Markets awards and recognition

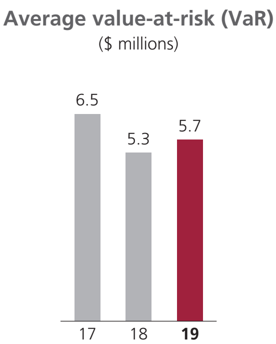
- Canadian Structured Notes Issuer of the Year – mtn-i Americas Structured Note Awards (2019)
- CIBC Prime Services named Top Canadian Prime Broker by *Alternative IQ* (2019)
- Most helpful analyst in rates research, CIBC Capital Markets by *Greenwich Associates* Canadian Fixed Income Investors (2019)
- The leader in Canadian equity trading, #1 in volume, value and number of trades – TSX and ATS Market Share Report (2009 – present)
- CIBC Global Investment Banking ranked #2 in Canadian Corporate Bond Issuance by Bloomberg (2019)
- M&A Atlas Awards Americas (2019)
  - U.S.A. Boutique Investment Banker of the Year: Ronald D. Miller, CIBC Cleary Gull
  - U.S.A. Middle Markets M&A Industry TMT Deal of the Year – Allen Technologies, Inc., a portfolio company of Greyrock Capital Group, to Periscope Equity, LLC (2019)
  - U.S.A. Middle Markets M&A Industry Industrials Deal of the Year – Roll-Rite Holdings Group LLC, a portfolio company of Capital Partners and Argosy Private Equity, to Safe Fleet Holdings, LLC, a portfolio company of Oak Hill Capital Partners (2019)

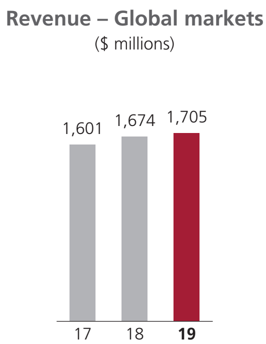
2019 financial review

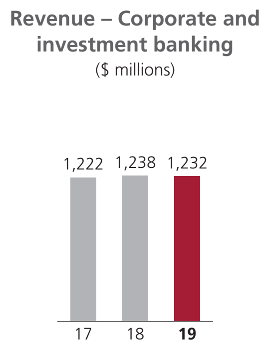












Our focus for 2020

To support our bank's long-term objectives, Capital Markets remains focused on delivering profitable growth by deepening client relationships and collaborating with our partners across our bank to help make our clients' ambitions a reality. We will continue to do this by:

- Maintaining our focused approach to client coverage in Canada;
- Growing our North American platform by further expanding our U.S. reach and broadening the services offered to clients; and
- Strengthening our connectivity, technology and innovation efforts to bring more of our bank's offerings to our clients.

Results[1]

$ millions, for the year ended October 31	2019	2018	2017
Revenue			
Global markets	$ 1,705	$ 1,674	$ 1,601
Corporate and investment banking [2]	1,232	1,238	1,222
Total revenue [3]	2,937	2,912	2,823
Provision for (reversal of) credit losses			
Impaired [4]	90	8	(4)
Performing [4]	63	(38)	n/a
Provision for (reversal of) credit losses	153	(30)	(4)
Non-interest expenses	1,516	1,492	1,373
Income before income taxes	1,268	1,450	1,454
Income taxes [3]	331	381	364
Net income	$ 937	$ 1,069	$ 1,090
Net income attributable to:			
Equity shareholders (a)	$ 937	$ 1,069	$ 1,090
Efficiency ratio	51.6 %	51.2 %	48.6 %
Return on equity [5]	31.7 %	39.4 %	35.5 %
Charge for economic capital [5] (b)	$ (288)	$ (266)	$ (299)
Economic profit [5] (a+b)	$ 649	$ 803	$ 791
Average assets ($ billions)	$ 184.6	$ 166.2	$ 156.4
Full-time equivalent employees	1,449	1,396	1,314

(1) For additional segmented information, see Note 30 to the consolidated financial statements.
(2) Certain information has been reclassified to conform to the presentation adopted in the first quarter of 2019. Corporate and investment banking includes the Other line of business.
(3) Revenue and income taxes are reported on a TEB. Accordingly, revenue and income taxes include a TEB adjustment of $177 million (2018: $278 million; 2017: $298 million). The equivalent amounts are offset in the revenue and income taxes of Corporate and Other.
(4) As a result of our adoption of IFRS 9 effective November 1, 2017, we now recognize provision for credit losses on both impaired and performing loans in the SBU. In prior years, provision for credit losses on performing loans was recognized in Corporate and Other.
(5) For additional information, see the "Non-GAAP measures" section.
n/a Not applicable.

Financial overview
Net income was down $132 million or 12% from 2018, primarily due to a higher provision for credit losses.

Revenue
Revenue was up $25 million or 1% from 2018.

Global markets revenue was up $31 million or 2%, primarily due to higher revenue from our interest rate trading business, global markets financing activities, and our commodities and equity trading businesses, largely offset by lower revenue from our equity derivatives trading business.

Corporate and investment banking revenue was down $6 million, primarily due to lower investment portfolio gains, lower equity underwriting activity, and lower revenue from our run-off businesses, partially offset by higher corporate banking and advisory revenue.

Provision for (reversal of) credit losses
Provision for credit losses was $153 million compared to a reversal of credit losses of $30 million in 2018. Provision for credit losses on performing loans was up due to an increase in the oil and gas sector reflective of both unfavourable credit migration and downward revisions to expected oil prices. Provision for credit losses on impaired loans was up primarily due to higher provisions in the utility and oil and gas sectors.

Non-interest expenses
Non-interest expenses were up $24 million or 2% from 2018, primarily due to higher spending on strategic initiatives and higher employee-related compensation, partially offset by lower performance-based compensation.

Income taxes
Income taxes were down $50 million or 13% from 2018, primarily due to lower income.

Average assets
Average assets were up $18.4 billion or 11% from 2018, primarily due to an increase in securities purchased under resale agreements and higher loan balances.

Corporate and Other

Corporate and Other includes the following functional groups – Technology and Operations, Risk Management, Culture and Brand, and Finance, as well as other support groups. The expenses of these functional and support groups are generally allocated to the business lines within the SBUs. The majority of the functional and support costs of CIBC Bank USA are recognized directly in the U.S. Commercial Banking and Wealth Management SBU. Corporate and Other also includes the results of CIBC FirstCaribbean and other strategic investments, as well as other income statement and balance sheet items not directly attributable to the business lines.

Results[1]

$ millions, for the year ended October 31	2019	2018	2017
Revenue			
International banking	**$ 803**	$ 663	$ 723
Other	**101**	23	(104)
Total revenue [2]	**904**	686	619
Provision for (reversal of) credit losses			
Impaired [3]	**21**	102	20
Performing [3]	**(20)**	(27)	(53)
Provision for (reversal of) credit losses	**1**	75	(33)
Non-interest expenses	**1,370**	1,280	1,295
Loss before income taxes	**(467)**	(669)	(643)
Income taxes [2]	**(376)**	(465)	(510)
Net income (loss)	**$ (91)**	$ (204)	$ (133)
Net income (loss) attributable to:			
Non-controlling interests	**$ 25**	$ 17	$ 19
Equity shareholders	**(116)**	(221)	(152)
Full-time equivalent employees	**23,116**	21,792	22,071

(1) For additional segmented information, see Note 30 to the consolidated financial statements.
(2) Revenue and income taxes of Capital Markets and U.S. Commercial Banking and Wealth Management are reported on a TEB. The equivalent amounts are offset in the revenue and income taxes of Corporate and Other. Accordingly, revenue and income taxes include a TEB adjustment of $179 million (2018: $280 million; 2017: $300 million).
(3) As a result of our adoption of IFRS 9 effective November 1, 2017, we now recognize provision for credit losses on both impaired and performing loans in the SBUs. In prior years, provision for credit losses on performing loans was recognized in Corporate and Other, with the exception of provision for credit losses related to CIBC Bank USA, which was recognized in U.S. Commercial Banking and Wealth Management, and provision for credit losses on: (i) performing residential mortgages greater than 90 days delinquent; and (ii) performing personal loans and scored small business loans greater than 30 days delinquent, which was recognized in Canadian Personal and Small Business Banking. Provision for credit losses related to CIBC FirstCaribbean continues to be recognized in Corporate and Other.

Financial overview

Net loss was down $113 million or 55% from 2018, primarily due to higher revenue and a lower provision for credit losses, partially offset by higher non-interest expenses.

Revenue

Revenue was up $218 million or 32% from 2018.

International banking revenue was up $140 million or 21% from 2018, as the prior year included incremental expected credit losses on debt securities in CIBC FirstCaribbean as a result of the Barbados government restructuring its public debt, of which $61 million was shown as an item of note in the fourth quarter of 2018. The current year also reflected a favourable impact from foreign exchange translation and better performance in CIBC FirstCaribbean.

Other revenue was up $78 million or 339% from 2018, primarily due to a lower TEB adjustment and interest income related to the settlement of certain income tax matters, shown as an item of note, partially offset by lower treasury revenue and lower income from equity-accounted associates and joint ventures.

Provision for (reversal of) credit losses

Provision for credit losses was down $74 million from 2018, as the prior year included a higher provision for credit losses on impaired loans in CIBC FirstCaribbean, which included losses on sovereign loans resulting from the Barbados government debt restructuring noted above, of which $28 million was shown as an item of note in the fourth quarter of 2018.

Non-interest expenses

Non-interest expenses were up $90 million or 7% from 2018. The current year was impacted by a goodwill impairment charge related to the expected sale of our controlling interest in CIBC FirstCaribbean, an increase in legal provisions, and lower transaction and integration-related costs as well as purchase accounting adjustments associated with the acquisitions of The PrivateBank and Geneva Advisors, all shown as items of note. Excluding these items of note, non-interest expenses were up $17 million from 2018, primarily due to higher spending on strategic initiatives, higher operating expenses in CIBC FirstCaribbean and the impact of foreign exchange translation, partially offset by lower corporate support costs.

Income taxes

Income tax benefit was down $89 million, primarily due to a lower TEB adjustment and lower losses, partially offset by net tax adjustments resulting from the U.S. tax reforms enacted in the first quarter of 2018, shown as an item of note, that were included in 2018. The current year also included the net tax recovery resulting from the Enron settlement (see the "Financial performance overview – Taxes" section for additional details) and the revaluation of certain deferred tax assets due to tax rate changes enacted by the Barbados government.

Financial condition

Review of condensed consolidated balance sheet

$ millions, as at October 31	2019	2018
Assets		
Cash and deposits with banks	**$ 17,359**	$ 17,691
Securities	**121,310**	101,664
Securities borrowed or purchased under resale agreements	**59,775**	48,938
Loans and acceptances	**398,108**	381,661
Derivative instruments	**23,895**	21,431
Other assets	**31,157**	25,714
	$ 651,604	$ 597,099
Liabilities and equity		
Deposits	**$ 485,712**	$ 461,015
Obligations related to securities lent or sold short or under repurchase agreements	**69,258**	47,353
Derivative instruments	**25,113**	20,973
Acceptances	**9,188**	10,296
Other liabilities	**19,069**	18,266
Subordinated indebtedness	**4,684**	4,080
Equity	**38,580**	35,116
	$ 651,604	$ 597,099

Assets

Total assets as at October 31, 2019 were up $54.5 billion or 9% from 2018.

Cash and deposits with banks decreased by $0.3 billion or 2%, mainly due to lower short-term placements in Treasury.

Securities increased by $19.6 billion or 19%, primarily due to increases in U.S. Treasury and other agencies from client-driven activities, as well as debt securities in Canadian governments, and corporate debt. Further details on the composition of securities are provided in the "Supplementary annual financial information" section and Note 4 to the consolidated financial statements.

Securities borrowed or purchased under resale agreements increased by $10.8 billion or 22%, primarily due to client-driven activities.

Net loans and acceptances increased by $16.4 billion or 4%, primarily due to an increase in U.S. and Canadian business and government loans. Further details on the composition of loans and acceptances are provided in the "Supplementary annual financial information" section and Note 5 to the consolidated financial statements.

Derivative instruments increased by $2.5 billion or 11%, largely driven by an increase in interest rate derivatives valuation, partially offset by a decrease in other commodity derivatives valuation.

Other assets increased by $5.4 billion or 21%, primarily due to an increase in broker receivables, precious metals, and collateral pledged for derivatives.

Liabilities

Total liabilities as at October 31, 2019 were up $51.0 billion or 9% from 2018.

Deposits increased by $24.7 billion or 5%, primarily due to domestic retail volume growth, and increases in Canadian and U.S. commercial deposits. Further details on the composition of deposits are provided in the "Supplementary annual financial information" section and Note 10 to the consolidated financial statements.

Obligations related to securities lent or sold short or under repurchase agreements increased by $21.9 billion or 46%, primarily due to client-driven activities.

Derivative instruments increased by $4.1 billion or 20%, largely driven by an increase in interest rate and foreign exchange derivatives valuation.

Acceptances decreased by $1.1 billion or 11%, driven by client activities.

Other liabilities increased by $0.8 billion or 4%, primarily due to an increase in broker payables.

Subordinated indebtedness increased by $0.6 billion or 15%, mainly due to an issuance in the third quarter of 2019, net of a redemption in the fourth quarter of 2019. For further details see the "Capital management" section.

Equity

Equity as at October 31, 2019 increased $3.5 billion or 10% from 2018, primarily due to a net increase in retained earnings and the issuance of preferred shares.

Capital management

Our capital strength protects our depositors and creditors from risks inherent in our businesses. Our overall capital management objective is to maintain a strong and efficient capital base that:

- Acts as a buffer to absorb unexpected losses while providing sustainable returns to our shareholders;
- Enables our frontline businesses to grow and execute on our strategy;
- Demonstrates balance sheet strength and our commitment to prudent balance sheet management; and
- Supports us in maintaining a favourable credit standing and raising additional capital or other funding on attractive terms.

We closely monitor and manage our capital to help achieve the appropriate balance of strength and efficiency of our capital base.

Capital management and planning framework

CIBC maintains a capital management policy that helps us achieve our capital management objectives. Our capital management policy is reviewed and approved by the Board of Directors (the Board) in support of our Internal Capital Adequacy Assessment Process (ICAAP). The policy includes guidelines that relate to capital strength, capital mix, dividends and return of capital, and unconsolidated capital adequacy of regulated entities, based on regulatory requirements and our risk appetite. The key guideline relates to our capital strength, which is foundational to our financial strength and supports growth. The guideline on dividends and return of capital is intended to balance the need for retaining capital for strength and growth, while providing an adequate return to our shareholders. The level of capital and capital ratios is continually monitored relative to our regulatory minimums and internal targets and the amount of capital required may change in relation to CIBC's business growth, risk appetite, and business and regulatory environment, including changes in accounting policies.

Capital planning is a crucial element of our overall financial planning process and establishment of strategic objectives and is developed in accordance with the capital management policy. Each year, a capital plan and three-year outlook are established as part of the financial plan, which establishes targets for the coming year and business plans to achieve those targets. The capital plan is also stress-tested as a part of our enterprise-wide stress testing process to ensure CIBC is adequately capitalized through severe but plausible stress scenarios (see the "Enterprise-wide stress testing" section for further details). Our capital position is monitored throughout the year and assessed against the capital plan.

The Board, with endorsement from the Risk Management Committee, provides overall oversight of CIBC's capital management through the approval of our risk appetite, capital policy and plan. The Risk Management Committee is provided with regular updates on our capital position including performance to date, updated forecasts, as well as any material regulatory developments that may impact our future capital position. Treasury is responsible for the overall management of capital including planning, forecasting, and execution of the plan, with senior management oversight provided by the Global Asset Liability Committee.

Regulatory capital requirements under Basel III

Our regulatory capital requirements are determined in accordance with guidelines issued by OSFI, which are based upon the risk-based capital standards developed by the Basel Committee on Banking Supervision (BCBS).

Regulatory capital consists of CET1, Tier 1 and Tier 2 capital. The tiers of regulatory capital indicate increasing quality/permanence and the ability to absorb losses. The major components of our regulatory capital are summarized as follows:

Higher quality

CET1 capital
- Common equity (retained earnings, common shares and stock surplus)
- Accumulated other comprehensive income (AOCI)[(1)]
- Qualifying instruments issued by a consolidated banking subsidiary to third parties
- Less regulatory deductions for items such as:
  - Goodwill and other intangible assets
  - Deferred tax assets
  - Net assets related to defined benefit pension plans
  - Certain investments

Additional Tier 1 (AT1) capital
- Non-viability contingent capital (NVCC) preferred shares
- Qualifying instruments issued by a consolidated subsidiary to third parties
- Innovative Tier 1 notes subject to phase-out rules for capital instruments

Tier 1 capital

Tier 2 capital
- NVCC subordinated indebtedness
- Non-qualifying subordinated indebtedness subject to phase-out rules for capital instruments
- Eligible general allowance under the standardized approach
- Qualifying instruments issued by a consolidated subsidiary to third parties

Total capital

Lower quality

(1) Excluding Accumulated Other Comprehensive Income (AOCI) relating to cash flow hedges and changes to FVO liabilities attributable to changes in own credit risk.

Qualifying regulatory capital instruments must be capable of absorbing loss at the point of non-viability of the financial institution. Non-qualifying Tier 1 and Tier 2 capital instruments are excluded from regulatory capital at a rate of 10% per annum until January 2022, at which point they will have no regulatory value.

OSFI requires all institutions to achieve target capital ratios which include buffers. Targets may be higher for certain institutions at OSFI's discretion. CIBC, along with Bank of Montreal, Bank of Nova Scotia, National Bank of Canada, Royal Bank of Canada, and the Toronto-Dominion Bank, have been designated by OSFI as domestic systemically important banks (D-SIBs) in Canada. D-SIBs are subject to a CET1 surcharge equal to 1.0% of RWA and a Domestic Stability Buffer requirement intended to address Pillar 2 risks that are not adequately captured in the Pillar 1 capital requirements. The Domestic Stability Buffer is currently set at 2.0%, but can range from 0% to 2.5% of RWA (see the "Continuous enhancement to regulatory capital requirements" section for details regarding recent increases to the Domestic Stability Buffer requirement). Additionally, banks need to hold an incremental countercyclical capital buffer equal to their weighted average buffer requirement in Canada and across certain other jurisdictions where they have private sector credit exposures.

OSFI's current targets are summarized below:

As at October 31, 2019	Minimum	Capital conservation buffer	D-SIB buffer	Pillar I targets (1)	Domestic Stability Buffer (2)	Target including all buffer requirements
CET1 ratio	**4.5 %**	**2.5 %**	**1.0 %**	**8.0 %**	**2.0 %**	**10.00 %**
Tier 1 capital ratio	**6.0 %**	**2.5 %**	**1.0 %**	**9.5 %**	**2.0 %**	**11.50 %**
Total capital ratio	**8.0 %**	**2.5 %**	**1.0 %**	**11.5 %**	**2.0 %**	**13.50 %**

(1) The countercyclical capital buffer applicable to CIBC is insignificant as at October 31, 2019.
(2) The Domestic Stability Buffer was increased to 2.0% effective October 31, 2019. See the "Continuous enhancement to regulatory capital requirements" section for additional details.

Capital adequacy requirements are applied on a consolidated basis consistent with our financial statements, except for our insurance subsidiaries (CIBC Reinsurance Company Limited, CIBC Cayman Reinsurance Limited and CIBC Life Insurance Company Limited), which are excluded from the regulatory scope of consolidation. The basis of consolidation applied to our financial statements is described in Note 1 to the consolidated financial statements. CIBC Life Insurance Company Limited is subject to OSFI's Life Insurance Capital Adequacy Test.

Risk-weighted assets

The following table provides a summary of permissible regulatory capital approaches and those adopted by CIBC:

Risk category	Permissible regulatory capital approaches	Approach adopted by CIBC
Credit risk(1)	Basel provides three approaches for calculating credit risk capital requirements: • Standardized • Foundation • Advanced internal ratings-based (AIRB) OSFI expects financial institutions in Canada with Total capital in excess of $5 billion to use the AIRB approach for all material portfolios and credit businesses.	We have adopted the AIRB approach for the majority of our credit portfolios. Under this methodology, we utilize our own internal estimates to determine probability of default (PD), loss given default (LGD), maturity, and exposure at default (EAD) for lending products and securities. We utilize the standardized approach for credit portfolios within CIBC Bank USA and CIBC FirstCaribbean. We periodically review portfolios under the standardized approach for consideration of adoption of the AIRB approach.
	OSFI provides three approaches for calculating counterparty credit risk (CCR) for derivatives and repo-style transactions: • Standardized approach (SA-CCR) • Internal model method (IMM) • Comprehensive approach	Counterparty credit risk for derivatives is calculated using SA-CCR in accordance with revisions to the Capital Adequacy Requirements (CAR) Guideline that were effective for CIBC on November 1, 2018. Prior to adopting SA-CCR, CIBC used the current exposure method (CEM) for CCR exposures. The comprehensive approach is used for credit risk mitigation for repo-style transactions.
	Permitted approaches for equity positions in the banking book (which includes equity investments in funds) include: • Standardized • Market-based • Look-through • Mandate-based • Fall-back	We use the standardized approach for equity positions in the banking book and both the look-through and mandate-based approaches for equity investments in funds.
	Basel provides the following approaches for calculating capital requirements for securitization positions: • Internal Ratings-Based Approach (SEC-IRBA) • Internal Assessment Approach (SEC-IAA) • External Ratings-Based Approach (SEC-ERBA) • Standardized (SEC-SA)	We use SEC-IRBA, SEC-ERBA, SEC-IAA, and SEC-SA for securitization exposures in the banking book.
Market risk	Market risk capital requirements can be determined under the following approaches: • Standardized • Internal models Internal models involve the use of internal VaR models to measure market risk and determine the appropriate capital requirement. The stressed VaR and incremental risk charge (IRC) also form part of the internal models approach.	We use the internal models approach to calculate market risk capital. Our internal market risk models comprise VaR, stressed VaR, IRC and a capital charge for risk not captured in VaR. We also use SEC-ERBA for trading book securitization positions.
Operational risk	Operational risk capital requirements can be determined under the following approaches: • Basic indicator approach • Standardized approach • Advanced measurement approach (AMA)	We use AMA and standardized approaches based on OSFI rules to calculate operational risk capital.

(1) Includes counterparty credit risk.

Since the introduction of Basel II in 2008, OSFI has prescribed a capital floor requirement for institutions that use the AIRB approach for credit risk.

During 2018, before any capital floor requirement, there were three different levels of RWA for the calculation of CIBC's CET1, Tier 1 and Total capital ratios as CIBC elected in 2014 to phase in the CVA capital charge as permitted under OSFI's guideline. Beginning in the first quarter of 2019, the ratios are calculated by reference to the same level of RWA as the phase-in of the CVA capital charge has been completed.

Regulatory capital and ratios

The components of our regulatory capital and ratios under Basel III are presented in the table below:

$ millions, as at October 31	2019	2018
Common Equity Tier 1 (CET1) capital: instruments and reserves		
Directly issued qualifying common share capital plus related stock surplus	**$ 13,716**	$ 13,379
Retained earnings	**20,972**	18,537
AOCI (and other reserves)	**881**	777
Common share capital issued by subsidiaries and held by third parties (amount allowed in group CET1)	**126**	118
CET1 capital before regulatory adjustments	**35,695**	32,811
CET1 capital: regulatory adjustments		
Prudential valuation adjustments	**32**	27
Goodwill (net of related tax liabilities)	**5,375**	5,489
Other intangibles other than mortgage-servicing rights (net of related tax liabilities)	**1,658**	1,661
Deferred tax assets excluding those arising from temporary differences (net of related tax liabilities)	**24**	38
Defined benefit pension fund net assets (net of related tax liabilities)	**138**	284
Other	**761**	671
Total regulatory adjustments to CET1 capital	**7,988**	8,170
CET1 capital	**27,707**	24,641
Additional Tier 1 (AT1) capital: instruments		
Directly issued qualifying AT1 instruments plus related stock surplus (1)	**2,825**	2,250
Directly issued capital instruments subject to phase out from AT1 (2)	**302**	1,003
AT1 instruments issued by subsidiaries and held by third parties (amount allowed in AT1)	**17**	14
AT1 capital	**3,144**	3,267
Tier 1 capital (T1 = CET1 + AT1)	**30,851**	27,908
Tier 2 capital: instruments and provisions		
Directly issued qualifying Tier 2 instruments plus related stock surplus (3)	**4,015**	3,430
Directly issued capital instruments subject to phase out from Tier 2	**630**	579
Tier 2 instruments issued by subsidiaries and held by third parties (amount allowed in Tier 2)	**23**	20
General allowances	**335**	293
Tier 2 capital (T2)	**5,003**	4,322
Total capital (TC = T1 + T2)	**$ 35,854**	$ 32,230
Total RWA (4)	**$ 239,863**	n/a
CET1 capital RWA (4)	**n/a**	$ 216,144
Tier 1 capital RWA (4)	**n/a**	216,303
Total capital RWA (4)	**n/a**	216,462
Capital ratios		
CET1 ratio	**11.6 %**	11.4 %
Tier 1 capital ratio	**12.9 %**	12.9 %
Total capital ratio	**15.0 %**	14.9 %

(1) Comprises non-cumulative Class A Preferred Shares Series 39, 41, 43, 45, 47, 49, and 51 which are treated as non-viability contingent capital (NVCC) in accordance with OSFI's capital adequacy guidelines.
(2) Comprises CIBC Tier 1 Notes – Series A and Series B due June 30, 2108 (together, the Tier 1 Notes). The CIBC Tier 1 Notes – Series A were redeemed on June 30, 2019.
(3) Comprises Debentures due on October 28, 2024, January 26, 2026, April 4, 2028 and June 19, 2029 which are treated as NVCC in accordance with OSFI's capital adequacy guidelines. The Debentures due on October 28, 2024 were redeemed on October 28, 2019.
(4) Beginning in 2019, the capital ratios are calculated by reference to the same level of RWA. Prior to 2019, before any capital floor requirement, there were three different levels of RWA for the calculation of CIBC's CET1, Tier 1 and Total capital ratios as CIBC elected in 2014 to phase in the CVA capital charge as permitted under the OSFI guideline; different scalars were applied to the CVA included in the RWA calculation applicable to each of the three tiers of capital.
n/a Not applicable.

The CET1 ratio at October 31, 2019 increased 0.2% from October 31, 2018, mainly driven by an increase in CET1 capital, partially offset by an increase in RWA. The increase in CET1 capital was primarily the result of internal capital generation (net income less dividends and share repurchases) and common share issuance. The increase in RWA was primarily due to organic growth, changes in regulatory requirements and movement in risk levels. In the first quarter of 2019, CIBC implemented OSFI's revisions to the CAR Guideline including the revised standardized approach to counterparty credit risk and central counterparties, the revised securitization framework, and the removal of the CVA phase-in transitional arrangement.

The Tier 1 capital ratio at October 31, 2019 was comparable with October 31, 2018 as the impact of the redemption of the CIBC Tier 1 Notes – Series A, net of the issuance of NVCC preferred shares during 2019, was offset by the factors affecting the CET1 ratio noted above. See the "Capital initiatives" section below for further details.

The Total capital ratio at October 31, 2019 increased 0.1% from October 31, 2018 primarily due to the issuance, net of redemptions, of NVCC subordinated indebtedness during the year, in addition to the factors affecting the Tier 1 capital ratio noted above. See the "Capital initiatives" section below for further details.

Components of risk-weighted assets

The components of our RWA and corresponding minimum total capital requirements are presented in the table below:

$ millions, as at October 31	2019 RWA	2019 Minimum total capital required [1]	2018 RWA	2018 Minimum total capital required [1]
Credit risk [2]				
Standardized approach				
Corporate	**$ 39,131**	**$ 3,130**	$ 32,443	$ 2,595
Sovereign	**2,411**	**193**	2,319	185
Banks	**454**	**36**	470	38
Real estate secured personal lending	**2,597**	**208**	2,764	221
Other retail	**911**	**73**	903	72
Trading book	**468**	**37**	247	20
Equity	**606**	**48**	436	35
Securitization [3]	**707**	**57**	n/a	n/a
	47,285	**3,782**	39,582	3,166
AIRB approach [4]				
Corporate	**76,182**	**6,095**	68,402	5,472
Sovereign [5]	**2,227**	**178**	2,144	171
Banks	**3,082**	**247**	3,547	284
Real estate secured personal lending	**18,557**	**1,485**	16,072	1,286
Qualifying revolving retail	**15,605**	**1,248**	18,071	1,446
Other retail	**8,890**	**711**	7,773	622
Equity	**395**	**32**	299	24
Trading book	**6,684**	**535**	3,982	319
Securitization [3]	**815**	**65**	1,050	84
Adjustment for scaling factor	**7,898**	**632**	7,280	582
	140,335	**11,228**	128,620	10,290
Other credit RWA [6]	**10,134**	**811**	10,697	856
Total credit risk (before adjustment for CVA phase-in) [7]	**197,754**	**15,821**	178,899	14,312
Market risk (Internal Models and IRB Approach)				
VaR	**1,073**	**86**	868	70
Stressed VaR	**2,478**	**198**	2,084	167
Incremental risk charge	**2,574**	**206**	2,865	229
Securitization and other	**407**	**33**	566	45
Total market risk	**6,532**	**523**	6,383	511
Operational risk	**28,587**	**2,287**	26,626	2,130
Total RWA before adjustments for CVA phase-in and capital floor	**$ 232,873**	**$ 18,631**	$ 211,908	$ 16,953
CVA capital charge [7]				
Total RWA [7]	**$ 6,990**	**$ 559**	n/a	n/a
CET1 RWA	**n/a**	**n/a**	$ 4,236	$ 339
Tier 1 RWA	**n/a**	**n/a**	4,395	352
Total RWA	**n/a**	**n/a**	4,554	364
Total RWA after adjustments for CVA phase-in and capital floor [7]				
Total RWA	**$ 239,863**	**$ 19,190**	n/a	n/a
CET1 capital RWA	**n/a**	**n/a**	$ 216,144	$ 17,292
Tier 1 capital RWA	**n/a**	**n/a**	216,303	17,305
Total capital RWA	**n/a**	**n/a**	216,462	17,317

(1) Refers to the minimum standard established by the BCBS before the application of the capital conservation buffer and any other capital buffers that may be established by regulators from time to time. It is calculated by multiplying RWA by 8%.
(2) Credit risk includes counterparty credit risk, which comprises derivative and repo-style transactions. Credit risk for CIBC Bank USA and CIBC FirstCaribbean are calculated under the standardized approach.
(3) In the first quarter of 2019, we implemented OSFI's revisions to the CAR Guideline, including the revised securitization framework. As a result, certain exposures that were previously subject to the IRB approach are now subject to the standardized approach. In addition, SEC-ERBA, which is inclusive of SEC-IAA, includes exposures that qualify for the IRB approach as well as exposures under the standardized approach.
(4) Includes RWA relating to equity investments in funds and certain commercial loans which are determined using the supervisory slotting approach.
(5) Includes residential mortgages insured by Canada Mortgage and Housing Corporation (CMHC), an agency of the Government of Canada, and government guaranteed student loans.
(6) Comprises RWA relating to derivative and repo-style transactions cleared through qualified central counterparties (QCCPs), settlement risk, and other assets that are subject to the credit risk framework but are not included in the standardized or IRB frameworks, including other balance sheet assets that are risk-weighted at 100%, significant investments in the capital of non-financial institutions that are risk-weighted at 1250%, and amounts below the thresholds for deduction that are risk-weighted at 250%.
(7) Beginning in 2019, the capital ratios are calculated by reference to the same level of RWA. Prior to 2019, before any capital floor requirement, there were three different levels of RWA for the calculation of CIBC's CET1,Tier 1 and Total capital ratios as CIBC elected in 2014 to phase in the CVA capital charge as permitted under the OSFI guideline; different scalars were applied to the CVA included in the RWA calculation applicable to each of the three tiers of capital.
n/a Not applicable.

The increase in total RWA was primarily due to organic growth, changes in regulatory requirements and movement in risk levels.

The increase in credit risk RWA was primarily due to organic growth across our businesses and changes in regulatory requirements.

The change in market risk RWA was driven by movement in risk levels, which includes changes in open positions and the market rates affecting these positions, foreign exchange movements and capital model updates.

The increase in operational risk RWA was primarily driven by movement in risk levels, which reflects changes in loss experience, changes in the business environment, internal control factors and gross income, as defined by OSFI.

Movement in total regulatory capital

Changes in regulatory capital under Basel III are presented in the table below:

$ millions, for the year ended October 31	**2019**	2018
CET1 capital		
Balance at beginning of year	**$ 24,641**	$ 21,618
Issue of common shares pursuant to the acquisition of The PrivateBank	**–**	194
Issue of common shares pursuant to the acquisition of Wellington Financial	**–**	47
Shares issued in lieu of cash dividends	**194**	337
Other issue of common shares	**183**	218
Purchase of common shares for cancellation	**(30)**	(104)
Premium on purchase of common shares for cancellation	**(79)**	(313)
Net income attributable to equity shareholders	**5,096**	5,267
Preferred and common share dividends	**(2,599)**	(2,445)
Change in AOCI balances included in regulatory capital		
Net foreign currency translation adjustments	**(31)**	286
Net change in securities measured at FVOCI	**196**	(191)
Net change in cash flow hedges	**131**	(51)
Net change in post-employment defined benefit plans	**(220)**	226
Change in shortfall of allowance to expected losses	**72**	(173)
Change in goodwill and other intangible assets	**117**	(212)
Other, including change in regulatory adjustments (1)	**36**	(63)
CET 1 capital balance at end of year	**$ 27,707**	$ 24,641
AT1 capital		
Balance at beginning of year	**$ 3,267**	$ 3,064
AT1 eligible capital issues	**575**	450
Phase-out of innovative Tier 1 notes	**(251)**	(251)
Redeemed	**(452)**	–
Other, including change in regulatory adjustments (1)	**5**	4
AT 1 capital balance at end of year	**$ 3,144**	$ 3,267
Tier 2 capital		
Balance at beginning of year	**$ 4,322**	$ 3,447
New Tier 2 eligible capital issues	**1,500**	1,500
Redeemed	**(1,000)**	(600)
Other, including change in regulatory adjustments (1)	**181**	(25)
Tier 2 capital balance at end of year	**$ 5,003**	$ 4,322
Total capital balance at end of year	**$ 35,854**	$ 32,230

(1) Includes the net impact on retained earnings and AOCI as at November 1, 2017 from our adoption of IFRS 9 and as at November 1, 2018 from our adoption of IFRS 15.

Leverage ratio

The Basel III capital standards include a non-risk-based capital metric, the leverage ratio, to supplement risk-based capital requirements.

The leverage ratio is defined as Tier 1 capital divided by the leverage ratio exposure. The leverage ratio exposure is defined under the rules as the sum of:

(i) On-balance sheet assets less Tier 1 capital regulatory adjustments;
(ii) Derivative exposures;
(iii) Securities financing transaction exposures; and
(iv) Off-balance sheet exposures (such as commitments, direct credit substitutes, letters of credit, and securitization exposures).

OSFI expects federally regulated deposit-taking institutions to have leverage ratios that meet or exceed 3.0%. This minimum may be higher for certain institutions at OSFI's discretion.

$ millions, as at October 31		**2019**	2018
Tier 1 capital	A	**$ 30,851**	$ 27,908
Leverage ratio exposure	B	**714,343**	653,946
Leverage ratio	A/B	**4.3 %**	4.3 %

The leverage ratio at October 31, 2019 was comparable with October 31, 2018, as an increase in Tier 1 capital was offset by an increase in leverage ratio exposure. The increase in leverage ratio exposure was primarily driven by increases in on- and off-balance sheet assets and securities financing transaction exposures.

Continuous enhancement to regulatory capital requirements

The BCBS and OSFI have published a number of proposals for changes to the existing regulatory capital requirements to strengthen the regulation, supervision, and practices of banks with the overall objective of enhancing financial stability. The discussion below provides a summary of significant BCBS and OSFI publications that have been issued but not yet effective, other than those discussed in separate sections of the document.

Basel III reforms

In December 2017, the Group of Central Bank Governors and Heads of Supervision (GHOS; the oversight body of the BCBS) announced the finalization of Basel III reforms. Revisions have been included in the finalized framework with the objective of reducing excessive variability in RWA and improving comparability of capital ratios among banks. Notable changes include:

- Major revisions to the standardized approaches to credit and operational risk, market risk, and CVA frameworks, which will be effective January 1, 2022;
- Constraints on the use of internally modelled approaches for certain credit exposures;
- Changes to the Basel III capital output floor requirements that will ensure that banks' RWA generated by internal models are not lower than 72.5% of RWA as calculated under the Basel III framework's standardized approaches. The new approach to the capital output floor will be phased in beginning at 50% in 2022, increasing by 5% every year thereafter to a rate of 72.5% in 2027; and
- Finalized leverage ratio requirements, including a new buffer requirement for global systemically important banks (G-SIBs) starting in 2022. The finalized leverage ratio guideline includes changes to the measurement for derivative exposures, treatment of unsettled trades, and revisions to credit conversion factors related to off-balance sheet items.

In July 2018, OSFI issued for public consultation a discussion paper on the proposed implementation of the final Basel III reforms in Canada in response to the BCBS publishing the final Basel III reforms in December 2017, as discussed above. Notable areas where the discussion paper differs from the BCBS guidance include:

- Potentially accelerating the implementation of the revised operational risk framework to 2021;
- Advancing the calibration of the capital output floor to 72.5% starting in 2022;
- Applying the higher leverage ratio requirement to Canadian D-SIBs starting in 2022; and
- Modifying model parameters and approaches for certain assets under the credit risk framework.

In January 2019, the BCBS published the final standard "Revisions to the minimum capital requirements for market risk", which aims to address issues related to the implementation of the market risk standard published in January 2016. The BCBS implementation date for the market risk standard is January 1, 2022.

In June 2019, the BCBS issued two publications impacting the leverage ratio calculation and associated disclosures effective January 2022. "Leverage ratio treatment of client cleared derivatives" aligns the measurement of client cleared derivatives with the standardized approach to measuring counterparty credit risk exposures, allowing cash and non-cash forms of segregated initial and variation margin received to offset the replacement cost and potential future exposure for these derivatives only. "Revisions to leverage ratio disclosure requirements" requires banks to disclose their leverage ratios based on both quarter-end and daily average values for securities financing transactions, allowing for a better understanding of actual leverage employed throughout the period.

In July 2019, OSFI issued revisions to its capital requirements for operational risk applicable to deposit-taking institutions, reflecting the final Basel III revisions published by the BCBS in December 2017. In advance of these new requirements, institutions that are currently approved to use the advanced measurement approach for operational risk capital are required to report using the current standardized approach for fiscal year 2020.

Domestic Stability Buffer

In December 2018, OSFI announced an increase in the Domestic Stability Buffer requirement from 1.5% to 1.75% effective April 30, 2019. This increased OSFI's target capital ratios, including all buffers, for CET1, Tier 1 and Total capital to 9.75%, 11.25% and 13.25%, respectively.

In June 2019, OSFI announced a second increase in the Domestic Stability Buffer requirement, from 1.75% to 2.0% effective October 31, 2019. This increased OSFI's target capital ratios, including all buffers, for CET1, Tier 1 and Total capital to 10.0%, 11.5% and 13.5% respectively.

Revised Pillar 3 disclosure requirements

In January 2015, the BCBS issued "Revised Pillar 3 disclosure requirements", which sets out the first phase of an initiative to replace existing Pillar 3 disclosure requirements for the various types of risk. Pillar 3 aims to promote market discipline through regulatory disclosure requirements, in order to improve comparability and consistency of risk disclosures and increase transparency and confidence about a bank's exposure to risk and the overall adequacy of its regulatory capital. We implemented the first phase of the Pillar 3 disclosure requirements in the fourth quarter of 2018, with the exception of certain market risk related disclosures that have been deferred until the latter phases of the project as permitted by the OSFI guideline issued in April 2017.

In March 2017, the BCBS released "Pillar 3 disclosure requirements – consolidated and enhanced framework", a standard establishing the second phase of the project. This standard includes enhancements to the January 2015 requirements, the introduction of several new disclosure requirements, and the consolidation of all existing BCBS disclosure requirements into the Pillar 3 framework.

In December 2018, the BCBS issued "Pillar 3 disclosure requirements – updated framework", a standard establishing the third phase of an initiative to replace existing Pillar 3 requirements for the various types of risk. This standard includes enhancements to the first and second phases of the BCBS initiative, for which standards were issued in January 2015 and March 2017, respectively, the introduction of several new disclosure requirements, and the consolidation of all existing BCBS disclosure requirements into the Pillar 3 framework.

OSFI has not yet released its requirements for the second and third phases of the Pillar 3 framework, though it has provided separate guidance regarding certain disclosure requirements, including the Total Loss Absorbing Capacity (TLAC) disclosure requirements contemplated in the second phase which we implemented in the first quarter of 2019.

Global systemically important banks – public disclosure requirements

On July 5, 2018, the BCBS issued "Global systemically important banks: revised assessment methodology and the higher loss absorbency requirement" as a result of the first review of the G-SIB framework. The core elements of the framework have been maintained. A trading volume indicator has been added to the substitutability category, increasing the existing 12 indicators to 13. The scope of consolidation for the G-SIB framework will now include insurance subsidiaries. The revised assessment methodology must be effective by the 2021 G-SIB assessment. The framework will continue to be reviewed every three years with the next review to be completed by 2021.

Other regulatory developments

In October 2017, the BCBS issued the final guideline on the identification and management of step-in risk. Step-in risk is the risk that a bank might provide financial support to an unconsolidated entity beyond, or in the absence of, any contractual obligations or equity ties, should the entity experience financial stress. The focus of the guideline is on unconsolidated entities such as securitization conduits, structured investment vehicles, and money market funds. The objective of the guideline is to mitigate this risk through banks' self-assessment and reporting to supervisors, and not by the automatic application of a Pillar I liquidity or capital charge.

In April 2019, OSFI released the final guideline "Large Exposure Limits for Domestic Systemically Important Banks". The guideline is intended to limit maximum losses a lender could incur as a result of the default of an individual obligor or set of connected obligors, and is not expected to have a significant impact on our operations. The guideline has an implementation date of November 1, 2019.

In May 2019, OSFI issued revisions to "Guideline B-12: Interest Rate Risk Management", which incorporates guidance contained in the "Interest rate risk in the banking book" standard issued by BCBS in April 2016 with the objective of ensuring institutions have governance processes and controls that remain current and comprehensive with respect to defining a risk control framework for managing interest rate risk in the banking book to prudent levels. The new guideline outlines OSFI's expectations regarding risk measurement, development of stressed shock scenarios, as well as key behavioural and model assumptions. The implementation date for the OSFI guideline is January 1, 2020.

CIBC will continue to monitor and prepare for developments impacting regulatory capital requirements and disclosures.

Capital initiatives

The following were the main capital initiatives undertaken in 2019:

Normal course issuer bid

On May 31, 2019, we announced that the Toronto Stock Exchange had accepted the notice of CIBC's intention to commence a normal course issuer bid. Purchases under this bid will terminate upon the earlier of: (i) CIBC purchasing up to a maximum of 9 million common shares; (ii) CIBC providing a notice of termination; or (iii) June 3, 2020. Our previous bid terminated on June 3, 2019. During the year, we purchased and cancelled 1,000,000 common shares under the current bid at an average price of $109.06 for a total amount of $109 million.

Shareholder investment plan (the plan)

Effective with the October 28, 2016 dividend, CIBC has elected to issue shares from Treasury to fulfill the requirements of the plan. Pursuant to the plan, we issued 1,777,738 common shares for consideration of $194 million for the year ended October 31, 2019.

Dividends

Our quarterly common share dividend was increased from $1.36 per share to $1.40 per share for the quarter ended April 30, 2019, and from $1.40 per share to $1.44 per share for the quarter ended October 31, 2019.

Common and preferred share dividends are declared quarterly at the discretion of the Board. The declaration and payment of dividends is governed by Section 79 of the *Bank Act* (Canada), the terms of the preferred shares, and the terms of the Tier 1 notes issued by CIBC Capital Trust, as explained in Notes 15 and 16 to the consolidated financial statements.

Preferred shares

On January 22, 2019, we issued 13 million Non-cumulative Rate Reset Class A Preferred Shares Series 49 (NVCC) (Series 49 Shares) with a par value of $25.00 per share, for gross proceeds of $325 million. On June 4, 2019, we issued 10 million Non-cumulative Rate Reset Class A Preferred Shares Series 51 (NVCC) (Series 51 shares) with a par value of $25.00 per share, for gross proceeds of $250 million.

Holders of the Non-cumulative Rate Reset Class A Preferred Shares Series 39 (NVCC) (Series 39 shares) had the option to convert their shares into Non-cumulative Floating Rate Class A Preferred Shares Series 40 (NVCC) (Series 40 shares) on a one-for-one basis on July 31, 2019. As the conditions for conversion were not met, no Series 40 shares were issued, and all of the Series 39 shares remain outstanding. The dividend on the Series 39 shares was reset to 3.713%, payable quarterly as and when declared by the Board, effective for the five-year period commencing July 31, 2019.

See the "Outstanding share data" section below and Note 15 to the consolidated financial statements for further details.

CIBC Tier 1 Notes

On June 30, 2019, CIBC Capital Trust, a trust wholly owned by CIBC, redeemed all $1.3 billion of its 9.976% CIBC Tier 1 Notes – Series A (the notes) due June 30, 2108. In accordance with their terms, the notes were redeemed at 100% of their principal amount, together with accrued and unpaid interest thereon. As a result of the redemption of the notes by CIBC Capital Trust, CIBC redeemed the corresponding senior deposit notes issued by CIBC to CIBC Capital Trust on June 30, 2019.

Subordinated indebtedness

On June 19, 2019, we issued $1.5 billion principal amount of 2.95% Debentures (subordinated indebtedness). The Debentures bear interest at a fixed rate of 2.95% per annum (paid semi-annually) until June 19, 2024, and at the three-month Canadian dollar bankers' acceptance rate plus 1.18% per annum thereafter (paid quarterly) until maturity on June 19, 2029.

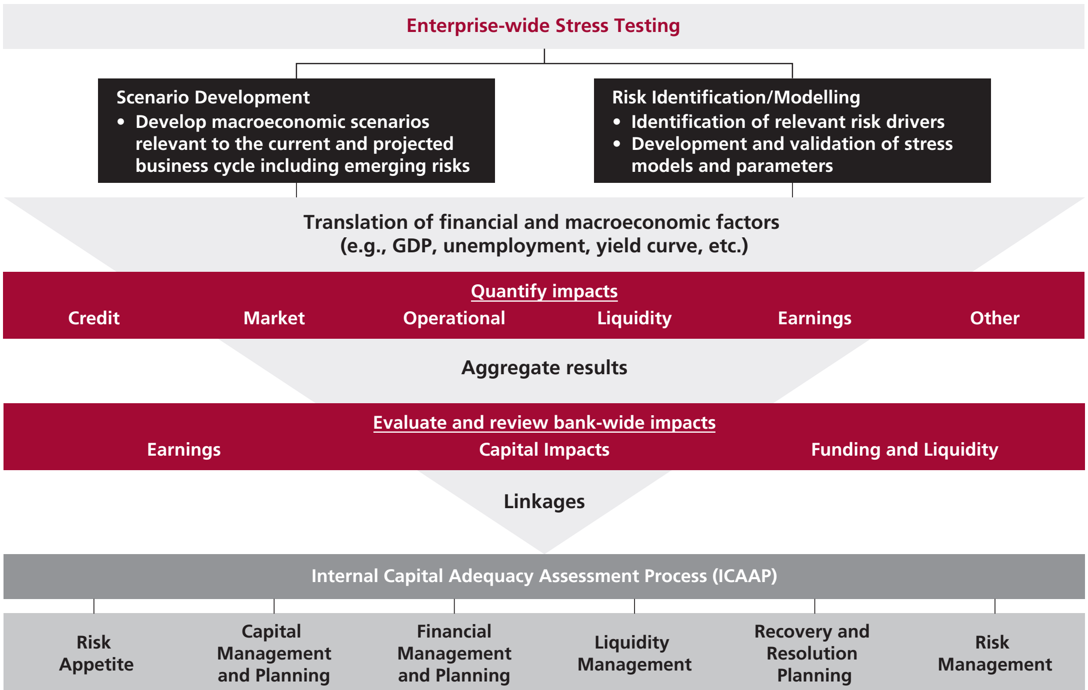
On October 28, 2019, we redeemed all $1.0 billion of our 3.00% Debentures due October 28, 2024. In accordance with their terms, the Debentures were redeemed at 100% of their principal amount, plus accrued and unpaid interest thereon.

Enterprise-wide stress testing

We perform enterprise-wide stress testing on at least an annual basis and the results are an integral part of our ICAAP, as defined by Pillar II of the Basel III Accord, wherein we identify and measure our risks on an ongoing basis in order to ensure that the capital available is sufficient to cover all risks across CIBC, including the impacts of stress testing. We maintain a process which determines plausible but stressed economic scenarios such as global recessions and housing price shocks, and then apply these stress scenarios to our bank-wide exposures to determine the impact on the consolidated statement of income, RWA requirements, and consequently, key capital ratios. This helps us analyze the potential risks within our portfolios and establish prudent capital levels in excess of the regulatory minimum requirements. All of the elements of capital are monitored throughout the year and the capital plan is adjusted as appropriate.

Management determines the range of scenarios to be tested. Macroeconomic stress test scenarios are designed to be both severe and plausible and designed to be consistent with OSFI's stress testing framework to ensure that they are comprehensive.

The following diagram summarizes the enterprise-wide stress testing process including the development of scenarios, identification of risk drivers and linkages to our other bank-wide ICAAP processes. The process includes syndication with our economists and lines of business to ensure scenarios are relevant to our businesses and there is a consistent interpretation of the scenarios across CIBC.



Stress test scenarios are designed to capture a wide range of macroeconomic and financial variables that are relevant to assess the impact on our specific portfolios. This includes, for example, GDP, unemployment, house prices, interest rates and equity prices.

The stress testing process is comprehensive using a bottoms-up analysis of each of our bank-wide portfolios, and results are analyzed on a product, location and sector basis. Our stress testing approach combines the use of statistical models and expert judgment to ensure the results are reasonable in estimating the impacts of the stress scenarios.

Stress testing methodologies and results are subject to a detailed review and challenge from both our lines of business and Risk Management. Stress testing results are presented for review to the Risk Management Committee and are also shared with the Board and OSFI. The results of our enterprise-wide stress testing are used to highlight any vulnerabilities and ensure we remain well capitalized against regulatory and management expectations.

A key objective of the enterprise-wide stress tests is to identify key areas of exposure and foster discussion of management actions that would be taken to mitigate the impact of stress scenarios. Reverse stress testing is also integrated into our recovery and resolution planning process to determine worst case scenarios that would result in CIBC reaching the point of non-viability from which remedial actions are then considered.

Additional information on stress testing is provided in the "Management of risk" section.

Recovery plan

Federally regulated financial institutions must maintain robust and credible recovery plans that identify options to restore financial strength and viability when under severe stress. CIBC continues to maintain and update its recovery plan in line with OSFI requirements.

Resolution plan

In 2019, the Canada Deposit Insurance Corporation (CDIC) issued guidance for a comprehensive bank-authored resolution plan. Each Canadian D-SIB must have a credible and feasible resolution plan documented and in place, demonstrating how the bank can be resolved in an orderly manner while ensuring the continuity of critical financial services. CIBC continues to develop its resolution plan deliverables in line with regulatory requirements and timelines for final submission to CDIC by December 2020.

Outstanding share data

The table below provides a summary of our outstanding shares, NVCC capital instruments, and the maximum number of common shares issuable on conversion/exercise:

$ millions, except number of shares and per share amounts, as at November 29, 2019	Shares outstanding		Minimum conversion price per common share	Maximum number of common shares issuable on conversion/exercise
	Number of shares	Amount		
Common shares	445,440,208	$ 13,628		
Treasury shares – common shares	32,588	4		
Preferred shares (1)(2)				
Series 39 (NVCC)	16,000,000	$ 400	$ 5.00	80,000,000
Series 41 (NVCC)	12,000,000	300	5.00	60,000,000
Series 43 (NVCC)	12,000,000	300	5.00	60,000,000
Series 45 (NVCC)	32,000,000	800	5.00	160,000,000
Series 47 (NVCC)	18,000,000	450	5.00	90,000,000
Series 49 (NVCC)	13,000,000	325	5.00	65,000,000
Series 51 (NVCC)	10,000,000	250	5.00	50,000,000
Treasury shares – preferred shares (1)(2)	–	–		
Subordinated indebtedness (2)(3)				
3.42% Debentures due January 26, 2026 (NVCC)	n/a	1,000	5.00	300,000,000
3.45% Debentures due April 4, 2028 (NVCC)	n/a	1,500	5.00	450,000,000
2.95% Debentures due June 19, 2029 (NVCC)	n/a	1,500	5.00	450,000,000
Stock options outstanding				5,125,447

(1) Upon the occurrence of a Trigger Event, each share is convertible into a number of common shares, determined by dividing the par value of $25.00 plus declared and unpaid dividends by the average common share price (as defined in the relevant prospectus supplement) subject to a minimum price per share (subject to adjustment in certain events as defined in the relevant prospectus supplement). Preferred shareholders do not have the right to convert their shares into common shares.
(2) The maximum number of common shares issuable on conversion excludes the impact of declared but unpaid dividends and accrued interest.
(3) Upon the occurrence of a Trigger Event, the Debentures are convertible into a number of common shares, determined by dividing 150% of the par value plus accrued and unpaid interest by the average common share price (as defined in the relevant prospectus supplement) subject to a minimum price per common share (subject to adjustment in certain events as defined in the relevant prospectus supplement).
n/a Not applicable.

The occurrence of a "Trigger Event" would result in conversion of all of the outstanding NVCC instruments described above, which would represent a dilution impact of 80% based on the number of CIBC common shares outstanding as at October 31, 2019. As described in the Capital Adequacy Guidelines, a Trigger Event occurs when OSFI determines the bank is or is about to become non-viable and, if after conversion of all contingent instruments and consideration of any other relevant factors or circumstances, it is reasonably likely that its viability will be restored or maintained; or if the bank has accepted or agreed to accept a capital injection or equivalent support from a federal or provincial government, without which OSFI would have determined the bank to be non-viable.

Bank recapitalization (Bail-in) conversion regulations

The Department of Finance's final bail-in regulations became effective September 23, 2018. These regulations provide certain statutory powers to CDIC to enact the bail-in regime, including the ability to convert specified eligible shares and liabilities of D-SIBs into common shares in the event such a bank becomes non-viable.

The Superintendent of Financial Institutions (the Superintendent) is responsible for designating D-SIBs, setting minimum TLAC requirements, and determining whether a bank is non-viable. Senior debt issued by CIBC on or after September 23, 2018, with an original term to maturity of more than 400 days (including explicit or embedded options) that is unsecured or partially secured is subject to bail-in. Consumer deposits, certain derivatives, covered bonds, and certain structured notes would not be eligible for bail-in. Beginning in the first quarter of 2022, D-SIBs will be required to maintain a supervisory target TLAC ratio (which is comprised of a minimum risk-based TLAC ratio of 21.5% plus the then applicable Domestic Stability Buffer) and a minimum TLAC leverage ratio of 6.75%.

Under the bail-in regime there is no fixed and pre-determined contractual conversion ratio for the conversion of the specified eligible shares and liabilities of CIBC that are subject to a bail-in conversion into common shares, nor are there specific requirements regarding whether liabilities subject to a bail-in conversion are converted into common shares. CDIC determines the timing of the bail-in conversion, the portion of the specified eligible shares and liabilities to be converted and the terms and conditions of the conversion, subject to parameters set out in the bail-in regime.

As at October 31, 2019, $8,986 million (October 31, 2018: $190 million) of our outstanding liabilities were subject to conversion under the bail-in regime.

Non-cumulative Rate Reset Class A Preferred Shares Series 39 (NVCC) (Series 39 shares) and Non-cumulative Floating Rate Class A Preferred Shares Series 40 (NVCC) (Series 40 shares)

For the initial five-year period to the earliest redemption date of July 31, 2019, the Series 39 shares paid quarterly cash dividends, as declared, at a rate of 3.90%. The dividend was reset to 3.713%, payable quarterly as and when declared by the Board, effective for the five-year period commencing July 31, 2019. On July 31, 2024, and on July 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 2.32%.

Holders of the Series 39 shares had the right to convert their shares on a one-for-one basis into Series 40 shares, subject to certain conditions, on July 31, 2019. As the conditions for conversion were not met, no Series 40 shares were issued, and all of the Series 39 shares remain outstanding. Holders of the Series 39 shares will have the right to convert their shares on a one-for-one basis into Series 40 shares, subject to certain conditions, on July 31, 2024 and on July 31 every five years thereafter. Holders of the Series 40 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 2.32%. Holders of the then outstanding Series 40 shares may convert their shares on a one-for-one basis into Series 39 shares, subject to certain conditions, on July 31, 2029 and on July 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 39 shares at par on July 31, 2024, and on July 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 40 shares at par on July 31, 2029, and on July 31 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 41 (NVCC) (Series 41 shares)
For the initial five-year period to the earliest redemption date of January 31, 2020, the Series 41 shares pay quarterly cash dividends, if declared, at a rate of 3.75%. On January 31, 2020, and on January 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 2.24%.

Holders of the Series 41 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 42 (NVCC) (Series 42 shares), subject to certain conditions, on January 31, 2020 and on January 31 every five years thereafter. Holders of the Series 42 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 2.24%. Holders of the Series 42 shares may convert their shares on a one-for-one basis into Series 41 shares, subject to certain conditions, on January 31, 2025 and on January 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 41 shares at par on January 31, 2020 and on January 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 42 shares at par on January 31, 2025 and on January 31 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 43 (NVCC) (Series 43 shares)
For the initial five-year period to the earliest redemption date of July 31, 2020, the Series 43 shares pay quarterly cash dividends, if declared, at a rate of 3.60%. On July 31, 2020, and on July 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 2.79%.

Holders of the Series 43 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 44 (NVCC) (Series 44 shares), subject to certain conditions, on July 31, 2020 and on July 31 every five years thereafter. Holders of the Series 44 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 2.79%. Holders of the Series 44 shares may convert their shares on a one-for-one basis into Series 43 shares, subject to certain conditions, on July 31, 2025 and on July 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 43 shares at par on July 31, 2020 and on July 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 44 shares at par on July 31, 2025 and on July 31 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 45 (NVCC) (Series 45 shares)
For the initial five-year period to the earliest redemption date of July 31, 2022, the Series 45 shares pay quarterly cash dividends, if declared, at a rate of 4.40%. On July 31, 2022, and on July 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 3.38%.

Holders of the Series 45 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 46 (NVCC) (Series 46 shares), subject to certain conditions, on July 31, 2022 and on July 31 every five years thereafter. Holders of the Series 46 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 3.38%. Holders of the Series 46 shares may convert their shares on a one-for-one basis into Series 45 shares, subject to certain conditions, on July 31, 2027 and on July 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 45 shares at par on July 31, 2022 and on July 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 46 shares at par on July 31, 2027 and on July 31 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 47 (NVCC) (Series 47 shares)
For the initial five-year period to the earliest redemption date of January 31, 2023, the Series 47 shares pay quarterly cash dividends, if declared, at a rate of 4.50%. On January 31, 2023, and on January 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 2.45%.

Holders of the Series 47 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 48 (NVCC) (Series 48 shares), subject to certain conditions, on January 31, 2023 and on January 31 every five years thereafter. Holders of the Series 48 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 2.45%. Holders of the Series 48 shares may convert their shares on a one-for-one basis into Series 47 shares, subject to certain conditions, on January 31, 2028 and on January 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 47 shares at par on January 31, 2023 and on January 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 48 shares at par on January 31, 2028 and on January 31 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 49 (NVCC) (Series 49 shares)
For the initial five-year period to the earliest redemption date of April 30, 2024, the Series 49 shares pay quarterly cash dividends, if declared, at a rate of 5.20%. On April 30, 2024, and on April 30 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 3.31%.

Holders of the Series 49 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 50 (NVCC) (Series 50 shares), subject to certain conditions, on April 30, 2024 and on April 30 every five years thereafter. Holders of the Series 50 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 3.31%. Holders of the Series 50 shares may convert their shares on a one-for one basis into Series 49 shares, subject to certain conditions, on April 30, 2029 and on April 30 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 49 shares at par on April 30, 2024 and on April 30 every five years thereafter; we may redeem all or any part of the then outstanding Series 50 shares at par on April 30, 2029 and on April 30 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 51 (NVCC) (Series 51 shares)
For the initial five-year period to the earliest redemption date of July 31, 2024, the Series 51 shares pay quarterly cash dividends, if declared, at a rate of 5.15%. On July 31, 2024, and on July 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 3.62%.

Holders of the Series 51 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 52 (NVCC) (Series 52 shares), subject to certain conditions, on July 31, 2024 and on July 31 every five years thereafter. Holders of the Series 52 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 3.62%. Holders of the Series 52 shares may convert their shares on a one-for-one basis into Series 51 shares, subject to certain conditions, on July 31, 2029 and on July 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 51 shares at par on July 31, 2024 and on July 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 52 shares at par on July 31, 2029 and on July 31 every five years thereafter.

Off-balance sheet arrangements

We enter into off-balance sheet arrangements in the normal course of our business. We consolidate all of our sponsored trusts that securitize our own assets.

Non-consolidated structured entities

We manage and administer a single-seller conduit and several CIBC-sponsored multi-seller conduits in Canada. The multi-seller conduits acquire direct or indirect ownership or security interests in pools of financial assets from our clients and finance the acquisitions by issuing asset-backed commercial paper (ABCP) to investors. The single-seller conduit acquires financial assets and finances these acquisitions through a credit facility provided by a syndicate of financial institutions. The sellers to the conduits may continue to service the assets and may be exposed to credit losses realized on these assets, typically through the provision of over-collateralization or another form of retained interest. The conduits may obtain credit enhancement from third-party providers.

We generally provide the multi-seller conduits with commercial paper backstop liquidity facilities, securities distribution, and provide both the single and multi-seller conduits with accounting, cash management, and operations services. The liquidity facilities for the managed and administered multi-seller conduits require us to provide funding, subject to the satisfaction of certain conditions with respect to the conduits, for ABCP not placed with external investors. We may also purchase ABCP issued by the multi-seller conduits for market making purposes.

We are required to maintain certain short-term and/or long-term debt ratings with respect to the liquidity facilities that we provide to the sponsored multi-seller conduits. If we are downgraded below the level specified under the terms of those facilities, we must provide alternative satisfactory liquidity arrangements, such as procuring an alternative liquidity provider that meets the minimum rating requirements.

We may also act as the counterparty to derivative contracts entered into by a multi-seller conduit in order to convert the yield of the underlying assets to match the needs of the multi-seller conduit's investors or to mitigate the interest rate, basis, and currency risk within the conduit.

We earn fees for providing services related to the non-consolidated single-seller and multi-seller conduits, such as backstop liquidity facilities, distribution, transaction structuring, and conduit administration. These fees totalled $54 million in 2019 (2018: $55 million). All fees earned in respect of activities with the conduits are on a market basis.

As at October 31, 2019, the amount funded for the various asset types in the multi-seller conduits amounted to $7.1 billion (2018: $7.0 billion). The estimated weighted-average life of these assets was 1.6 years (2018: 1.7 years). Our holdings of commercial paper issued by the non-consolidated sponsored multi-seller conduits that offer commercial paper to external investors were $26 million (2018: $9 million). Our committed backstop liquidity facilities to these conduits were $8.8 billion (2018: $8.8 billion). We also provided credit facilities of $50 million (2018: $50 million) to these conduits.

We participated in a syndicated facility for a three-year commitment of $700 million to the single-seller conduit that provides funding to franchisees of a major Canadian retailer. Our portion of the commitment was $130 million (2018: $130 million). As at October 31, 2019, we funded $87 million (2018: $93 million) through the issuance of bankers' acceptances and prime loans.

We engage one or more of the four major rating agencies, DBRS Limited (DBRS), Fitch Ratings Inc. (Fitch), Moody's Investors Service, Inc. (Moody's), and S&P, to opine on the credit ratings of asset-backed securities (ABS) issued by our sponsored securitization vehicles. In the event that ratings differ between rating agencies, we use the lower rating.

We also have investments in and provide loans, liquidity and credit facilities to certain other third-party and CIBC-managed structured entities. The on-balance sheet exposure related to these structured entities is included in the consolidated financial statements.

Our on- and off-balance sheet amounts related to the structured entities that are not consolidated are set out in the table below. For additional details on our structured entities, see Note 6 to the consolidated financial statements.

$ millions, as at October 31	**2019**			2018		
	Investments and loans (1)	**Liquidity, credit facilities and commitments**	**Written credit derivatives** (2)	Investments and loans (1)	Liquidity, credit facilities and commitments	Written credit derivatives (2)
Single-seller and multi-seller conduits	**$ 113**	**$ 7,137** (3)	**$ –**	$ 102	$ 7,136 (3)	$ –
Third-party structured vehicles – continuing	**3,345**	**2,358**	**–**	3,347	1,656	–
Structured vehicles run-off	**3**	**13**	**139**	3	13	157
Other	**332**	**127**	**–**	298	114	–

(1) Excludes securities issued by, retained interest in, and derivatives with entities established by CMHC, Federal National Mortgage Association, Federal Home Loan Mortgage Corporation, Government National Mortgage Association, Federal Home Loan Banks, Federal Farm Credit Bank, and Student Loan Marketing Association. $3 million (2018: $3 million) of the exposures related to structured vehicles run-off were hedged.

(2) Disclosed amounts reflect the outstanding notional of written credit derivatives. The negative fair value recorded on the consolidated balance sheet was $112 million (2018: $131 million). Notional of $130 million (2018: $141 million) was hedged with credit derivatives protection from third parties. The fair value of these hedges net of CVA was $104 million (2018: $115 million). An additional notional of $9 million (2018: $16 million) was hedged through a limited recourse note.

(3) Excludes an additional $1.6 billion (2018: $1.7 billion) relating to our backstop liquidity facilities provided to the multi-seller conduits as part of their commitment to fund purchases of additional assets. Also excludes $26 million (2018: $9 million) of our direct investments in the multi-seller conduits which we consider investment exposure.

Other financial transactions

We are the sponsor of several mutual and pooled funds, in the form of trusts. We are the administrator of these funds. In addition, we may act in other capacities, including custodian, trustee, and broker. We earn fees at market rates from these trusts. We do not guarantee either principal or returns to investors in these funds. We act as a trustee of a number of personal trusts and have a fiduciary responsibility to act in the best interests of the beneficiaries of the trusts. We earn a fee for acting as a trustee. We also participate in transactions to modify the cash flows of trusts managed by third-party asset managers to create investments with specific risk profiles, or to assist clients in the efficient management of other risks. Typically, these involve the use of derivative products, which transfer the risks and returns to or from a trust.

Derivatives

We participate in derivatives transactions, as a market maker facilitating the needs of our clients or as a principal to manage the risks associated with our funding, investing and trading strategies. All derivatives are recorded at fair value on our consolidated balance sheet. See Notes 12 and 23 to the consolidated financial statements for details on derivative contracts and the risks associated with them.

Credit-related arrangements

Credit-related arrangements are generally off-balance sheet instruments and are typically entered into to meet the financing needs of clients. In addition, there are certain exposures for which we could be obligated to extend credit that are not recorded on the consolidated balance sheet. For additional details of these arrangements, see the "Liquidity risk" section and Note 21 to the consolidated financial statements.

Guarantees

A guarantee is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor failed to make payment when due in accordance with the original or modified terms of a debt instrument. Guarantees include credit derivatives protection sold and standby and performance letters of credit, as discussed in Notes 12 and 21 to the consolidated financial statements, respectively.

Management of risk

We have provided certain disclosures required under IFRS 7 "Financial Instruments – Disclosures" (IFRS 7) related to the nature and extent of risks arising from financial instruments in the MD&A, as permitted by that IFRS standard. These disclosures are included in the "Risk overview", "Credit risk", "Market risk", "Liquidity risk", "Operational risk", "Reputation, conduct and legal risk", and "Regulatory compliance risk" sections.

40 Risk overview
41 Risk governance structure
42 Risk management structure
43 Risk management process
43 Risk appetite statement
44 Risk policies and limits
45 Risk identification and measurement
46 Stress testing
46 Risk treatment and mitigation
46 Risk monitoring and reporting

46 Top and emerging risks

49 Risks arising from business activities

50 Credit risk
50 Governance and management
50 Policies
51 Process and control
51 Risk measurement
54 Exposure to credit risk
56 Credit quality of portfolios
59 Credit quality performance
60 Exposure to certain countries and regions
60 Selected exposures in certain activities
61 Settlement risk
61 Securitization activities

62 Market risk
62 Governance and management
62 Policies
62 Market risk limits
62 Process and control
62 Risk measurement
63 Trading activities
66 Non-trading activities
67 Pension risk

68 Liquidity risk
68 Governance and management
68 Policies
68 Risk measurement
69 Liquid assets
71 Funding
73 Contractual obligations

74 Other risks
74 Strategic risk
74 Insurance risk
74 Operational risk
76 Technology, information and cyber security risk
76 Reputation, conduct and legal risk
76 Regulatory compliance risk
77 Environmental and related social risk

Risk overview

CIBC faces a wide variety of risks across all of its areas of business. Identifying and understanding risks and their impact allows CIBC to frame its risk appetite and risk management practices. Defining acceptable levels of risk, and establishing sound principles, policies and practices for managing risks, is fundamental to achieving consistent and sustainable long-term performance, while remaining within our risk appetite.

Our risk appetite defines tolerance levels for various risks. This is the foundation for our risk management culture and our risk management framework.

Our risk management framework includes:

- CIBC and SBU-level risk appetite statements;
- Risk frameworks, policies, procedures and limits to align activities with our risk appetite;
- Regular risk reports to identify and communicate risk levels;
- An independent control framework to identify and test compliance with key controls;
- Stress testing to consider the potential impact of changes in the business environment on capital, liquidity and earnings;
- Proactive consideration of risk mitigation options in order to optimize results; and
- Oversight through our risk-focused committees and governance structure.

Managing risk is a shared responsibility at CIBC. Business units and risk management professionals work in collaboration to ensure that business strategies and activities are consistent with our risk appetite. CIBC's approach to enterprise-wide risk management aligns with the three lines of defence model:

(i) As the first line of defence, CIBC's SBUs and functional groups own the risks and are accountable and responsible for identifying and assessing risks inherent in their activities in accordance with the CIBC risk appetite. In addition, they establish and maintain controls to mitigate such risks. The first line of defence may include control groups within the relevant area to facilitate the control framework and other risk-related processes. Control groups provide subject matter expertise to the business lines and/or implement and maintain enterprise-wide control programs and activities. While control groups collaborate with the lines of business in identifying and managing risk, they also challenge risk decisions and risk mitigation strategies.

(ii) The second line of defence is independent from the first line of defence and provides an enterprise-wide view of specific risk types, guidance and effective challenge to risk and control activities. Risk Management, including anti-money laundering (AML) and Compliance, is the primary second line of defence. Risk Management may leverage or rely on subject matter expertise of other groups (e.g., third parties or control groups) to better inform their independent assessments, as appropriate.

(iii) As the third line of defence, CIBC's internal audit function provides reasonable assurance of the design and operating effectiveness of CIBC's controls, processes and systems. Internal audit reports the results of its assessment to management and the Board.

A strong risk culture and communication between the three lines of defence are important characteristics of effective risk management.

We continuously monitor our risk profile against our defined risk appetite and related limits, taking action as needed to maintain an appropriate balance of risk and return. Monitoring our risk profile includes forward-looking analysis of sensitivity to local and global market factors, economic conditions, and political and regulatory environments that influence our overall risk profile.

Regular and transparent risk reporting and discussion at senior management committees facilitates communication of risks and discussion of risk management strategies across the organization.

Risk governance structure

Our risk governance structure is illustrated below:

Board of Directors (the Board): The Board oversees the enterprise-wide risk management program through approval of our risk appetite and supporting risk management policies and limits. The Board accomplishes its mandate through its Audit, Risk Management, Management Resources and Compensation, and Corporate Governance committees, described below.

Audit Committee (AC): The Audit Committee reviews the overall design and operating effectiveness of internal controls and the control environment, including controls over the risk management process.

Risk Management Committee (RMC): This committee assists the Board in fulfilling its responsibilities for defining CIBC's risk appetite and overseeing CIBC's risk profile and performance against the defined risk appetite. This includes oversight of policies, procedures and limits related to the identification, measurement, monitoring and controlling of CIBC's principal business risks.

Management Resources and Compensation Committee (MRCC): This committee is responsible for assisting the Board in its global oversight of CIBC's human capital strategy, including talent and total rewards, and the alignment with CIBC's strategy, risk appetite and controls.

Corporate Governance Committee (CGC): This committee is responsible for assisting the Board in fulfilling its corporate governance oversight responsibilities.

Executive Committee (ExCo): The ExCo, led by the CEO and including the executives reporting directly to the CEO, is responsible for setting business strategy and for monitoring, evaluating and managing risks across CIBC. The ExCo is supported by the following committees:

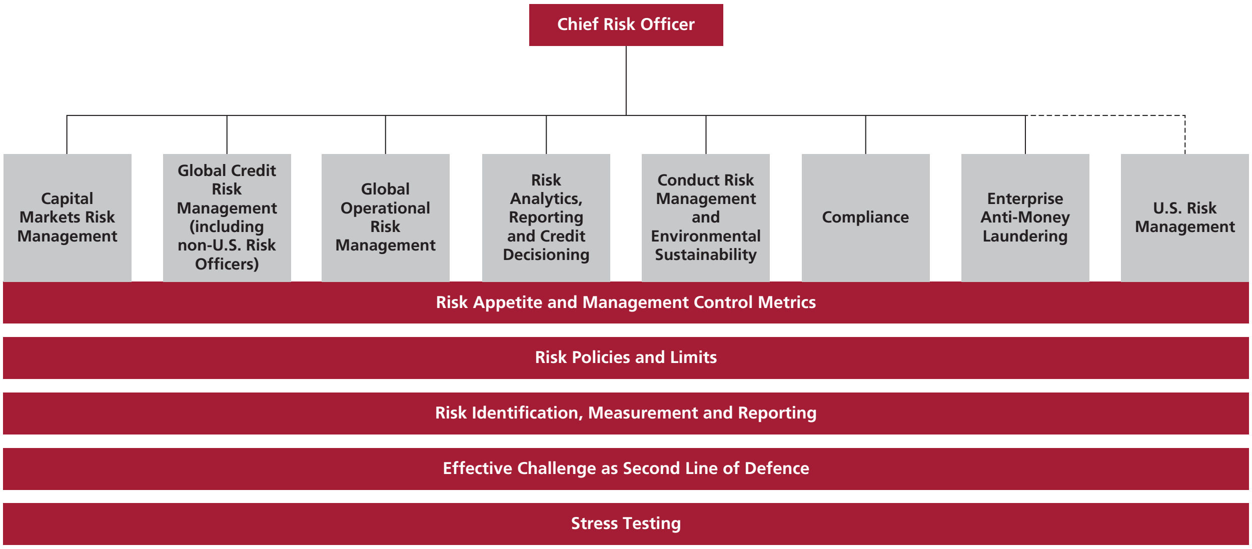
- *Global Asset Liability Committee (GALCO):* This committee, which comprises members from the ExCo and senior Treasury and Risk Management executives, provides oversight regarding capital management, funding and liquidity management, and asset liability management. It also provides strategic direction regarding structural interest rate risk and structural foreign exchange risk postures, approval of funds transfer pricing policies/parameters and approval of wholesale funding plans.
- *Global Risk Committee (GRC):* This committee, which comprises members of the ExCo and senior leaders from the lines of business, Risk Management and other functional groups, provides a forum for discussion and oversight of risk appetite, risk profile and risk-mitigation strategies. Key activities include reviewing, and providing input regarding CIBC's risk appetite statements; monitoring risk profile against risk appetite, reviewing, and evaluating business activities in the context of risk appetite; and identifying, reviewing, and advising on current and emerging risk issues and associated mitigation plans.

Risk management structure

The Risk Management group, led by our Chief Risk Officer (CRO), is responsible for setting risk strategies and for providing independent oversight of the businesses. Risk Management works to identify, assess, mitigate, monitor and control the risks associated with business activities and strategies, and is responsible for providing an effective challenge to the lines of business.

The current structure is illustrated below:

Risk Management Structure



The Risk Management group performs several important activities including:

- Developing CIBC's risk appetite and associated management control metrics;
- Setting risk strategy to manage risks in alignment with our risk appetite and business strategy;
- Establishing and communicating risk policies, procedures and limits to control risks in alignment with risk strategy;
- Measuring, monitoring and reporting on risk levels;
- Identifying and assessing emerging and potential strategic risks;
- Deciding on transactions that fall outside of risk limits delegated to business lines; and
- Ensuring compliance with applicable regulatory and anti-money laundering requirements.

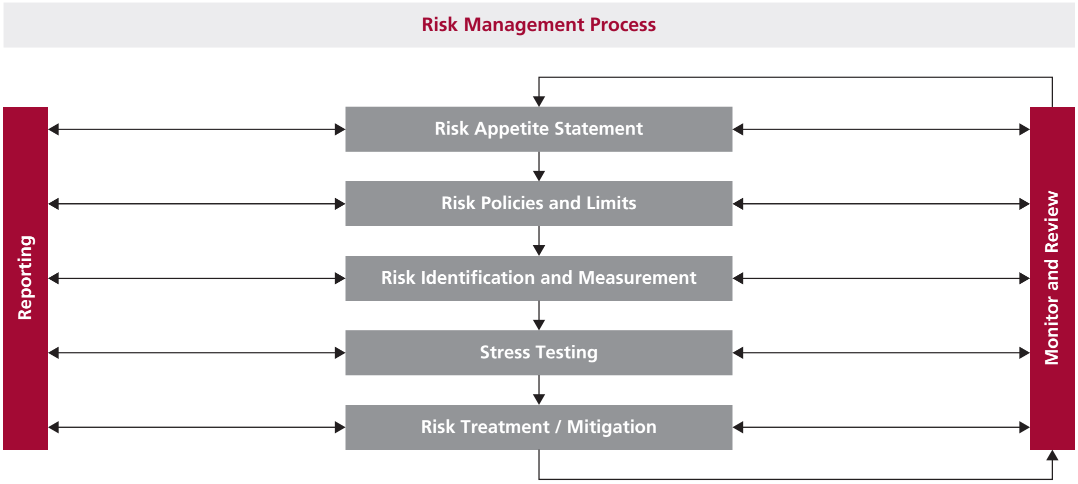
The following key groups within Risk Management, independent of the originating businesses, contribute to our management of risk:

- Capital Markets Risk Management – This group provides independent oversight of the measurement, monitoring and control of market risks (both trading and non-trading), and trading credit risk (also called counterparty credit risk) across CIBC's portfolios, and effective challenge and sound risk management oversight to the treasury/liquidity management function within CIBC.
- Global Credit Risk Management – This group is responsible for the adjudication and oversight of credit risks (including transaction-specific environmental and related social risk[(1)]) associated with our commercial, corporate and wealth management activities, management of the risks in our investment portfolios, as well as management of special loan portfolios.
- Global Operational Risk Management – This group develops the systems and tools to facilitate the identification of operational risks, and has global accountability for the measurement and monitoring of all operational risk types including fraud, model, third party, technology and information security risks.
- Risk Analytics, Reporting and Credit Decisioning – This group is responsible for enterprise-wide analysis, including enterprise-wide stress testing and reporting, loan loss reporting, risk policy and governance, risk systems and models, as well as economic and regulatory capital methodologies. In addition, this group manages credit risk in personal and small business products offered through the various distribution channels (residential mortgages, credit cards, personal loans/lines of credit, small business loans) and performs analytics to optimize retail credit performance, along with collections, fraud, and anti-money laundering outcomes.
- Conduct Risk Management and Environmental Sustainability – This group is responsible for enterprise-wide conduct risk, including sales practice risk, effective challenge of compensation plan changes and non-transactional reputation risk. In addition, this group identifies and manages environmental risk, including the physical and transition risks associated with climate change.
- Compliance – This group provides timely and proactive advice and independent oversight of CIBC's compliance with applicable regulatory requirements.
- Enterprise Anti-Money Laundering – This group is responsible for all aspects of compliance with and oversight of requirements relating to anti-money laundering, anti-terrorist financing, and sanctions measures.
- U.S. Risk Management – This group carries out the mandate of CIBC Risk Management at a regional level under the leadership of the U.S. CRO, with oversight from the U.S. Risk Management Committee and reporting to the Senior Executive Vice-President, U.S. Region. The group provides independent oversight for the identification, management, measurement, monitoring and control of risks in the U.S.

(1) See the "Environmental and related social risk" section for further details, including oversight of non-transaction-specific environmental and related social risk, which reports directly into the CRO.

Risk management process

Our risk management process is illustrated below:



Risk appetite statement

CIBC's risk appetite statement defines the amount of risk we are willing to assume in pursuit of our strategic and financial objectives. Our guiding principle is to practice sound risk management, supported by strong capital and funding positions, as we pursue our client-focused strategy. In defining our risk appetite, we take into consideration our vision, values, and strategy, along with our risk capacity (defined by regulatory constraints). It defines how we conduct business, which is to be consistent with the following objectives:

- Doing the right thing for our clients/stakeholders;
- Safeguarding our reputation and brand;
- Engaging in client-oriented businesses that we understand;
- Maintaining a balance between risk and returns;
- Retaining a prudent attitude towards tail and event risk;
- Meeting regulatory expectations and/or identifying and having plans in place to address any issues in a timely manner; and
- Achieving/maintaining an AA rating.

Our CIBC risk appetite statement contains metrics with limits that define our risk tolerance levels. In addition, we have SBU risk appetite statements that are integrated with the overall CIBC risk appetite statement that further articulate our business level risk tolerances.

Our CIBC risk appetite statement is reviewed annually in conjunction with our strategic, financial and capital planning cycle to ensure alignment and is approved annually by the Board. To help ensure CIBC stays within its risk appetite, the Board, RMC, and senior management regularly receive and review reporting on our risk profile against the risk appetite limits.

All strategic business decisions, as well as day-to-day business decisions, are governed by our risk appetite framework. Strategic decisions are evaluated to ensure that the risk exposure is within our risk appetite. Day-to-day activities and decisions are governed by our framework of risk tolerance limits, policies, standards and procedures that support our risk appetite statement.

Risk culture

Risk culture refers to desired attitudes and behaviours relative to risk taking. At CIBC, we strive to achieve a consistent and effective risk culture by:

- Promoting, through both formal and informal channels, a shared accountability of risk identification, management and mitigation;
- Cultivating an environment of transparency, open communication and robust discussion of risk;
- Setting the appropriate "tone at the top" through clear communication and reinforcement; and
- Identifying behaviours that are and are not aligned with risk appetite, and reinforce appropriate behaviours.

Every year, all employees are required to complete formal training on risk appetite, reputation risk, operational risk, code of conduct, anti-money laundering and other key risk topics. By taking this mandatory training, all employees develop a basic knowledge of risk management in support of our risk culture. This training is supplemented by our risk appetite statement, risk management priorities, documents on our internal website and internal news releases. In addition, we have policies, procedures and limits in place that govern our day-to-day business activity, with escalation procedures for limit breaches outlined accordingly.

Risk input into performance and compensation

Throughout the year, the Risk Management team manages various compensation risk reviews. These reviews are part of the second line of defence responsibilities to review and challenge new compensation plans, changes to existing compensation plans, and compensation plans that will be closed. All compensation plans are rated as either high-risk or low-risk with high-risk compensation plans requiring approval from the CRO.

At each year-end, Risk Management provides an assessment of adherence to risk appetite and material risk matters across CIBC. Risk Management also considers a number of risk inputs to identify matters which may directly impact individual compensation awards and/or performance ratings. Annually, Risk Management reviews the assessment with both the RMC and the MRCC.

The MRCC oversees the performance management and compensation process. The MRCC is responsible for assisting the Board in its global oversight of CIBC's human capital strategy, including talent and total rewards, and the alignment with CIBC's strategy, risk appetite and controls. The MRCC's key compensation-related responsibilities include:

- Approving CIBC's compensation philosophy and any material changes to CIBC's compensation principles or practices;
- Approving new material compensation policies and material changes to existing material compensation policies;

- Reviewing and recommending for Board approval new material compensation plans or changes to existing material compensation plans;
- Assessing the appropriateness and alignment of compensation relative to actual business performance and risks;
- Reviewing and recommending for Board approval incentive compensation funding and allocations, based on an assessment of business performance and risk;
- Reviewing and recommending for Board approval individual compensation target and compensation for the ExCo, including the CEO and other key officers; and
- Approving individual compensation for employees with total direct compensation above a certain materiality threshold.

Risk policies and limits

Our risk policies and limits framework is intended to ensure that risks are appropriately identified, measured, monitored and controlled in accordance with our risk appetite. For most risks, we have developed an overarching framework document that sets out the key principles for managing the associated risks and our key risk policies and limits. This framework is supported by standards, guidelines, processes, procedures and controls that govern day-to-day activities in our businesses. Oversight is provided by management committees, as well as the Board/Board Committees.

Key risk policies and limits are illustrated below:

Risk Management Framework

Risk Appetite Statement and Risk Appetite Framework

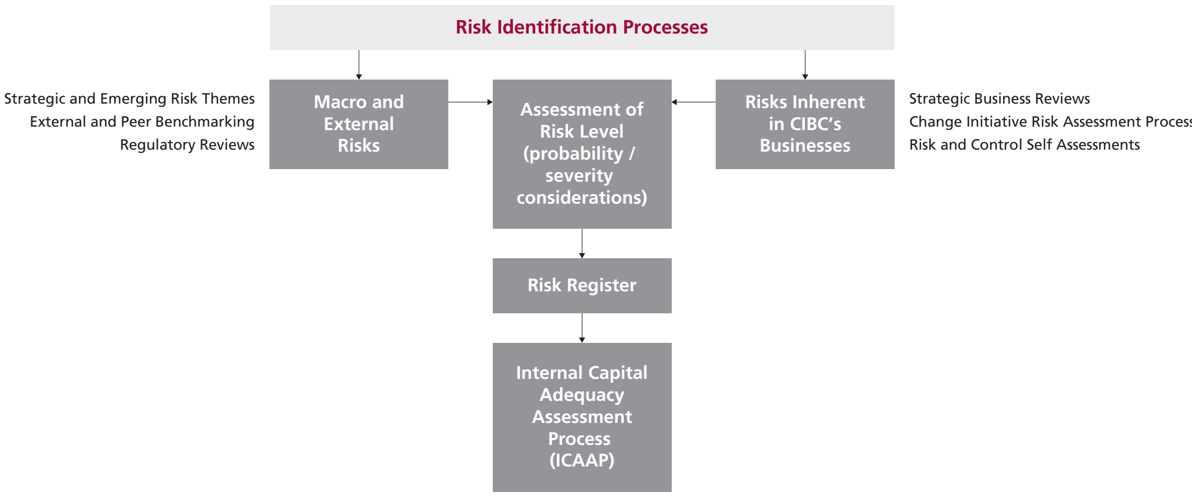
Risk	Overarching Framework / Policy	Risk Limits	Management Oversight
Credit	Credit Risk Management Policy	Credit Concentration Limits Delegated Credit Approval Authorities	Credit Committee Personal and Small Business Credit Risk Committee Global Risk Committee
Market	Trading Credit Risk and Market Risk Management Policies Structural Risk Management Policies	Market Risk Limits Delegated Risk Authorities	Global Risk Committee Global Asset Liability Committee
Operational	Operational Risk Management Policy Control Framework	Key Risk Indicators	Operational Risk and Control Committee Global Risk Committee Technology Risk Committee Model and Parameter Risk Committee
Reputation and conduct	Reputation Risk Management Framework and Policy Conduct Risk Framework	Key Risk Indicators	Reputation and Legal Risk Committee Reputation Risk Committee
Liquidity	Liquidity Risk Management Policy Pledging Policy	Liquidity and Funding Limits Pledging Limits	Global Asset Liability Committee Global Risk Committee
Strategic	Strategic Planning Policy	Risk Appetite Statement	Executive Committee
Regulatory	Regulatory Compliance Management Policy	Key Risk Indicators	Global Risk Committee
Money Laundering/ Terrorist Financing	Anti-Money Laundering (AML)/ Anti-Terrorist Financing (ATF) Framework Enterprise AML/ATF Policy	Risk Appetite Statement Key AML Metrics	AML Executive Steering Committee Global Risk Committee

Risk identification and measurement

Risk identification and measurement are important elements of our risk management framework. Risk identification is a continuous process, generally achieved through:

- Regular assessment of risks associated with lending and trading credit exposures;
- Ongoing monitoring of trading and non-trading portfolios;
- Assessment of risks in new business activities and processes;
- Assessment of risks in complex and unusual business transactions; and
- Regular monitoring of the overall risk profile considering market developments and trends, and external and internal events.

Risk Management maintains a "Risk Register" to list all material risks facing CIBC. The inventory is based on the risks inherent in CIBC's businesses and updated through various processes, illustrated in the following chart, to reflect changes in the nature of the risks we are facing. The Risk Register is used to support our ICAAP, either explicitly in the economic and regulatory capital calculations, or implicitly through the buffer of actual capital over economic capital and regulatory capital.



The decision to register a new risk is based on a risk assessment through our risk identification processes and includes criteria such as severity, measurability and probability. Furthermore, the decision to hold capital for a new risk is also based on whether the risk is being mitigated, and whether capital is deemed to be a suitable mitigant.

We have enterprise-wide methodologies, models and techniques in place to measure both the quantitative and qualitative aspects of risks, appropriate for the various types of risks we face. These methodologies, models and techniques are subject to independent assessment and review to ensure that the underlying logic remains sound, that model risks have been identified and managed, that use of the models continues to be appropriate and outputs are valid.

Risk is usually measured in terms of expected loss, unexpected loss, and economic capital.

Expected loss

Expected loss represents the loss that is statistically expected to occur in the normal course of business, with adjustments for conservatism, in a given period of time.

In respect of credit risk, the parameters used to measure expected loss are PD, LGD and EAD. These parameters are updated regularly and are based on our historical experience through the cycle and benchmarking of credit exposures. The PD, LGD and EAD parameters used for regulatory capital purposes are not adjusted for forward-looking information.

For trading market risks, VaR is a statistical technique used to measure risk. VaR is an estimate of the loss in market value for a given level of confidence that we would expect to incur in our trading portfolio due to an adverse one-day movement in market rates and prices. We also use stressed VaR to replicate our VaR over a period when relevant market factors are in distress.

For trading credit risks associated with market value based products, we use models to estimate exposure relative to the value of the portfolio of trades with each counterparty, giving consideration to market rates and prices.

Unexpected loss and economic capital

Unexpected loss is the statistical estimate of the amount by which actual losses might exceed expected losses over a specified time horizon, computed at a given confidence level. We use economic capital to estimate the level of capital needed to protect us against unexpected losses. Economic capital allows us to assess performance on a risk-adjusted basis.

We also use techniques such as sensitivity analysis and stress testing to help ensure that the risks remain within our risk appetite and that our capital is adequate to cover those risks. Our stress testing program includes evaluation of the potential effects of various economic and market scenarios on our risk profile, earnings and capital. Refer to the "Capital management" section for additional details.

Model risk management

Model risk management encompasses sound development, independent validation, and ongoing monitoring and review of the models as well as governance and controls that are proportionate to the risks. Our model inventory includes, but is not limited to, models that relate to risk measurement (including VaR, economic and regulatory capital), pricing, credit risk rating and scoring models, credit models for the calculation of loss severity and stress testing, and models for the calculation of expected credit losses under IFRS 9. CIBC's approach to provide effective governance and oversight for model risk management is comprised of the following key elements:

- Governance and oversight by management committees, including the Model and Parameter Risk Committee (MPRC), senior management and the Board;

- Policies, procedures and standards to outline applicable roles and responsibilities of the various oversight groups and to provide guidance to identify, measure, control and monitor model risk throughout the model's life cycle; and
- Controls for key operational aspects of model risk management including maintaining a model inventory, model risk ranking, model risk attestation and ongoing monitoring and reporting.

The MPRC is a subcommittee of the GRC and is responsible for reviewing and approving proposals for new and/or modified regulatory, economic capital and financial reporting models and provides oversight of CIBC's regulatory, economic capital and financial reporting models and parameters for credit, market and operational risks. The MPRC has accountability and responsibility for model and parameter approvals, parameter performance monitoring, validation oversight, and policy oversight.

Model risk mitigation policies
We have policies, procedures, standards and controls to ensure effective model risk management for CIBC. A model review and validation is the independent effective challenge that documents the model risk and ensures models are sound and CIBC can rely on their output. The model review and validation process includes:

- Review of model documentation;
- Comprehensive, systematic testing of key model parameters on implementation to ensure results are as expected;
- Replication of the risk quantification process to determine whether the model implementation is faithful to the model specifications;
- Review of whether the model/parameter concepts and assumptions are appropriate and robust;
- Accuracy testing to assess the calibration and accuracy of the risk components including, for example, the discriminative power of rating systems and the reasonableness of capital parameters;
- Sensitivity testing to analyze the sensitivity of model/parameter outputs to model/parameter assumptions and key inputs;
- Scenario and stress testing of the model outputs to key inputs;
- Back-testing by comparing actual results with model-generated risk measures;
- Benchmarking to other models and comparable internal and external data;
- Review of the internal usage of the model/parameter applications to ensure consistency of application;
- Reporting of model status to the MPRC, supported through an up-to-date inventory of regulatory models and parameters;
- A quarterly attestation process for model owners in order to ensure compliance with the Model Risk and Validation Policy; and
- A comprehensive validation report is prepared that identifies the conditions for valid application of the model and summarizes these findings to the model owners, developers and users.

Once a model has been approved for use, ongoing monitoring becomes a joint responsibility of model users, owners and validators.

Stress testing
Stress testing supplements our other risk management tools by providing an estimate of tail risk (i.e., low probability, high severity events). Results of stress testing are interpreted in the context of our risk appetite, including metrics for capital adequacy. Enterprise-wide stress testing, capital planning and financial planning processes are integrated for a comprehensive information system. See the "Financial condition" section for detailed discussion on our enterprise-wide stress testing.

Risk treatment and mitigation
Risk treatment and mitigation is the implementation of options for modifying risk levels. CIBC pursues risk mitigation options in order to control its risk profile in the context of its risk appetite. CIBC's objective is to proactively consider risk mitigation options in order to optimize results.

Discussions regarding potential risk mitigation strategies are held between Risk Management and the lines of business, and at the GRC or GALCO and at the RMC for governance and oversight, as appropriate. In evaluating possible strategies, considerations include costs and benefits, residual risks (i.e., risks that are retained), secondary risks (i.e., those caused by the risk mitigation actions), and appropriate monitoring and review to track results.

Risk controls
Our risk management framework also includes a comprehensive set of risk controls, designed to ensure that risks are being appropriately identified and managed. Our risk controls are part of CIBC's overall Control Framework, developed based on the Committee of Sponsoring Organizations of the Treadway Commission's (COSO) widely accepted "Internal Control – Integrated Framework". The Control Framework also draws on elements of the OSFI Supervisory Framework and Corporate Governance Guidelines.

The Board, primarily through the RMC, approves certain credit risk limits and delegates specific transactional approval authorities to the CEO or jointly to the CEO and CRO. The RMC must approve transactions that exceed delegated authorities. Delegation of authority to business units is controlled to ensure decision-making authorities are restricted to those individuals with the necessary experience levels. In addition, CIBC has rigorous processes to identify, evaluate and remediate risk control deficiencies in a timely manner. Regular reporting is provided to the RMC to evidence compliance with risk limits. Risk limits and the delegation of authority to the CEO or jointly to the CEO and CRO are reviewed annually by the RMC.

Risk monitoring and reporting
To monitor CIBC's risk profile and facilitate evaluation against the risk appetite statement, a number of measurement metrics have been established, with regular reporting against these metrics provided to the GRC and the RMC. This reporting enables decisions on growth and risk mitigation strategies.

Exposures are also regularly monitored against limits, with escalation protocols for limit excesses, should they occur. Escalation protocols ensure awareness at appropriate levels and facilitate management of excesses that is consistent with our risk appetite.

Regular management reports on each risk type are also prepared to facilitate monitoring and control of risk at a more granular level.

Top and emerging risks
We monitor and review top and emerging risks that may affect our future results, and take action to mitigate potential risks if required. We perform in-depth analyses, which can include stress testing our exposures relative to the risks, and provide updates and related developments to the Board on a regular basis. Top and emerging risks are those that we consider to have potential negative implications that are material for CIBC. This section describes those top and emerging risks, as well as regulatory and accounting developments that are material for CIBC.

Technology, information and cyber security risk

Financial institutions like CIBC are evolving their business processes to leverage innovative technologies and the internet to improve client experience and streamline operations. At the same time, cyber threats and the associated financial, reputation and business interruption risks have also increased.

These risks continue to be actively managed by us through strategic risk reviews, enterprise-wide technology and information security programs, with the goal of maintaining overall cyber-resilience that prevents, detects, and responds to threats such as data breaches, malware, unauthorized access, and denial-of-service attacks, which can result in damage to CIBC systems and information, theft or disclosure of confidential information, unauthorized or fraudulent activity, and service disruption.

Given the importance of electronic financial systems, including secure online and mobile banking provided by CIBC to its clients, CIBC monitors the changing environment globally, including cyber threats, mitigation strategies and evolving regulatory requirements, in order to improve our controls and processes to protect our systems and client information. In addition, we perform cyber security preparedness, testing, and recovery exercises to validate our defences, benchmark against best practices and provide regular updates to the Board. CIBC has well-defined cyber incident response protocols and playbooks in the event that a security incident or breach occurs. CIBC also has cyber insurance coverage to help mitigate against certain potential losses associated with cyber incidents. CIBC's insurance coverage is subject to various terms and provisions, including limits on the types and amounts of coverage relating to losses arising from cyber incidents. We periodically assess our insurance coverage based on our risk tolerance and limits.

Despite our commitment to information and cyber security, and given the rapidly evolving threat and regulatory landscape, coupled with a changing business environment, it is not possible for CIBC to identify all cyber risks or implement measures to prevent or eliminate all potential incidents from occurring. However, CIBC monitors its risk profile for changes and continues to refine approaches to security protection and service resilience to minimize the impact of any incidents that may occur.

Third party risk

CIBC's Board and senior management recognize the establishment of third-party relationships as important to CIBC's business model and therefore leverage them to achieve CIBC's business objectives. With the introduction of new technologies, new foreign jurisdictions and increasing reliance on sub-contractors, the third-party landscape continues to evolve. While such relationships may benefit CIBC through reduced costs, innovation, improved performance and increased business competitiveness, they also can introduce risks of failure or disruption to CIBC through breakdowns in people, processes or technology or through external events that impact these third parties.

To mitigate third-party risks, prepare for future third-party risks and changing regulatory expectations, and to ensure existing processes and internal controls are operating effectively, CIBC relies on its strong risk culture and established Third Party Risk Management program, which includes policies, procedures, expertise and resources dedicated to third-party risk management. The program identifies and manages risks that arise from third-party relationships from the point of selection through the life cycle of the business arrangement and supports the maintenance of collaborative relationships that advance CIBC's strategic direction and operational needs within our risk appetite.

Disintermediation risk

Canadian banking clients are increasingly shifting their service transactions from branches to digital platforms. As such, competitive pressure from digital disruptors, both global technology leaders and smaller financial technology entrants, is increasing and the risk of disintermediation is growing due to the level of sophistication of these non-traditional competitors. Cryptocurrencies, such as Bitcoin, are increasingly being recognized by financial institutions as risk factors facing their business operations. One of the major appeals of cryptocurrencies is the anonymity they offer, as participants can transfer assets across the internet without the need for centralized third-party intermediaries such as banks. In view of several shortcomings including their high volatility and propensity for attempted and successful cyber attacks, the widespread adoption of cryptocurrencies as a substitute for government-issued currencies does not appear to be a near-term prospect. However, the underlying blockchain technology is seen to have vast potential which could contribute to increased disintermediation.

Blockchain is a decentralized ledger technology that keeps records that are linked and secured with cryptography. It enables the use of cryptocurrencies, such as Bitcoin. The percentage of global GDP stored on this technology is expected to continue to increase, creating the potential for blockchain to transform business models over time across multiple industries that focus on transaction and record verification.

CIBC manages disintermediation risk through strategic risk reviews as well as investment in emerging channels, in data and analytics capabilities, and in technology and innovation in general, to meet our clients' changing expectations, while working to reduce our cost structure and simplify operations.

Climate risk

The physical effects of climate change such as heat waves, water stress and flooding, along with regulations designed to mitigate climate change, will have a measurable impact on communities and the economy. As the world transitions to a low-carbon economy, we are committed to understanding and responsibly managing the relevant impacts of climate change on our business activities. While CIBC has relatively low direct carbon emissions given we are a service-based company, many of our clients operate in businesses that currently face or will face new carbon emission standards in the foreseeable future.

There is an increasing demand for disclosure around climate-related risk identification and mitigation and we support the disclosure framework developed by the Task Force on Climate-related Financial Disclosures (TCFD). The TCFD reporting framework provides stakeholders with consistent, material climate-related disclosures that are comparable across sectors, industries and countries. A key recommendation by the TCFD is the use of climate-related scenario analysis as a way to provide insight into how physical and transition risks of climate change might impact a business over time. Along with many other global banks, CIBC is participating in the United Nations Environmental Programme Finance Initiative Task Force on Climate-related Financial Disclosures (UNEP FI TCFD) in order to accelerate our progress and ensure consistency in approach to effective climate scenario analysis.

See the "Environmental and related social risk" section for additional information.

Geo-political risk

The level of geo-political risk escalates at certain points in time. While the specific impact on the global economy and on global credit and capital markets would depend on the nature of the event, in general, any major event could result in instability and volatility, leading to widening spreads, declining equity valuations, flight to safe-haven currencies and increased purchases of gold. In the short run, market shocks could hurt the net income of our trading and non-trading market risk positions. Geo-political risk could reduce economic growth, and in combination with the potential impacts on commodity prices and the recent rise of protectionism, could have serious negative implications for general economic and banking activities. Current areas of concern include:

- Ongoing trade tensions between the U.S. and China;
- Diplomatic tensions and the trade dispute between Canada and China;
- Relations between the U.S. and Iran;
- Anti-government protests in Hong Kong;
- Uncertainty regarding the outcome of Brexit negotiations following a third deadline delay and a general election to be held in the U.K. in December; and

- Uncertainty regarding the United States Congress' ratification of the Canada-U.S.-Mexico Agreement, and the potential impact on North American trade policy.

While it is impossible to predict where new geo-political disruption will occur, we do pay particular attention to markets and regions with existing or recent historical instability to assess the impact of these environments on the markets and businesses in which we operate.

Canadian consumer debt and the housing market

As a consequence of historically low interest rates, Canadians had increased debt levels at a pace that exceeded the growth in their income. Most of the increase in household debt levels was driven by higher levels of mortgage debt, which was tied to the Canadian housing market. The Bank of Canada's interest rate increases in 2018, combined with regulatory measures introduced by OSFI, the Department of Finance, and provincial governments, including taxes on foreign ownership and revised mortgage underwriting guidelines (B-20 guidelines), are having their intended effect. Household credit is currently growing at the slowest pace experienced in any non-recessionary period during the post-war era.

While we believe that the probability of a severe housing crash that generates significant losses for mortgage portfolios remains low, future increases in interest rates would elevate the risk associated with an inflated housing market. Further, the high levels of consumer debt would be a concern should the economy falter and unemployment rates begin to increase.

Currently, we qualify variable rate mortgage borrowers using the Bank of Canada five-year fixed benchmark rate, which is typically higher than the variable rate by approximately two percentage points, which is required as part of the B-20 guidelines. Therefore, our variable rate borrowers should be able to withstand some increase in interest rates. In addition, we run our enterprise-wide statistical stress tests at lower home prices to determine potential direct losses, and have also conducted stress tests to assess the impact of rising unemployment rates on borrowers' ability to repay loan obligations.

Money laundering

Money laundering, terrorist financing activities and other related crimes pose a great threat to the stability and integrity of a country's financial sector and its broader economy. In recognition of this threat, the international community has made the fight against these illegal activities a priority. In Canada, amendments to the regulations under the Proceeds of Crime (Money Laundering) and Terrorist Financing Act were published in June 2019 to improve the effectiveness of Canada's AML and ATF regime. The new regulations will require substantial changes to the type of client information we need to collect, and as such, will impact our client-facing systems and transaction, payment processing and reporting systems.

CIBC is committed to adhering to all regulatory requirements pertaining to AML and ATF and implementing best practices to minimize the impact of such activities. As such, CIBC has implemented procedures to ensure that relevant regulatory obligations with respect to the reporting of large cash transactions, electronic funds transfers, and cross-border movements of cash and monetary instruments, are met in each jurisdiction. In addition, all employees are required to complete CIBC's AML/ATF training annually.

Commodity prices

While crude oil prices have rebounded from December 2018 lows, ongoing price stability remains a concern despite supply restrictions and unease arising from geo-political tensions. Factors including the extension of existing output cuts to the end of the first quarter of 2020 by the Organization of the Petroleum Exporting Countries (OPEC), significant volume reductions resulting from U.S. sanctions on Venezuela and Iran, and output disruption from attacks on Saudi Arabian oil facilities are being counteracted by expectations of reduced oil demand in line with the projected deceleration in the pace of global economic growth for 2020. While there has been improvement in the price of Canada's heavy oil benchmark, WCS, and a narrowing of the spread between WCS and WTI, differentials remain volatile, affected by the impact of declines in production limitations mandated by the Alberta government and inadequate transportation capacity. Natural gas prices also continue to be an area of concern, as Alberta Energy Company (AECO) prices – the Canadian gas benchmark – have experienced extreme volatility since mid-2017, mainly due to severe pipeline constraints, with the largest impact felt by Canadian dry gas producers.

CIBC's overall commodity exposure continues to perform within our risk appetite, with losses in our oil and gas portfolio down from peak levels. Clients in our oil and gas portfolio are currently being assessed on the basis of our enhanced risk metrics, and our portfolio is being monitored in a prudent manner.

U.S. banking regulation

CIBC's U.S. operations are subject to supervision by the Board of Governors of the Federal Reserve System (Federal Reserve), and are also subject to a comprehensive federal and state regulatory framework. Our wholly owned subsidiary, CIBC Bancorp USA Inc. (CIBC Bancorp), is a financial holding company subject to regulation and supervision by the Federal Reserve under the Bank Holding Act of 1956, as amended. CIBC Bank USA, our Illinois-chartered bank, is subject to regulation by the U.S. Federal Deposit Insurance Corporation (FDIC) and the Illinois Department of Financial and Professional Regulation. CIBC's New York branch is subject to regulation and supervision by the New York Department of Financial Services and the Federal Reserve. Certain market activities of our U.S. operations are subject to regulation by the SEC and the U.S. Commodity Futures Trading Commission, as well as other oversight bodies.

The scope of these regulations could impact our business in a number of ways. For example, both CIBC Bancorp and CIBC Bank USA are required to maintain minimum capital ratios in accordance with Basel III rules adopted by the U.S. bank regulatory agencies, which differ in some respects from Canada's Basel III rules. Under the U.S. bank regulatory framework, both CIBC and CIBC Bancorp are expected to provide a source of strength to the subsidiary bank and may be required to commit additional capital and other resources to CIBC Bank USA in the event that its financial condition were to deteriorate, whether due to overall challenging economic conditions in the U.S., or because of business-specific issues. The Federal Reserve (in the case of CIBC Bancorp) and the FDIC (in the case of CIBC Bank USA) also have the ability to restrict dividends paid by CIBC Bancorp or CIBC Bank USA, which could limit our ability to receive distributions on our capital investment in our U.S. banking operations.

Furthermore, the Federal Reserve and the FDIC could also restrict our ability to grow our U.S. banking operations, whether through acquisitions or organically, if, among other things, they have supervisory concerns about risk management, AML or compliance programs and practices, governance and controls, and/or capital and liquidity adequacy at CIBC Bancorp, CIBC Bank USA or our New York branch, as applicable.

The U.S. regulatory environment continues to evolve and future legislative and regulatory developments may impact CIBC. In October 2019, U.S. banking regulators finalized a revised risk-based framework for applying enhanced prudential standards to the U.S. operations of foreign banking organizations. Under that framework, certain additional capital and liquidity requirements that would demand significant compliance efforts will not apply until CIBC's U.S. operations grow substantially.

Acquisition risk

CIBC seeks out acquisition opportunities that align with its strategy, risk appetite and financial goals. The ability to successfully execute on our strategy to integrate acquisitions, and the ability to anticipate and manage risks associated with acquisitions, are subject to certain factors. These include receiving regulatory and shareholder approval on a timely basis and on favourable terms, retaining clients and key personnel, realizing synergies and efficiencies, controlling integration and acquisition costs, among others, and changes in general business and economic conditions.

Although many of the factors are beyond CIBC's control, their impact is partially mitigated by conducting due diligence before completing the transaction, developing and executing appropriate integration plans, and monitoring performance following the acquisition. However, acquisitions involve inherent uncertainty and we cannot determine all potential events, facts and circumstances and there could be an adverse impact on CIBC's operations and financial performance.

Regulatory developments

See the "Taxes", "Capital management", "Liquidity risk" and "Accounting and control matters" sections for additional information on regulatory developments.

Accounting developments

See the "Accounting and control matters" section and Note 31 to the consolidated financial statements for additional information on accounting developments.

Risks arising from business activities

The chart below shows our business activities and related risk measures based upon regulatory RWA and economic capital as at October 31, 2019:

CIBC

	Canadian Personal and Small Business Banking	Canadian Commercial Banking and Wealth Management	U.S. Commercial Banking and Wealth Management	Capital Markets	Corporate and Other
SBUs	Canadian Personal and Small Business Banking	Canadian Commercial Banking and Wealth Management	U.S. Commercial Banking and Wealth Management	Capital Markets	Corporate and Other
Business activities	• Deposits • Residential mortgages • Personal loans • Credit cards • Small business lending • Insurance	• Commercial banking • Full service brokerage • Asset management • Private wealth management	• Commercial banking • Asset management • Private wealth management • Personal and small business banking	• Credit products • Global markets • Investment banking • Investment portfolios	• International banking • Investment portfolios • Joint ventures • Functional and support groups (see page 26)
Balance sheet	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)
Average assets	259,089	62,552	48,687	184,566	84,822
Average deposits	177,423	60,195	27,224	33,312	178,976
CET1 RWA	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)
Credit risk	48,876	44,980	42,630 (1)	49,452 (2)	18,806 (3)
Market risk	–	–	39	6,186	307
Operational risk	12,013	6,232	3,261	6,295	786
Economic capital (4)	(%)	(%)	(%)	(%)	(%)
Proportion of total CIBC	17	17	34	13	19
Comprising:					
Credit risk (5)	62	65	40	75	23
Market risk	28	2	2	13	16
Operational/Strategic risks	10	33	58	12	61

Risk profile: We are exposed to credit, market, liquidity, operational, and other risks, which primarily include strategic, insurance, technology, information and cyber security, reputation, conduct and legal, regulatory compliance, and environmental and related social risks.

(1) Includes counterparty credit risk of $242 million, which comprises derivatives and repo-style transactions.
(2) Includes counterparty credit risk of $16,849 million, which comprises derivatives and repo-style transactions.
(3) Includes counterparty credit risk of $149 million, which comprises derivatives and repo-style transactions.
(4) For additional information, see the "Non-GAAP measures" section.
(5) Includes investment risk.

Credit risk

Credit risk is the risk of financial loss due to a borrower or counterparty failing to meet its obligations in accordance with contractual terms.

Credit risk arises out of the lending businesses in each of our SBUs. Other sources of credit risk consist of our trading activities, which include our over-the-counter (OTC) derivatives, debt securities, and our repo-style transaction activity. In addition to losses on the default of a borrower or counterparty, unrealized gains or losses may occur due to changes in the credit spread of the counterparty, which could impact the carrying or fair value of our assets.

Governance and management

Credit risk is managed through the three lines of defence model. Frontline businesses and control groups must assess and manage the risks associated with their activities. They own the risks and the controls that mitigate the risks – this is the first line of defence.

The second line of defence is Risk Management, including AML and Compliance, which takes a broader, independent view and is responsible for the adjudication and oversight of credit risks associated with CIBC's commercial, corporate and wealth management activities, as well as risk assessments and decisions for the first line of defence.

Internal audit provides the third line of defence, by providing reasonable assurance of the design and operating effectiveness of CIBC's controls, processes and systems. Internal audit reports the results of its assessment to management and the Board.

Senior management reports to the GRC and RMC at least quarterly on material credit risk matters, including material credit transactions, compliance with limits, portfolio trends, impaired loans and credit loss provisioning levels. Provision for credit losses is reviewed by the RMC and the Audit Committee quarterly.

Specific to the management of credit risk, Risk Management is mandated to provide enterprise-wide oversight of the management of credit risk in CIBC's credit portfolios, including the measurement, monitoring and control of credit risk and the management of credit risk models. Key groups in Risk Management with credit risk responsibility include:

Capital Markets Risk Management: This group is responsible for independent oversight of the measurement, monitoring and control of market risk and trading credit risk for all counterparties, including adjudication of trading credit facilities for non-bank financial entities, prime brokerage clients and central clearing counterparties where the client has no other credit relationship with CIBC. In addition, Capital Markets Risk Management is responsible for managing the country risk rating and the country exposure limits processes, and oversight of the Global Collateral Finance framework covering repos and securities lending.

Global Credit Risk Management: This group is responsible for the adjudication and oversight of credit risks (including transaction-specific environmental and related social risk) associated with our commercial, corporate and wealth management credit portfolios, management of the risks in our investment portfolios, as well as management of special loan portfolios.

Model Validation, Global Operational Risk Management: This group is responsible for the oversight of model validation practices. Model validation constitutes the independent set of processes, activities and ongoing documentary evidence that models and parameters are sound and CIBC can rely on their output.

Risk Analytics, Reporting and Credit Decisioning: This group is responsible for enterprise-wide analysis, including enterprise-wide stress testing and reporting, risk policy and governance, risk systems and models, as well as economic and regulatory capital methodologies. In addition, this group manages credit risk in personal and small business products offered through the various distribution channels (e.g., residential mortgages, credit cards, personal loans/lines of credit, small business loans) and performs analytics to optimize retail credit performance, along with collections, fraud, and AML outcomes.

U.S. Risk Management: This group carries out the mandate of CIBC Risk Management at a regional level and provides independent oversight of the identification, management, measurement, monitoring and control of credit risks in the U.S. Commercial Banking and Wealth Management SBU.

Adjudication and oversight above delegated levels is provided by the CRO, GRC and RMC.

Policies

To control credit risk, prudent credit risk management principles are used as a base to establish policies, standards and guidelines that govern credit activities as outlined by the credit risk management policy.

The credit risk management policy supplements CIBC's risk management framework and risk appetite framework, and together with CIBC's portfolio concentration limits for credit exposures, CIBC's common risk/concentration risk limits for credit exposures, and other supporting credit risk policies, standards and procedures, assists CIBC in achieving its desired risk profile by providing an effective foundation for the management of credit risk.

Credit risk limits

The RMC approves Board limits, and exposures above Board limits require reporting to, or approval of, the RMC. Management limits are approved by the CRO. Usage is monitored to ensure risks are within allocated management and Board limits. Exposures above management limits require the approval of the CRO. Business lines may also impose lower limits to reflect the nature of their exposures and target markets. This tiering of limits provides for an appropriate hierarchy of decision making and reporting between management and the RMC. Credit approval authority flows from the Board and is further cascaded to officers in writing. The Board's Investment and Lending Authority Resolution sets thresholds above which credits require reporting to, or approval of, the RMC, ensuring an increasing level of oversight for credits of higher risk. CIBC maintains country limits to control exposures within countries outside of Canada and the U.S.

Credit concentration limits

At a bank-wide level, credit exposures are managed to promote alignment to our risk appetite statement, to maintain the target business mix and to ensure that there is no undue concentration of risk. We set limits to control borrower concentrations by risk-rating band for large exposures (i.e., risk-rated credits). Direct loan sales, credit derivative hedges, or structured transactions may also be used to reduce concentrations. We also have a set of portfolio concentration limits in place to control exposures by country, industry, product and activity. Further, our policies require limits to be established as appropriate for new initiatives and implementation of strategies involving material levels of credit risk. Concentration limits represent the maximum exposure levels we wish to hold on our books. In the normal course, it is expected that exposures will be held at levels below the maximums. The credit concentration limits are reviewed and approved by the RMC at least annually.

Credit concentration limits are also applied to our retail lending portfolios to mitigate concentration risk. We not only have concentration limits to individual borrowers and geographic regions, but also to different types of credit facilities, such as unsecured credits, rental occupancy purpose credits, condominium secured credits and mortgages with a second or third charge where we are behind another lender. In addition, we limit the maximum insured mortgage exposure to private insurers in order to reduce counterparty risk.

Credit risk mitigation

We may mitigate credit risk by obtaining a pledge of collateral, which improves recoveries in the event of a default. Our credit risk management policies include verification of the collateral and its value and ensuring that we have legal certainty with respect to the assets pledged. Valuations are updated periodically depending on the nature of the collateral, legal environment, and the creditworthiness of the counterparty. The main types of collateral include: (i) cash or marketable securities for securities lending and repurchase transactions; (ii) cash or marketable securities taken as collateral in support of our OTC derivatives activity; (iii) charges over operating assets such as inventory, receivables and real estate properties for lending to small business and commercial borrowers; and (iv) mortgages over residential properties for retail lending.

In certain circumstances we may use third-party guarantees to mitigate risk. We also obtain insurance to reduce the risk in our real estate secured lending portfolios, the most material of which relates to the portion of our residential mortgage portfolio that is insured by CMHC, an agency of the Government of Canada.

We mitigate the trading credit risk of OTC derivatives, securities lending and repurchase transactions with counterparties by employing the International Swaps and Derivatives Association (ISDA) Master Agreement, as well as Credit Support Annexes (CSAs) or similar master and collateral agreements. See Note 12 to the consolidated financial statements for additional details on the risks related to the use of derivatives and how we manage these risks.

ISDA Master Agreements and similar master and collateral agreements, such as the global master repurchase agreement and global master securities lending agreement, facilitate cross transaction payments, prescribe close-out netting processes, and define the counterparties' contractual trading relationship. In addition, the agreements formalize non-transaction-specific terms. Master agreements serve to mitigate our credit risk by outlining default and termination events, which enable parties to close out of all outstanding transactions in the case of a negative credit event on either party's side. The mechanism for calculating termination costs in the event of a close-out are outlined in the master agreement; this allows for the efficient calculation of a single net obligation of one party to another.

CSAs and other collateral agreements are often included in ISDA Master Agreements or similar master agreements governing securities lending and repurchase transactions. They mitigate counterparty credit risk by providing for the exchange of collateral between parties when a party's exposure to the other exceeds agreed upon thresholds, subject to a minimum transfer amount. CSAs and other collateral agreements which operate with master agreements also designate acceptable collateral types, and set out rules for re-hypothecation and interest calculation on collateral. Collateral types permitted under CSAs and other master agreements are set through our trading credit risk management documentation procedures. These procedures include requirements around collateral type concentrations.

Consistent with global initiatives to improve resilience in the financial system, we will clear derivatives through central counterparties (CCPs) where feasible. Credit derivatives may be used to reduce industry sector concentrations and single-name exposure.

Forbearance policy

We employ forbearance techniques to manage client relationships and to minimize credit losses due to default, foreclosure or repossession. In certain circumstances, it may be necessary to modify a loan for economic or legal reasons related to a borrower's financial difficulties, and we may grant a concession in the form of below-market rates or terms that would not otherwise be considered, for the purpose of maximizing recovery of our exposure to the loan. In circumstances where the concession is considered below market, the modification is reported as a troubled debt restructuring (TDR). TDRs are subject to our normal quarterly impairment review which considers, amongst other factors, covenants and/or payment delinquencies. Loan loss provisions are adjusted as appropriate.

In retail lending, forbearance techniques include interest capitalization, amortization amendments and debt consolidations. We have a set of eligibility criteria which allow our Client Account Management team to determine suitable remediation strategies and propose products based on each borrower's situation. While these solutions often provide more favourable conditions than those originally provided and are intended to increase the ability of borrowers to service their obligation to CIBC overall, we consider these solutions to be at market and comparable to terms and conditions we would have offered to new clients with comparable credit ratings.

The solutions available to corporate and commercial clients vary based on the individual nature of the client's situation and are undertaken selectively where it has been determined that the client has or is likely to have repayment difficulties servicing its obligations. Covenants often reveal changes in the client's financial situation before there is a change in payment behaviour and typically allow for a right to reprice or accelerate payments. Solutions may be temporary in nature or may involve other special management options.

Process and control

The credit approval process is centrally controlled, with all significant credit requests submitted to a credit adjudication group within Risk Management that is independent of the originating businesses. Approval authorities are a function of the risk and amount of credit requested. In certain cases, credit requests must be escalated to senior management, the CRO, or to the RMC for approval.

After initial approval, individual credit exposures continue to be monitored, with a formal risk assessment, including review of assigned ratings, documented at least annually. Higher risk-rated accounts are subject to closer monitoring and are reviewed at least quarterly. Collections and specialized loan workout groups handle the day-to-day management of high risk loans to maximize recoveries.

Risk measurement

Exposures subject to AIRB approach

Under the AIRB approach we are required to categorize exposures to credit risk into broad classes of assets with different underlying risk characteristics. This asset categorization may differ from the presentation in our consolidated financial statements. Under the AIRB approach, credit risk is measured using the following three key risk parameters[(1)]:

- PD – the probability that the obligor will default within the next 12 months.
- EAD – the estimate of the amount which will be drawn at the time of default.
- LGD – the expected severity of loss as the result of the default, expressed as a percentage of the EAD.

Our credit risk exposures are divided into business and government and retail portfolios. Regulatory models used to measure credit risk exposure under the AIRB approach are subject to CIBC's model risk management process.

(1) These parameters differ from those used in the calculation of expected credit losses under IFRS 9. See the "Accounting and control matters" section for further details.

Business and government portfolios (excluding scored small business) – risk-rating method

The portfolios comprise exposures to corporate, sovereign, and bank obligors. Our adjudication process and criteria includes assigning an obligor default rating that reflects our estimate of the financial strength of the borrower, and a facility rating or loss given default rating that reflects the collateral amount and quality applicable to secured exposures, the seniority position of the claim, and the capital structure of the borrower for unsecured exposures.

The obligor rating takes into consideration our financial assessment of the obligor, the industry, and the economic environment of the region in which the obligor operates. Where a guarantee from a third party exists, both the obligor and the guarantor will be assessed. While our obligor rating is determined independently of external ratings for the obligor, our risk-rating methodology includes a review of those external ratings.

CIBC employs a 20-point master internal obligor default rating scale that broadly maps to external agencies ratings as presented in the table below.

Grade	CIBC rating	S&P equivalent	Moody's equivalent
Investment grade	00–47	AAA to BBB-	Aaa to Baa3
Non-investment grade	51–67	BB+ to B-	Ba1 to B3
Watch list	70–80	CCC+ to C	Caa1 to Ca
Default	90	D	C

We use quantitative modelling techniques to assist in the development of internal risk-rating systems. The risk-rating systems have been developed through analysis of internal and external credit risk data, supplemented with expert judgment. The risk ratings are used for portfolio management, risk limit setting, product pricing, and in the determination of regulatory and economic capital.

Our credit process is designed to ensure that we approve applications and extend credit only where we believe that our client has the ability to repay according to the agreed terms and conditions.

Our credit framework of policies and limits defines our appetite for exposure to any single name or group of related borrowers, which is a function of the internal risk rating. We generally extend new credit only to borrowers in the investment and non-investment grade categories noted above. Our credit policies are also defined to manage our exposure to concentration in borrowers in any particular industry or region.

In accordance with our process, each obligor is assigned an obligor default rating and the assigned rating is mapped to a PD estimate that represents a long-run average one-year default likelihood. For corporate obligors, PD estimates are calculated using joint maximum likelihood techniques based on our internal default rate history by rating category and longer dated external default rates as a proxy for the credit cycle to arrive at long-run average PD estimates. Estimates drawn from third party statistical default prediction models are used to supplement the internal default data for some rating bands where internal data is sparse. For small and medium corporate enterprises, PD estimates are developed using only internal default history. For bank and sovereign obligors, PD estimates are derived from an analysis based on external default data sets and supplemented with internal data where possible. We examine several different estimation methodologies and compare results across the different techniques. In addition, we apply the same techniques and estimation methodologies to analogous corporate default data and compare the results for banks and sovereigns to the corporate estimates for each technique. A regulatory floor is applied to PD estimates for corporate and bank obligors.

Each facility is assigned a loss given default rating and each assigned rating is mapped to an LGD estimate that considers economic downturn conditions. For corporate obligors, LGD estimates are primarily derived from internal historical recovery data. Time to resolution is typically 1 to 2 years for most corporate obligors, and 1 to 4 years in the real estate sector. LGD values are based on discounted post-default cash flows for resolved accounts and include material direct and indirect costs associated with collections. External data is used in some cases to supplement our analysis. Economic downturn periods are identified for each portfolio by examining the history of actual losses, default rates and LGD. For bank and sovereign exposures, LGD estimates are primarily driven by expert judgment supplemented with external data and benchmarks where available. Appropriate adjustments are made to LGD estimates to account for various uncertainties associated with estimation techniques and data limitations, including adjustments for unresolved accounts.

EAD is estimated based on the current exposure to the obligor together with possible future changes in that exposure driven by factors such as the available undrawn credit commitment amount and the obligor default rating. EAD estimates are primarily based on internal historical loss data supplemented with comparable external data. Economic downturn periods are identified for each portfolio by examining the historical default rates and actual EAD factors.

Appropriate adjustments are made to PD, LGD and EAD estimates to account for various uncertainties associated with estimation techniques and data limitations, including adjustments for unresolved accounts (for LGD).

A simplified risk-rating process (slotting approach) is used for part of our uninsured Canadian commercial mortgage portfolio, which comprises non-residential mortgages and multi-family residential mortgages. These exposures are individually rated on our rating scale using a risk-rating methodology that considers the property's key attributes, which include its loan-to-value (LTV) and debt service ratios, the quality of the property, and the financial strength of the owner/sponsor. All exposures are secured by a lien over the property. In addition, we have insured multi-family residential mortgages, which are not treated under the slotting approach, but are instead treated as sovereign exposures.

Retail portfolios

Retail portfolios are characterized by a large number of relatively small exposures. They comprise of: real estate secured personal lending (residential mortgages and personal loans and lines secured by residential property); qualifying revolving retail exposures (credit cards, overdrafts and unsecured lines of credit); and other retail exposures (loans secured by non-residential assets, unsecured loans including student loans, and scored small business loans).

We use scoring models in the adjudication of new retail credit exposures, which are based on statistical methods of analyzing the unique characteristics of the borrower, to estimate future behaviour. In developing our models, we use internal historical information from previous borrowers, as well as information from external sources, such as credit bureaus. The use of credit scoring models allows for consistent assessment across borrowers. There are specific guidelines in place for each product, and our adjudication decision will take into account the characteristics of the borrower, any guarantors, and the quality and sufficiency of the collateral pledged (if any). The lending process will include documentation of, where appropriate, satisfactory identification, proof of income, independent appraisal of the collateral and registration of security.

Retail portfolios are managed as pools of homogeneous risk exposures, using external credit bureau scores and/or other behavioural assessments to group exposures according to similar credit risk profiles. These pools are established through statistical techniques. Characteristics used to group individual exposures vary by asset category; as a result, the number of pools, their size, and the statistical techniques applied to their management differ accordingly.

The following table maps the PD bands to various risk levels:

Risk level	PD bands
Exceptionally low	0.01%–0.20%
Very low	0.21%–0.50%
Low	0.51%–2.00%
Medium	2.01%–10.00%
High	10.01%–99.99%
Default	100%

For the purposes of the AIRB approach for retail portfolios, additional PD, LGD and EAD segmentation into homogenous risk exposures is established through statistical techniques. The principal statistical estimation technique is decision trees benchmarked against alternative techniques such as regression and random forests.

Within real estate secured lending, we have two key parameter estimation models: mortgages and real estate secured personal lines of credit. Within qualifying revolving retail, we have three key parameter estimation models: credit cards, overdraft, and unsecured personal lines. A small percentage of credit cards, overdraft, and unsecured line accounts that do not satisfy the requirements for qualifying revolving retail are grouped into other retail parameter models. Within other retail, we have three key parameter models: margin lending, personal loans, and scored small business loans. Each parameter model pools accounts according to characteristics such as: delinquency, current credit bureau score, internal behaviour score, estimated current LTV ratio, account type, account age, utilization, outstanding balance, or authorized limit.

PD is estimated as the average default rate over an extended period based on internal historical data, generally for a 5-to-10-year period, which is adjusted using internal historical data on default rates over a longer period or comparable external data that includes a period of stress. A regulatory floor is applied to our PD estimate for all retail exposures with the exception of insured mortgages and government-guaranteed loans.

LGD is estimated based on observed recovery rates over an extended period using internal historical data. In determining our LGD estimate, we exclude any accounts that have not had enough time since default for the substantial majority of expected recovery to occur. This recovery period is product-specific and is typically in the range of 1 to 3 years. Accounts that cure from default and return to good standing are considered to have zero loss. We simulate the loss rate in a significant downturn based on the relationship(s) between LGD and one or more of the following: PD; housing prices, cure rate, and recovery time; or observed LGD in periods with above-average loss rates. We apply appropriate adjustments to address various types of estimation uncertainty including sampling error and trending. A regulatory floor is applied to all real estate secured exposures with the exception of insured mortgages.

EAD for revolving products is estimated as a percentage of the authorized credit limit based on the observed EAD rates over an extended period using historical data. We simulate the EAD rate in a significant downturn based on the relationship(s) between the EAD rate and PD and/or the observed EAD rate in periods with above-average EAD rates. For term loan products, EAD is set equal to the outstanding balance.

We apply appropriate adjustments to PD, LGD and EAD to address various types of estimation uncertainty including sampling error and trending.

Back-testing

We monitor the three key risk parameters – PD, EAD and LGD – on a quarterly basis for our business and government portfolios and on a monthly basis for our retail portfolios. Every quarter, the back-testing results are reported to OSFI and are presented to the business and Risk Management senior management for review and challenge. For each parameter, we identify any portfolios whose realized values are significantly above or significantly below expectations and then test to see if this deviation is explainable by changes in the economy. If the results indicate that a parameter model may be losing its predictive power, we prioritize that model for review and update.

Stress testing

As part of our regular credit portfolio management process, we conduct stress testing and scenario analyses on our portfolio to quantitatively assess the impact of various historical, as well as hypothetical, stressed conditions, versus limits determined in accordance with our risk appetite. Scenarios are selected to test our exposures to specific industries (e.g., oil and gas and real estate), products (e.g., mortgages and cards), or geographic regions (e.g., Europe and Caribbean). Results from stress testing are a key input into management decision making, including the determination of limits and strategies for managing our credit exposure. See the "Real estate secured personal lending" section for further discussion on our residential mortgage portfolio stress testing.

Exposure to credit risk

The portfolios are categorized based upon how we manage the business and the associated risks. Gross credit exposure amounts presented in the table below represent our estimate of EAD, which is net of derivative master netting agreements and CVA but is before allowance for credit losses or credit risk mitigation. Gross credit exposure amounts relating to our business and government portfolios are reduced for collateral held for repo-style transactions, which reflects the EAD value of such collateral. Non-trading equity exposures are not included in the table below as they have been deemed immaterial under the OSFI guidelines, and hence are subject to 100% risk-weighting.

$ millions, as at October 31			2019			2018
	AIRB approach (1)	**Standardized approach**	**Total**	AIRB approach (1)	Standardized approach (2)	Total
Business and government portfolios						
Corporate						
Drawn	**$ 96,444**	**$ 32,292**	**$ 128,736**	$ 85,899	$ 27,018	$ 112,917
Undrawn commitments	**44,732**	**6,244**	**50,976**	43,180	4,885	48,065
Repo-style transactions	**122,776**	**1**	**122,777**	91,970	2	91,972
Other off-balance sheet	**14,540**	**981**	**15,521**	14,496	827	15,323
OTC derivatives	**14,125**	**596**	**14,721**	9,440	294	9,734
	292,617	**40,114**	**332,731**	244,985	33,026	278,011
Sovereign						
Drawn	**73,036**	**13,301**	**86,337**	51,703	12,047	63,750
Undrawn commitments	**6,421**	**–**	**6,421**	6,576	–	6,576
Repo-style transactions	**21,404**	**–**	**21,404**	16,929	–	16,929
Other off-balance sheet	**1,624**	**–**	**1,624**	753	–	753
OTC derivatives	**3,094**	**2**	**3,096**	3,454	–	3,454
	105,579	**13,303**	**118,882**	79,415	12,047	91,462
Banks						
Drawn	**12,689**	**1,862**	**14,551**	13,697	1,868	15,565
Undrawn commitments	**1,771**	**6**	**1,777**	1,041	5	1,046
Repo-style transactions	**25,472**	**–**	**25,472**	28,860	–	28,860
Other off-balance sheet	**61,532**	**–**	**61,532**	65,253	–	65,253
OTC derivatives	**9,355**	**18**	**9,373**	8,727	27	8,754
	110,819	**1,886**	**112,705**	117,578	1,900	119,478
Gross business and government portfolios	**509,015**	**55,303**	**564,318**	441,978	46,973	488,951
Less: collateral held for repo-style transactions	**157,415**	**–**	**157,415**	125,368	–	125,368
Net business and government portfolios	**351,600**	**55,303**	**406,903**	316,610	46,973	363,583
Retail portfolios						
Real estate secured personal lending						
Drawn	**222,933**	**4,177**	**227,110**	224,501	3,743	228,244
Undrawn commitments	**20,777**	**1**	**20,778**	19,572	2	19,574
	243,710	**4,178**	**247,888**	244,073	3,745	247,818
Qualifying revolving retail						
Drawn	**19,784**	**–**	**19,784**	22,469	–	22,469
Undrawn commitments	**49,709**	**–**	**49,709**	51,836	–	51,836
Other off-balance sheet	**275**	**–**	**275**	277	–	277
	69,768	**–**	**69,768**	74,582	–	74,582
Other retail						
Drawn	**13,478**	**1,268**	**14,746**	12,158	1,239	13,397
Undrawn commitments	**2,584**	**26**	**2,610**	2,546	26	2,572
Other off-balance sheet	**36**	**–**	**36**	9	–	9
	16,098	**1,294**	**17,392**	14,713	1,265	15,978
Total retail portfolios	**329,576**	**5,472**	**335,048**	333,368	5,010	338,378
Securitization exposures	**10,688**	**3,511**	**14,199**	13,661	–	13,661
Gross credit exposure	**849,279**	**64,286**	**913,565**	789,007	51,983	840,990
Less: collateral held for repo-style transactions	**157,415**	**–**	**157,415**	125,368	–	125,368
Net credit exposure (3)	**$ 691,864**	**$ 64,286**	**$ 756,150**	$ 663,639	$ 51,983	$ 715,622

(1) Includes exposures subject to the supervisory slotting approach.
(2) Certain information has been reclassified.
(3) Excludes exposures arising from derivative and repo-style transactions that are cleared through QCCPs as well as credit risk exposures arising from other assets that are subject to the credit risk framework but are not included in the standardized or IRB frameworks, including other balance sheet assets that are risk-weighted at 100%, significant investments in the capital of non-financial institutions that are risk-weighted at 1250%, settlement risk, and amounts below the thresholds for deduction that are risk-weighted at 250%.

Net credit exposure increased by $40.5 billion in 2019, primarily due to business growth in our North American lending portfolios.

Exposures subject to the standardized approach[1]

Exposures within CIBC Bank USA, CIBC FirstCaribbean and certain exposures to individuals for non-business purposes do not have sufficient historical data to support the AIRB approach for credit risk, and are subject to the standardized approach. The standardized approach utilizes a set of risk weightings defined by the regulators, as opposed to the more data intensive AIRB approach. A detailed breakdown of our standardized credit risk exposures by risk-weight category, before considering the effect of credit risk mitigation strategies and before allowance for credit losses, is provided below.

$ millions, as at October 31	Risk-weight category							2019	2018
	0%	20%	35%	50%	75%	100%	150%	Total	Total
Corporate	$ –	$ –	$ –	$ 1	$ –	$ 39,966	$ 147	$ 40,114	$ 32,767
Sovereign	7,953	3,911	–	111	–	838	490	13,303	12,047
Banks	–	1,747	–	66	–	68	5	1,886	2,159
Real estate secured personal lending	–	–	1,238	–	2,770	162	8	4,178	3,745
Other retail	–	–	–	–	1,226	61	7	1,294	1,265
	$ 7,953	$ 5,658	$ 1,238	$ 178	$ 3,996	$ 41,095	$ 657	$ 60,775	$ 51,983

(1) See "Securitization exposures" section for securitization exposures that are subject to the standardized approach.

We use credit ratings from S&P and Moody's to calculate credit risk RWA for certain exposures under the standardized approach, including securities issued by sovereigns and their central banks (sovereigns), banks and corporates, and deposits with sovereigns and banks. This includes S&P and Moody's issuer-specific credit ratings for securities issued by sovereigns and corporates, the S&P country credit rating for the country of incorporation for securities issued by banks, and deposits with banks, and the S&P country credit rating for deposits with central banks. The RWA calculated using credit ratings from these agencies represents 1.66% of credit risk RWA under the standardized approach.

Trading credit exposures

We have trading credit exposure (also called counterparty credit exposure) that arises from our OTC derivatives and our repo-style transactions. The nature of our derivatives exposure and how it is mitigated is further explained in Note 12 to the consolidated financial statements. Our repo-style transactions consist of our securities bought or sold under repurchase agreements, and our securities borrowing and lending activity.

The PD of our counterparties is estimated using models consistent with the models used for our direct lending activity. Due to the fluctuations in the market values of interest rates, exchange rates, and equity and commodity prices, counterparty credit exposure cannot be quantified with certainty at the inception of the trade. Counterparty credit exposure is estimated using the current fair value of the exposure, plus an estimate of the maximum potential future exposure due to changes in the fair value. Credit risk associated with these counterparties is managed within the same process as our lending business, and for the purposes of credit adjudication, the exposure is aggregated with any exposure arising from our lending business. The majority of our counterparty credit exposure benefits from the credit risk mitigation techniques discussed above, including daily re-margining, and posting of collateral.

We are also exposed to wrong-way risk. Specific wrong-way risk arises when CIBC receives financial collateral issued (or an underlying reference obligation of a transaction is issued) by the counterparty itself, or by a related entity that would be considered to be part of the same common risk group. General wrong-way risk arises when the exposure and/or collateral pledged to CIBC is highly correlated to that of the counterparty. Exposure to wrong-way risk with derivative counterparties is monitored by Capital Markets Risk Management. Where we may be exposed to wrong-way risk, our adjudication procedures subject those transactions to a more rigorous approval process. The exposure may be hedged with other derivatives to further mitigate the risk that can arise from these transactions.

We establish a CVA for expected future credit losses from each of our derivative counterparties. The expected future credit loss is a function of our estimates of the PD, the estimated loss in the event of default, and other factors such as risk mitigants.

Rating profile of OTC derivative mark-to-market (MTM) receivables

$ billions, as at October 31	2019		2018	
	Exposure [1]			
Investment grade	$ 5.40	82.4 %	$ 6.78	87.3 %
Non-investment grade	1.12	17.1	0.97	12.5
Watch list	0.02	0.3	0.01	0.1
Default	0.01	0.2	0.01	0.1
	$ 6.55	100.0 %	$ 7.77	100.0 %

(1) MTM of the OTC derivative contracts is after the impact of master netting agreements, but before any collateral.

Concentration of exposures

Concentration of credit risk exists when a number of obligors are engaged in similar activities, or operate in the same geographic areas or industry sectors, and have similar economic characteristics so that their ability to meet contractual obligations is similarly affected by changes in economic, political, or other conditions.

Geographic distribution[1]

The following table provides a geographic distribution of our business and government exposures under the AIRB approach, net of collateral held for repo-style transactions.

$ millions, as at October 31, 2019	Canada	U.S.	Europe	Other	Total
Drawn	$ 123,265	$ 41,676	$ 6,470	$ 10,758	$ 182,169
Undrawn commitments	39,452	9,327	2,489	1,656	52,924
Repo-style transactions	6,152	3,477	743	1,865	12,237
Other off-balance sheet	56,158	12,608	8,232	698	77,696
OTC derivatives	12,207	6,812	5,216	2,339	26,574
	$ 237,234	$ 73,900	$ 23,150	$ 17,316	$ 351,600
October 31, 2018	$ 213,842	$ 67,911	$ 21,255	$ 13,602	$ 316,610

(1) Classification by country is primarily based on domicile of debtor or customer.

Business and government exposure by industry groups

The following table provides an industry-wide breakdown of our business and government exposures under the AIRB approach, net of collateral held for repo-style transactions.

$ millions, as at October 31	Drawn	Undrawn commitments	Repo-style transactions	Other off-balance sheet	OTC derivatives	2019 Total	2018 Total
Commercial mortgages	$ 352	$ –	$ –	$ –	$ –	$ 352	$ 625
Financial institutions	38,209	6,834	11,471	69,145	14,739	140,398	142,431
Retail and wholesale	5,812	2,853	–	239	238	9,142	8,360
Business services	7,870	2,700	13	623	176	11,382	10,658
Manufacturing – capital goods	3,004	2,152	–	456	286	5,898	5,407
Manufacturing – consumer goods	4,038	1,685	–	197	104	6,024	5,238
Real estate and construction	35,187	7,856	117	1,111	650	44,921	41,028
Agriculture	6,828	1,550	–	22	175	8,575	7,319
Oil and gas	9,048	8,606	–	913	3,246	21,813	20,258
Mining	1,790	2,692	–	619	225	5,326	5,668
Forest products	627	479	–	175	43	1,324	1,145
Hardware and software	1,061	559	–	41	90	1,751	1,353
Telecommunications and cable	425	1,080	–	407	322	2,234	2,667
Broadcasting, publishing and printing	630	138	–	1	32	801	721
Transportation	4,710	2,425	–	401	1,341	8,877	7,083
Utilities	5,957	5,924	20	2,144	1,702	15,747	12,095
Education, health, and social services	2,907	1,122	6	151	387	4,573	3,883
Governments	53,714	4,269	610	1,051	2,818	62,462	40,671
	$ 182,169	$ 52,924	$ 12,237	$ 77,696	$26,574	$ 351,600	$ 316,610

As part of our risk mitigation strategy, we may use credit protection purchases as a hedge against customer or industry sector concentration. As at October 31, 2019, we had credit protection purchased totalling $183 million (2018: $158 million) related to our business and government loans.

Credit quality of portfolios

Credit quality of risk-rated portfolios

The following table provides the credit quality of our risk-rated portfolios under the AIRB approach, net of collateral held for repo-style transactions.

The obligor grade is our assessment of the creditworthiness of the obligor, without respect to the collateral held in support of the exposure. The LGD estimate would reflect our assessment of the value of the collateral at the time of default of the obligor. For slotted exposures, the slotting category reflects our assessment of both the creditworthiness of the obligor, as well as the value of the collateral.

$ millions, as at October 31				2019	2018
	EAD				
Obligor grade	Corporate	Sovereign	Banks	Total	Total
Investment grade	$ 104,405	$ 84,721	$ 87,691	$ 276,817	$ 249,031
Non-investment grade	70,730	837	1,046	72,613	65,973
Watch list	1,239	–	–	1,239	724
Default	579	–	–	579	257
Total risk-rated exposure	$ 176,953	$ 85,558	$ 88,737	$ 351,248	$ 315,985
LGD estimate	Corporate	Sovereign	Banks	Total	Total
Less than 10%	$ 9,977	$ 75,078	$ 57,611	$ 142,666	$ 128,989
10% – 25%	53,740	6,825	8,225	68,790	63,363
26% – 45%	84,497	3,582	22,517	110,596	97,494
46% – 65%	27,381	9	343	27,733	24,769
66% – 100%	1,358	64	41	1,463	1,370
	$ 176,953	$ 85,558	$ 88,737	$ 351,248	$ 315,985
Strong				$ 246	$ 499
Good				85	99
Satisfactory				21	25
Weak				–	1
Default				–	1
Total slotted exposure				$ 352	$ 625
Total business and government portfolios				$ 351,600	$ 316,610

The total exposures increased by $35.0 billion from October 31, 2018, largely attributable to growth in our North American lending portfolios. The investment grade category increased by $27.8 billion from October 31, 2018, while the non-investment grade category was up $6.6 billion. The increase in watch list and default exposures was largely attributable to credit migration of a number of exposures in the corporate lending portfolio, including exposures within the oil and gas portfolio.

Credit quality of the retail portfolios

The following table presents the credit quality of our retail portfolios under the AIRB approach.

$ millions, as at October 31				2019	2018
	EAD				
Risk level	**Real estate secured personal lending**	**Qualifying revolving retail**	**Other retail**	**Total**	Total
Exceptionally low	**$ 193,850**	**$ 42,369**	**$ 3,656**	**$ 239,875**	$ 241,305
Very low	**25,020**	**6,036**	**2,962**	**34,018**	36,106
Low	**19,870**	**14,168**	**5,610**	**39,648**	38,687
Medium	**3,981**	**6,270**	**3,008**	**13,259**	14,363
High	**603**	**877**	**791**	**2,271**	2,509
Default	**386**	**48**	**71**	**505**	398
	$ 243,710	**$ 69,768**	**$ 16,098**	**$ 329,576**	$ 333,368

Securitization exposures[1]

The following table provides details on securitization exposures in our banking book, by credit rating:

$ millions, as at October 31	2019	2018
	EAD	
Exposures under the AIRB approach		
S&P rating equivalent		
AAA to BBB-	**$ 10,688**	$ 11,394
BB+ to BB-	**–**	–
Below BB-	**–**	–
Unrated	**–**	2,261
	10,688	13,655
Exposures under the standardized approach	**3,511**	–
Total securitization exposures	**$ 14,199**	$ 13,655

(1) In the first quarter of 2019, we implemented OSFI's revisions to the CAR Guideline, including the revised securitization framework. As a result, certain exposures that were previously subject to the IRB approach are now subject to the standardized approach. In 2018, EAD was shown net of financial collateral of $6 million.

Real estate secured personal lending

Real estate secured personal lending comprises residential mortgages, and personal loans and lines secured by residential property (HELOC). This portfolio is low risk, as we have a first charge on the majority of the properties and a second lien on only a small portion of the portfolio. We use the same lending criteria in the adjudication of both first lien and second lien loans.

Under the *Bank Act* (Canada), banks are limited to providing residential real estate loans of no more than 80% of the collateral value. An exception is made for mortgage loans with a higher LTV ratio if they are insured by either CMHC or a private mortgage insurer. Mortgage insurance protects banks from the risk of default by the borrower, over the term of the coverage. Mortgage insurers are subject to regulatory capital requirements, which aim to ensure that they are well capitalized. If a private mortgage insurer becomes insolvent, the Government of Canada has, provided certain conditions are met, obligations in respect of policies underwritten by certain insolvent private mortgage insurers as more fully described in the *Protection of Residential Mortgage or Hypothecary Insurance Act* (PRMHIA). There is a possibility that losses could be incurred in respect of insured mortgages if, among other things, CMHC or the applicable private mortgage insurer denies a claim, or further, if a private mortgage insurer becomes insolvent and either the conditions under the PRMHIA are not met or the Government of Canada denies the claim.

The following table provides details on our residential mortgage and HELOC portfolios:

	Residential mortgages (1)				HELOC (2)		Total			
$ billions, as at October 31, 2019	Insured		Uninsured		Uninsured		Insured		Uninsured	
Ontario (3)	**$ 28.8**	**28 %**	**$ 75.3**	**72 %**	**$ 11.3**	**100 %**	**$ 28.8**	**25 %**	**$ 86.6**	**75 %**
British Columbia and territories (4)	**10.3**	**25**	**31.6**	**75**	**4.3**	**100**	**10.3**	**22**	**35.9**	**78**
Alberta	**13.5**	**53**	**11.8**	**47**	**2.6**	**100**	**13.5**	**48**	**14.4**	**52**
Quebec	**5.7**	**38**	**9.1**	**62**	**1.4**	**100**	**5.7**	**35**	**10.5**	**65**
Central prairie provinces	**3.7**	**51**	**3.6**	**49**	**0.8**	**100**	**3.7**	**46**	**4.4**	**54**
Atlantic provinces	**4.2**	**51**	**4.0**	**49**	**0.8**	**100**	**4.2**	**46**	**4.8**	**54**
Canadian portfolio (5)(6)	**66.2**	**33**	**135.4**	**67**	**21.2**	**100**	**66.2**	**30**	**156.6**	**70**
U.S. portfolio (5)	**–**	**–**	**1.5**	**100**	**0.1**	**100**	**–**	**–**	**1.6**	**100**
Other international portfolio (5)	**–**	**–**	**2.2**	**100**	**–**	**–**	**–**	**–**	**2.2**	**100**
Total portfolio	**$ 66.2**	**32 %**	**$ 139.1**	**68 %**	**$ 21.3**	**100 %**	**$ 66.2**	**29 %**	**$ 160.4**	**71 %**
October 31, 2018	$ 77.0	37 %	$ 129.0	63 %	$ 22.2	100 %	$ 77.0	34 %	$ 151.2	66 %

(1) Balances reflect principal values.
(2) We did not have any insured HELOCs as at October 31, 2019 and 2018.
(3) Includes $14.1 billion (2018: $17.0 billion) of insured residential mortgages, $49.0 billion (2018: $45.9 billion) of uninsured residential mortgages, and $6.6 billion (2018: $6.9 billion) of HELOCs in the Greater Toronto Area (GTA).
(4) Includes $4.6 billion (2018: $5.6 billion) of insured residential mortgages, $22.1 billion (2018: $22.0 billion) of uninsured residential mortgages, and $2.7 billion (2018: $2.8 billion) of HELOCs in the Greater Vancouver Area (GVA).
(5) Geographic location is based on the address of the property.
(6) 72% (2018: 73%) of insurance on Canadian residential mortgages is provided by CMHC and the remaining by two private Canadian insurers, both rated at least AA (low) by DBRS.

The average LTV ratios[1] for our uninsured residential mortgages and HELOCs originated and acquired during the year are provided in the following table.

For the year ended October 31	**2019**		2018	
	Residential mortgages	**HELOC**	Residential mortgages	HELOC
Ontario [2]	**63 %**	**67 %**	63 %	67 %
British Columbia and territories [3]	**61**	**64**	60	63
Alberta	**68**	**72**	68	72
Quebec	**68**	**73**	68	72
Central prairie provinces	**69**	**74**	69	73
Atlantic provinces	**72**	**74**	72	74
Canadian portfolio [4]	**64 %**	**68 %**	64 %	67 %
U.S. portfolio [4]	**69**	**63**	68	67
Other international portfolio [4]	**72 %**	**n/m**	73 %	n/m

(1) LTV ratios for newly originated and acquired residential mortgages and HELOCs are calculated based on weighted average.
(2) Average LTV ratios for our uninsured GTA residential mortgages originated during the year were 62% (2018: 61%).
(3) Average LTV ratios for our uninsured GVA residential mortgages originated during the year were 57% (2018: 56%).
(4) Geographic location is based on the address of the property.
n/m Not meaningful.

The following table provides the average LTV ratios on our total Canadian residential mortgage portfolio:

	Insured	Uninsured
October 31, 2019 [1][2]	**55 %**	**54 %**
October 31, 2018 [1][2]	54 %	53 %

(1) LTV ratios for residential mortgages are calculated based on weighted average. The house price estimates for October 31, 2019 and 2018 are based on the Forward Sortation Area (FSA) level indices from the Teranet – National Bank National Composite House Price Index (Teranet) as of September 30, 2019 and 2018, respectively. Teranet is an independent estimate of the rate of change in Canadian home prices.
(2) Average LTV ratio on our uninsured GTA residential mortgage portfolio was 50% (2018: 51%). Average LTV ratio on our uninsured GVA residential mortgage portfolio was 47% (2018: 43%).

The tables below summarize the remaining amortization profile of our total Canadian, U.S. and other international residential mortgages. The first table provides the remaining amortization periods based on the minimum contractual payment amounts. The second table provides the remaining amortization periods based upon current customer payment amounts, which incorporate payments other than the minimum contractual amount and/or a different frequency of payments.

Contractual payment basis

	0–5 years	>5–10 years	>10–15 years	>15–20 years	>20–25 years	>25–30 years	>30–35 years	>35 years
Canadian portfolio								
October 31, 2019	**– %**	**1 %**	**2 %**	**6 %**	**49 %**	**42 %**	**– %**	**– %**
October 31, 2018 [1]	– %	1 %	2 %	4 %	45 %	48 %	– %	– %
U.S. portfolio								
October 31, 2019	**– %**	**2 %**	**2 %**	**1 %**	**9 %**	**86 %**	**– %**	**– %**
October 31, 2018 [1]	– %	2 %	4 %	2 %	10 %	82 %	– %	– %
Other international portfolio								
October 31, 2019	**9 %**	**16 %**	**23 %**	**23 %**	**17 %**	**12 %**	**– %**	**– %**
October 31, 2018 [1]	8 %	16 %	26 %	22 %	17 %	11 %	– %	– %

(1) Certain information has been reclassified to conform with the presentation adopted in the current year.

Current customer payment basis

	0–5 years	>5–10 years	>10–15 years	>15–20 years	>20–25 years	>25–30 years	>30–35 years	>35 years
Canadian portfolio								
October 31, 2019	**2 %**	**4 %**	**6 %**	**13 %**	**40 %**	**30 %**	**3 %**	**2 %**
October 31, 2018 [1]	2 %	4 %	7 %	11 %	36 %	32 %	5 %	3 %
U.S. portfolio								
October 31, 2019	**1 %**	**4 %**	**11 %**	**10 %**	**13 %**	**61 %**	**– %**	**– %**
October 31, 2018 [1]	2 %	4 %	13 %	12 %	13 %	55 %	– %	1 %
Other international portfolio								
October 31, 2019	**7 %**	**13 %**	**23 %**	**24 %**	**18 %**	**14 %**	**1 %**	**– %**
October 31, 2018 [1]	7 %	16 %	25 %	22 %	17 %	11 %	1 %	1 %

(1) Certain information has been reclassified to conform with the presentation adopted in the current year.

We have two types of condominium exposures in Canada: mortgages and developer loans. Both are primarily concentrated in the Toronto and Vancouver areas. As at October 31, 2019, our Canadian condominium mortgages were $25.2 billion (2018: $24.1 billion), of which 33% (2018: 38%) were insured. Our drawn developer loans were $1.3 billion (2018: $1.6 billion), or 1.0% (2018: 1.3%) of our business and government portfolio, and our related undrawn exposure was $4.0 billion (2018: $3.0 billion). The condominium developer exposure is diversified across 108 projects.

We stress test our mortgage and HELOC portfolio to determine the potential impact of different economic events. Our stress tests can use variables such as unemployment rates, debt service ratios and housing price changes, to model potential outcomes for a given set of circumstances. The stress testing involves variables that could behave differently in certain situations. Our main tests use economic variables in a similar range to historical events when Canada experienced economic downturns. Our results show that in an economic downturn, our strong capital position should be sufficient to absorb mortgage and HELOC losses.

Credit quality performance

As at October 31, 2019, total loans and acceptances after allowance for credit losses were $398.1 billion (2018: $381.7 billion). Consumer loans (comprising residential mortgages, credit cards, and personal loans, including student loans) constitute 66% (2018: 69%) of the portfolio, and business and government loans (including acceptances) constitute the remainder of the portfolio.

Consumer loans were up by $1.5 billion or 1% from the prior year, primarily due to an increase in residential mortgages of $0.9 billion. Business and government loans (including acceptances) were up $14.9 billion or 13% from the prior year, mainly attributable to the real estate and construction, financial institutions, utilities, agriculture, and transportation sectors.

Impaired loans

The following table provides details of our impaired loans and allowances for credit losses:

$ millions, as at or for the year ended October 31			**2019**			2018
	Business and government loans	**Consumer loans**	**Total**	Business and government loans	Consumer loans	Total
Gross impaired loans						
Balance at beginning of year under IAS 39	**n/a**	**n/a**	**n/a**	$ 626	$ 684	$ 1,310
Impact of adopting IFRS 9 at November 1, 2017	**n/a**	**n/a**	**n/a**	27	195	222
Balance at beginning of year under IFRS 9	**$ 621**	**$ 859**	**$ 1,480**	653	879	1,532
Classified as impaired during the year	**1,204**	**2,004**	**3,208**	559	1,907	2,466
Transferred to performing during the year	**(134)**	**(394)**	**(528)**	(110)	(463)	(573)
Net repayments	**(239)**	**(575)**	**(814)**	(190)	(532)	(722)
Amounts written off	**(190)**	**(940)**	**(1,130)**	(116)	(934)	(1,050)
Recoveries of loans and advances previously written off	**–**	**–**	**–**	–	–	–
Disposals of loans [1]	**(361)**	**–**	**(361)**	(182)	–	(182)
Purchased credit-impaired loans	**–**	**–**	**–**	–	–	–
Foreign exchange and other	**10**	**1**	**11**	7	2	9
Balance at end of year	**$ 911**	**$ 955**	**$ 1,866**	$ 621	$ 859	$ 1,480
Allowance for credit losses – impaired loans [2]						
Balance at beginning of year under IAS 39	**n/a**	**n/a**	**n/a**	$ 191	$ 286	$ 477
Impact of adopting IFRS 9 at November 1, 2017	**n/a**	**n/a**	**n/a**	13	(25)	(12)
Balance at beginning of year under IFRS 9	**$ 230**	**$ 252**	**$ 482**	204	261	465
Amounts written off	**(190)**	**(940)**	**(1,130)**	(116)	(934)	(1,050)
Recoveries of amounts written off in previous years	**13**	**181**	**194**	12	178	190
Charge to income statement [3]	**350**	**795**	**1,145**	188	764	952
Interest accrued on impaired loans	**(18)**	**(22)**	**(40)**	(10)	(13)	(23)
Disposals of loans [1]	**–**	**–**	**–**	(48)	–	(48)
Transfers	**–**	**–**	**–**	–	–	–
Foreign exchange and other	**(9)**	**2**	**(7)**	–	(4)	(4)
Balance at end of year	**$ 376**	**$ 268**	**$ 644**	$ 230	$ 252	$ 482
Net impaired loans [4]						
Balance at beginning of year under IAS 39	**n/a**	**n/a**	**n/a**	$ 435	$ 398	$ 833
Impact of adopting IFRS 9 at November 1, 2017	**n/a**	**n/a**	**n/a**	14	220	234
Balance at beginning of year under IFRS 9	**$ 391**	**$ 607**	**$ 998**	449	618	1,067
Net change in gross impaired	**290**	**96**	**386**	(32)	(20)	(52)
Net change in allowance	**(146)**	**(16)**	**(162)**	(26)	9	(17)
Balance at end of year	**$ 535**	**$ 687**	**$ 1,222**	$ 391	$ 607	$ 998
Net impaired loans as a percentage of net loans and acceptances			**0.31 %**			0.26 %

(1) Includes loans with a par value of $116 million and ECL of $48 million that were derecognized as a result of a debt restructuring agreement completed with the Government of Barbados on October 31, 2018.
(2) Effective November 1, 2017, all loans that are contractually 90 days in arrears are automatically classified as impaired and as stage 3 under IFRS 9, except for credit card loans which are classified as impaired and are fully written off when payments are contractually 180 days in arrears or at the earlier of the notice of bankruptcy, settlement proposal, or enlistment of credit counselling services. The determination of impairment was generally the same under IAS 39, except (i) residential mortgages guaranteed or insured by a Canadian government (federal or provincial) or a Canadian government agency were not classified as impaired until payments were contractually 365 days in arrears, and (ii) residential mortgages guaranteed or insured by a private insurer, or loans that were fully secured and in the process of collection were not classified as impaired until payments were contractually 180 days in arrears.
(3) Excludes provision for credit losses on impaired undrawn credit facilities and other off-balance sheet exposures.
(4) Effective November 1, 2017, net impaired loans are gross impaired loans net of stage 3 allowance for credit losses. In prior periods, net impaired loans were calculated by deducting the individual allowance and the portion of the collective allowance relating to impaired loans, which were generally loans that were past 90 days in arrears, from gross impaired loans.
n/a Not applicable.

Gross impaired loans

As at October 31, 2019, gross impaired loans were $1,866 million, up $386 million from the prior year, primarily due to increases in the retail and wholesale sector, which includes one fraud-related impairment, and the business services sector, as well as an increase in the Canadian residential mortgages portfolio.

65% of gross impaired loans related to Canada, of which the residential mortgages and personal lending portfolios, retail and wholesale, and business services sectors accounted for the majority.

18% of gross impaired loans related to CIBC FirstCaribbean, of which the residential mortgages portfolio, real estate and construction sector, and personal lending portfolio accounted for the majority.

The remaining gross impaired loans related to the U.S., of which the oil and gas, business services, and real estate and construction sectors accounted for the majority.

See the "Supplementary annual financial information" section for additional details on the geographic distribution and industry classification of impaired loans.

Allowance for credit losses – impaired loans

Allowance for credit losses on impaired loans was $644 million, up $162 million from the prior year, primarily due to an increase in the retail and wholesale sector, which includes one fraud-related impairment, as well as increases in the business services, oil and gas, and agriculture sectors, partially offset by decreases in CIBC FirstCaribbean.

Exposure to certain countries and regions

Europe

The following table provides our exposure to European countries, both within and outside the Eurozone.

Our direct exposures presented in the tables below comprise (A) funded – on-balance sheet loans (stated at amortized cost net of stage 3 allowance for credit losses, if any), deposits with banks (stated at amortized cost net of stage 3 allowance for credit losses, if any) and securities (stated at carrying value); (B) unfunded – unutilized credit commitments, letters of credit, and guarantees (stated at notional amount net of stage 3 allowance for credit losses, if any); and (C) derivative MTM receivables (stated at fair value) and repo-style transactions (stated at fair value).

Of our total direct exposures to Europe, approximately 45% (2018: 46%) is to entities in countries with Aaa/AAA ratings from at least one of Moody's or S&P.

The following table provides a summary of our positions in this business:

	Direct exposures											
	Funded				Unfunded			Derivative MTM receivables and repo-style transactions (1)				
$ millions, as at October 31, 2019	Corporate	Sovereign	Banks	Total funded (A)	Corporate	Banks	Total unfunded (B)	Corporate	Sovereign	Banks	Net exposure (C)	Total direct exposure (A)+(B)+(C)
Austria	**$ –**	**$ 679**	**$ 16**	**$ 695**	**$ –**	**$ 13**	**$ 13**	**$ –**	**$ –**	**$ 1**	**$ 1**	**$ 709**
Finland	**78**	**–**	**419**	**497**	**72**	**–**	**72**	**–**	**–**	**–**	**–**	**569**
France	**49**	**52**	**242**	**343**	**263**	**33**	**296**	**20**	**–**	**31**	**51**	**690**
Germany	**427**	**1,091**	**731**	**2,249**	**329**	**111**	**440**	**22**	**–**	**48**	**70**	**2,759**
Ireland	**152**	**–**	**169**	**321**	**6**	**13**	**19**	**13**	**–**	**112**	**125**	**465**
Luxembourg	**111**	**–**	**1,590**	**1,701**	**103**	**–**	**103**	**2**	**–**	**33**	**35**	**1,839**
Netherlands	**369**	**462**	**191**	**1,022**	**161**	**78**	**239**	**63**	**–**	**2**	**65**	**1,326**
Norway	**–**	**329**	**316**	**645**	**613**	**–**	**613**	**–**	**–**	**–**	**–**	**1,258**
Spain	**1**	**–**	**1**	**2**	**66**	**29**	**95**	**–**	**–**	**5**	**5**	**102**
Sweden	**38**	**541**	**150**	**729**	**155**	**–**	**155**	**13**	**–**	**1**	**14**	**898**
Switzerland	**357**	**–**	**42**	**399**	**8**	**–**	**8**	**4**	**–**	**88**	**92**	**499**
United Kingdom	**1,395**	**627**	**1,418**	**3,440**	**3,442**	**280**	**3,722**	**652**	**46**	**138**	**836**	**7,998**
Other European countries	**56**	**–**	**35**	**91**	**17**	**23**	**40**	**–**	**70**	**3**	**73**	**204**
Total Europe	**$ 3,033**	**$ 3,781**	**$ 5,320**	**$ 12,134**	**$ 5,235**	**$ 580**	**$ 5,815**	**$ 789**	**$ 116**	**$ 462**	**$ 1,367**	**$ 19,316**
October 31, 2018	$ 1,821	$ 2,686	$ 3,649	$ 8,156	$ 4,472	$ 482	$ 4,954	$ 626	$ 72	$ 1,048	$ 1,746	$ 14,856

(1) The amounts shown are net of CVA and collateral. Collateral on derivative MTM receivables was $1.0 billion (October 31, 2018: $0.8 billion), collateral on repo-style transactions was $20.5 billion (October 31, 2018: $20.5 billion), and both are comprised of cash and investment grade debt securities.

We have $589 million (2018: $465 million) of indirect exposure to European entities, as we hold debt or equity securities issued by European entities as collateral for derivative transactions and securities borrowing and lending activity from counterparties that are not in Europe.

Selected exposures in certain activities

In response to the recommendations of the Financial Stability Board, this section provides information on a selected activity within our continuing and exited businesses that may be of particular interest to investors based on their risk characteristics and the current market environment.

U.S. real estate lending

In our U.S. Commercial Banking and Wealth Management SBU, we operate a full-service real estate platform. Once construction is complete, and the property is income producing, we may occasionally offer fixed-rate financing within a permanent financing program (typically with average terms of up to 10 years). This portfolio of permanent financing exposures, which is a small subset of our total U.S. real estate lending portfolio, serves as a warehouse for inclusion in future commercial mortgage-backed securities (CMBS) programs. We retain no exposure to those CMBS programs. As at October 31, 2019, the portfolio of permanent financing exposures was $114 million (2018: $41 million).

Settlement risk

Settlement risk is the risk that during an agreed concurrent exchange of currency or principal payments, the counterparty will fail to make its payment to CIBC. This risk can arise in general trading activities and from payment and settlement system participation.

Many global settlement systems offer significant risk reduction benefits through complex risk mitigation frameworks. Bilateral payment netting agreements may be put in place to mitigate risk by reducing the aggregate settlement amount between counterparties. Further, we participate in several North American payment and settlement systems, including a global foreign exchange multilateral netting system. We also use financial intermediaries to access some payment and settlement systems, and for certain trades, we may utilize an established clearing house to minimize settlement risk.

Transactions settled outside of payment and settlement systems or clearing houses require approval of credit facilities for counterparties, either as pre-approved settlement risk limits or payment-versus-payment arrangements.

Securitization activities

We engage in three types of securitization activities: we securitize assets that we originate, we securitize assets originated by third parties and we engage in trading activities related to securitized products.

We securitize assets that we originate principally as a funding mechanism. The credit risk on the underlying assets in these transactions is transferred to the structured entity, with CIBC retaining first loss exposure and other investors exposed to the remaining credit risk.

Securitization activities relating to assets originated by third parties can include the securitization of those assets through ABCP conduits (or similar programs) that we sponsor (includes both consolidated and non-consolidated structured entities; see the "Off-balance sheet arrangements" section and Note 6 to our consolidated financial statements for additional details), or through direct exposure to a client-sponsored special purpose vehicle. Risks associated with securitization exposures to client-originated assets are mitigated through the transaction structure, which includes credit enhancements. For the transactions where we retain credit risk on the exposures that we hold, we earn interest income on these holdings. For the transactions in the ABCP conduits, we are also exposed to liquidity risk associated with the potential inability to roll over maturing ABCP in the market. We earn fee income for the services that we provide to these ABCP conduits.

We are also involved in the trading of ABS and ABCP to earn income in our role as underwriter and market maker. We are exposed to credit and market risk on the securities that we hold in inventory on a temporary basis until such securities are sold to an investor.

Capital requirements for exposures arising from securitization activities are determined using one of the following approaches: SEC-IRBA, SEC-ERBA, SEC-IAA, or SEC-SA.

The SEC-IAA process relies on internal risk ratings and is utilized for securitization exposures relating to ABCP conduits when external ratings are not available for the securitization exposures but the ABCP itself is externally rated. The internal assessment process involves an evaluation of a number of factors, including, but not limited to, pool characteristics, including asset eligibility criteria and concentration limits, transaction triggers, the asset seller's risk profile, servicing capabilities, and cash flow stress testing. Cash flows are stress-tested based on historical asset performance using our internal risk rating models by asset type. These models are subject to our model risk mitigation policies and are independently reviewed by the Model Validation team in Risk Management. The stress test factors used to determine the transaction risk profile and required credit enhancement levels are tailored for each asset type and transaction based on the assessment of the factors described above and are done in accordance with our internal risk rating methodologies and guidelines. Internal risk ratings are mapped to equivalent external ratings of external credit assessment institutions (DBRS, Fitch, Moody's and S&P) and are used to determine the appropriate risk weights for capital purposes. Securitization exposures and underlying asset performance are monitored on an ongoing basis. Risk Management serves as a second line of defence providing independent oversight regarding risk rating assumptions and adjudicating on the assignment of the internal risk ratings. SEC-IAA applies to various asset types in our ABCP conduits including, but not limited to, auto loans and leases, consumer loans, credit cards, dealer floorplan receivables, equipment loans and leases, fleet lease receivables, franchise loans, residential mortgages, and trade receivables.

Internal risk ratings determined for securitization exposures are also used in the estimation of expected credit losses as required under IFRS 9, determining economic capital, and for setting risk limits.

Market risk

Market risk is the risk of economic financial loss in our trading and non-trading portfolios from adverse changes in underlying market factors, including interest rates, foreign exchange rates, equity market prices, commodity prices, credit spreads, and customer behaviour for retail products. Market risk arises in CIBC's trading and treasury activities, and encompasses all market-related positioning and market making activity.

The trading book consists of positions in financial instruments and commodities held to meet the near-term needs of our clients.

The non-trading book consists of positions in various currencies that are related to asset/liability management (ALM) and investment activities.

Governance and management

Market risk is managed through the three lines of defence model. Frontline businesses and control groups are responsible for managing the market risk associated with their activities – this is the first line of defence.

The second line of defence is Risk Management, which has a dedicated market risk manager for each trading business, supplemented by regional risk managers located in all of our major trading centres, facilitating comprehensive risk coverage, including the measurement, monitoring and control of market risk.

Internal audit provides the third line of defence, with independent assessment of the design and operating effectiveness of risk management controls, processes and systems. Internal audit reports the results of its assessment to management and the Board.

Senior management reports material risk matters to the GRC and RMC at least quarterly, including material transactions, limit compliance, and portfolio trends.

Policies

We have comprehensive policies for the management of market risk. These policies are related to the identification and measurement of various types of market risk, their inclusion in the trading book, and to the establishment of limits within which we monitor, manage and report our overall exposures. Our policies also outline the requirements for the construction of valuation models, model review and validation, independent checking of the valuation of positions, the establishment of valuation adjustments, and alignment with accounting policies including MTM and mark-to-model methodologies.

Market risk limits

We have risk tolerance levels, expressed in terms of statistically based VaR measures, potential stress losses, and notional or other limits as appropriate. We use a multi-tiered approach to set limits on the amounts of risk that we can assume in our trading and non-trading activities, as follows:

- Board limits control consolidated market risk;
- Management limits control market risk for CIBC overall and are lower than the Board limits to allow for a buffer in the event of extreme market moves and/or extraordinary client needs;
- Tier 2 limits control market risk at the business unit level; and
- Tier 3 limits control market risk at the sub-business unit or desk level. Tier 3 limits are set on VaR and a variety of metrics including stress.

Management limits are established by the CRO, consistent with the risk appetite statement approved by the Board. Tier 2 and Tier 3 limits are approved at levels of management commensurate with risk assumed.

Process and control

Market risk exposures are monitored daily against approved risk limits, and control processes are in place to monitor that only authorized activities are undertaken. We generate daily risk and limit-monitoring reports, based on the previous day's positions. Summary market risk and limit compliance reports are produced and reviewed periodically with the GRC and RMC.

Risk measurement

We use the following measures for market risk:

- VaR enables the meaningful comparison of the risks in different businesses and asset classes. VaR is determined by the combined modelling of VaR for each of interest rate, credit spread, equity, foreign exchange, commodity, and debt specific risks, along with the portfolio effect arising from the interrelationship of the different risks (diversification effect):
  - Interest rate risk measures the impact of changes in interest rates and volatilities on cash instruments and derivatives.
  - Credit spread risk measures the impact of changes in credit spreads of provincial, municipal and agency bonds, sovereign bonds, corporate bonds, securitized products, and credit derivatives such as credit default swaps.
  - Equity risk measures the impact of changes in equity prices and volatilities, including implied market corrections.
  - Foreign exchange risk measures the impact of changes in foreign exchange rates and volatilities.
  - Commodity risk measures the impact of changes in commodity prices and volatilities, including the basis between related commodities.
  - Debt specific risk measures the impact of changes in the volatility of the yield of a debt instrument as compared with the volatility of the yield of a representative bond index.
  - Diversification effect reflects the risk reduction achieved across various financial instrument types, counterparties, currencies and regions. The extent of diversification benefit depends on the correlation between the assets and risk factors in the portfolio at a particular time.
- Price sensitivity measures the change in value of a portfolio to a small change in a given underlying parameter, so that component risks may be examined in isolation, and the portfolio rebalanced accordingly to achieve a desired exposure.
- Stressed VaR enables the meaningful comparison of the risks in different businesses and asset classes under stressful conditions. Changes to rates, prices, volatilities, and spreads over a 10-day horizon from a stressful historical period are applied to current positions and determine stressed VaR.
- IRC measures the required capital due to credit migration and default risk for debt securities held in the trading portfolios.
- Back-testing validates the effectiveness of risk measurement through analysis of observed and theoretical profit and loss outcomes.
- Stress testing and scenario analysis provide insight into portfolio behaviour under extreme circumstances.

The following table provides balances on the consolidated balance sheet that are subject to market risk. Certain differences between accounting and risk classifications are detailed in the footnotes below:

$ millions, as at October 31	2019				2018				
		Subject to market risk				Subject to market risk			
	Consolidated balance sheet	**Trading**	**Non-trading**	**Not subject to market risk**	Consolidated balance sheet	Trading	Non-trading	Not subject to market risk	Non-traded risk primary risk sensitivity
Cash and non-interest-bearing deposits with banks	**$ 3,840**	**$ –**	**$ 1,711**	**$ 2,129**	$ 4,380	$ –	$ 2,340	$ 2,040	Foreign exchange
Interest-bearing deposits with banks	**13,519**	**641**	**12,878**	**–**	13,311	96	13,215	–	Interest rate
Securities	**121,310**	**42,403**	**78,907**	**–**	101,664	49,784	51,880	–	Equity, interest rate
Cash collateral on securities borrowed	**3,664**	**–**	**3,664**	**–**	5,488	–	5,488	–	Interest rate
Securities purchased under resale agreements	**56,111**	**–**	**56,111**	**–**	43,450	–	43,450	–	Interest rate
Loans									
Residential mortgages	**208,652**	**–**	**208,652**	**–**	207,749	–	207,749	–	Interest rate
Personal	**43,651**	**–**	**43,651**	**–**	43,058	–	43,058	–	Interest rate
Credit card	**12,755**	**–**	**12,755**	**–**	12,673	–	12,673	–	Interest rate
Business and government	**125,798**	**20,226** (1)	**105,572**	**–**	109,555	15,730 (1)	93,825	–	Interest rate
Allowance for credit losses	**(1,915)**	**–**	**(1,915)**	**–**	(1,639)	–	(1,639)	–	Interest rate
Derivative instruments	**23,895**	**22,610**	**1,285**	**–**	21,431	19,132	2,299	–	Interest rate, foreign exchange
Customers' liability under acceptances	**9,167**	**–**	**9,167**	**–**	10,265	–	10,265	–	Interest rate
Other assets	**31,157**	**1,957**	**17,985**	**11,215**	25,714	561	15,474	9,679	Interest rate, equity, foreign exchange
	$ 651,604	**$ 87,837**	**$ 550,423**	**$ 13,344**	$ 597,099	$ 85,303	$ 500,077	$ 11,719	
Deposits	**$ 485,712**	**$ 44** (2)	**$ 437,634**	**$ 48,034**	$ 461,015	$ 507 (2)	$ 414,051	$ 46,457	Interest rate
Obligations related to securities sold short	**15,635**	**14,721**	**914**	**–**	13,782	13,731	51	–	Interest rate
Cash collateral on securities lent	**1,822**	**–**	**1,822**	**–**	2,731	–	2,731	–	Interest rate
Obligations related to securities sold under repurchase agreements	**51,801**	**–**	**51,801**	**–**	30,840	–	30,840	–	Interest rate
Derivative instruments	**25,113**	**23,679**	**1,434**	**–**	20,973	19,013	1,960	–	Interest rate, foreign exchange
Acceptances	**9,188**	**–**	**9,188**	**–**	10,296	–	10,296	–	Interest rate
Other liabilities	**19,069**	**2,096**	**8,111**	**8,862**	18,266	2,051	8,527	7,688	Interest rate
Subordinated indebtedness	**4,684**	**–**	**4,684**	**–**	4,080	–	4,080	–	Interest rate
	$ 613,024	**$ 40,540**	**$ 515,588**	**$ 56,896**	$ 561,983	$ 35,302	$ 472,536	$ 54,145	

(1) Excludes $115 million (2018: $39 million) of loans that are warehoused for future securitization purposes. These are considered non-trading for market risk purposes.
(2) Comprises FVO deposits which are considered trading for market risk purposes.

Trading activities

We hold positions in traded financial contracts to meet client investment and risk management needs. Trading revenue (net interest income or non-interest income) is generated from these transactions. Trading instruments are recorded at fair value and include debt and equity securities, as well as interest rate, foreign exchange, equity, commodity, and credit derivative products.

Value-at-Risk

Our VaR methodology is a statistical technique that measures the potential overnight loss at a 99% confidence level. We use a full revaluation historical simulation methodology to compute VaR, stressed VaR and other risk measures.

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

- The use of historical data for estimating future events will not encompass all potential events, particularly those that are extreme in nature.
- The use of a one-day holding period assumes that all positions can be liquidated, or the risks offset in one day. This may not fully reflect the market risk arising at times of severe illiquidity, when a one-day period may be insufficient to liquidate or hedge all positions fully.
- The use of a 99% confidence level does not take into account losses that might occur beyond this level of confidence.
- VaR is calculated on the basis of exposures outstanding at the close of business and assumes no management action to mitigate losses.

The VaR table below presents market risks by type of risk and in aggregate. The risks are interrelated and the diversification effect reflects the reduction of risk due to portfolio effects among the trading positions. Our trading risk exposures to interest rates and credit spreads arise from activities in the global debt and derivative markets, particularly from transactions in the Canadian, U.S., and European markets. The primary instruments are government and corporate debt, and interest rate derivatives. The majority of the trading exposure to foreign exchange risk arises from transactions involving the Canadian dollar, U.S. dollar, Euro, pound sterling, Australian dollar, Chinese yuan, and Japanese yen, whereas the primary risks of losses in equities are in the U.S., Canadian, and European markets. Trading exposure to commodities arises primarily from transactions involving North American natural gas, crude oil products, and precious metals.

VaR by risk type – trading portfolio

$ millions, as at or for the year ended October 31				**2019**				2018
	High	**Low**	**As at**	**Average**	High	Low	As at	Average
Interest rate risk	**$ 10.1**	**$ 2.8**	**$ 8.5**	**$ 5.2**	$ 7.6	$ 2.9	$ 3.5	$ 4.5
Credit spread risk	**2.0**	**0.9**	**1.5**	**1.3**	2.0	0.5	1.6	1.0
Equity risk	**10.4**	**1.7**	**3.4**	**3.1**	8.4	1.7	3.7	2.8
Foreign exchange risk	**4.3**	**0.6**	**2.9**	**2.1**	4.6	0.5	1.3	1.6
Commodity risk	**5.0**	**1.1**	**3.9**	**2.4**	4.7	1.0	1.5	1.8
Debt specific risk	**2.4**	**1.3**	**1.9**	**1.7**	2.7	0.9	1.3	1.5
Diversification effect (1)	**n/m**	**n/m**	**(15.3)**	**(10.1)**	n/m	n/m	(7.9)	(7.9)
Total VaR (one-day measure)	**$ 10.8**	**$ 3.6**	**$ 6.8**	**$ 5.7**	$ 10.4	$ 4.0	$ 5.0	$ 5.3

(1) Total VaR is less than the sum of the VaR of the different market risk types due to risk offsets resulting from a portfolio diversification effect.
n/m Not meaningful. It is not meaningful to compute a diversification effect because the high and low may occur on different days for different risk types.

Average total VaR for the year ended October 31, 2019 was up $0.4 million from the prior year. The increase was primarily due to increases in interest rate, commodity and foreign exchange risks.

Stressed VaR

The stressed VaR measure is intended to replicate the VaR calculation that would be generated for our current portfolio if the values of the relevant market risk factors were sourced from a period of stressed market conditions. The model inputs are calibrated to historical data from a continuous 12-month period of significant financial stress relevant to our current portfolio since December 2006. Our current stressed VaR period is from September 2, 2008 to August 31, 2009.

Stressed VaR by risk type – trading portfolio

$ millions, as at or for the year ended October 31				**2019**				2018
	High	**Low**	**As at**	**Average**	High	Low	As at	Average
Interest rate risk	**$ 37.0**	**$ 8.9**	**$ 26.4**	**$ 19.4**	$ 33.8	$ 6.8	$ 14.2	$ 17.4
Credit spread risk	**18.1**	**7.9**	**11.1**	**12.1**	17.9	4.0	17.9	9.6
Equity risk	**20.2**	**1.4**	**2.2**	**3.9**	7.8	0.8	6.3	3.4
Foreign exchange risk	**29.5**	**0.6**	**6.5**	**10.4**	15.5	0.5	2.7	5.3
Commodity risk	**11.9**	**1.3**	**11.9**	**4.8**	7.9	1.3	2.5	2.5
Debt specific risk	**7.3**	**4.1**	**4.9**	**5.5**	6.7	2.6	6.3	4.6
Diversification effect (1)	**n/m**	**n/m**	**(42.0)**	**(40.9)**	n/m	n/m	(33.4)	(30.4)
Stressed total VaR (one-day measure)	**$ 47.1**	**$ 3.5**	**$ 21.0**	**$ 15.2**	$ 22.6	$ 3.7	$ 16.5	$ 12.4

(1) Stressed total VaR is less than the sum of the VaR of the different market risk types due to risk offsets resulting from a portfolio diversification effect.
n/m Not meaningful. It is not meaningful to compute a diversification effect because the high and low may occur on different days for different risk types.

Average stressed total VaR for the year ended October 31, 2019 was up $2.8 million from the prior year. The increase was driven by an increase in foreign exchange, credit spread, commodity and interest rate risks related to positioning in the trading book.

Incremental risk charge

IRC is a measure of default and migration risk for debt securities held in the trading portfolios. Our IRC methodology is a statistical technique that measures the risk of issuer migration and default over a period of one year by simulating changes in issuer credit rating. Validation of the model included testing of the liquidity horizon, recovery rate, correlation, and PD and migration.

IRC – trading portfolio

$ millions, as at or for the year ended October 31				**2019**				2018
	High	**Low**	**As at**	**Average**	High	Low	As at	Average
Default risk	**$ 268.8**	**$ 124.0**	**$ 132.1**	**$ 180.2**	$ 214.2	$ 71.5	$ 176.1	$ 143.2
Migration risk	**111.2**	**45.5**	**67.7**	**72.2**	155.5	33.3	53.1	57.6
IRC (one-year measure) (1)	**$ 371.4**	**$ 186.5**	**$ 199.8**	**$ 252.4**	$ 291.5	$ 147.8	$ 229.2	$ 200.8

(1) High and low IRC are not equal to the sum of the constituent parts, because the highs and lows of the constituent parts may occur on different days.

Average IRC for the year ended October 31, 2019 was up $51.6 million from the prior year due to less diversification effect within our fixed income portfolio.

Back-testing

To determine the reliability of the trading VaR model, outcomes are monitored regularly through a back-testing process to test the validity of the assumptions and the parameters used in the trading VaR calculation. The back-testing process includes calculating a hypothetical or static profit and loss and comparing that result with calculated VaR. Static profit and loss represents the change in value of the prior day's closing portfolio due to each day's price movements, on the assumption that the contents of the portfolio remained unchanged. The back-testing process is conducted on a daily basis at the consolidated CIBC level. Back-testing is also performed for business lines and individual portfolios.

Static profit and loss and trading losses in excess of the one-day VaR are investigated. The back-testing process, including the investigation of results, is performed by risk professionals who are independent of those responsible for development of the model.

Internal audit also reviews our models, validation processes, and results of our back-testing. Based on our back-testing results, we are able to ensure that our VaR model continues to appropriately measure risk.

During the year, there was one negative back-testing breach of the total VaR measure, in line with statistical expectations.

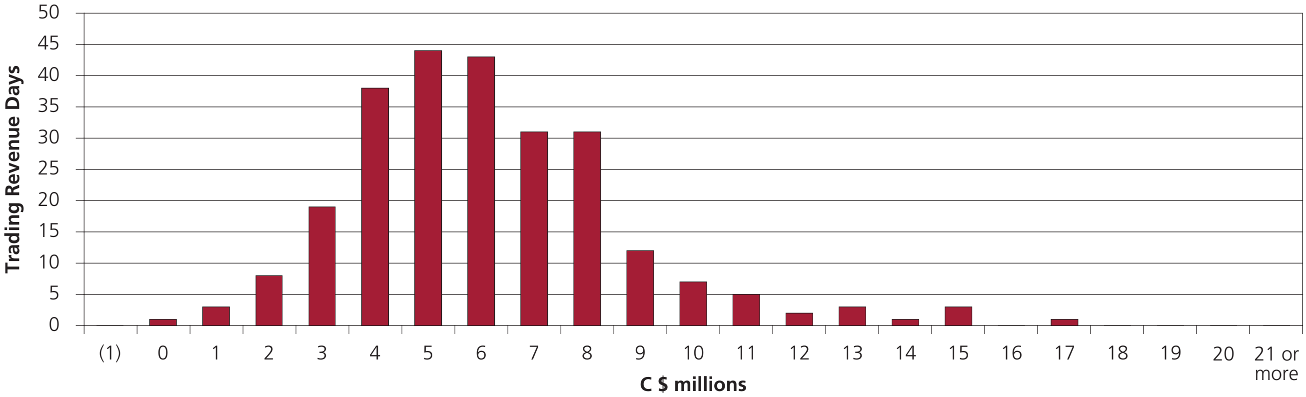
Trading revenue

Trading revenue (TEB) comprises both trading net interest income and non-interest income and excludes underwriting fees and commissions. Trading revenue (TEB) in the charts below excludes certain exited portfolios.

During the year, trading revenue (TEB) was positive for 99.6% of the days. The largest gain of $16.6 million occurred on August 30, 2019. It was attributable to the normal course of business within our global markets line of business, notably in equity derivatives. The largest loss of $0.6 million occurred on August 16, 2019, mainly driven by a loss in equity derivatives. Average daily trading revenue (TEB) was $5.6 million during the year, and the average daily TEB was $0.7 million. The large increase in VaR in May 2019 was the result of a large transaction in our equity underwriting business.

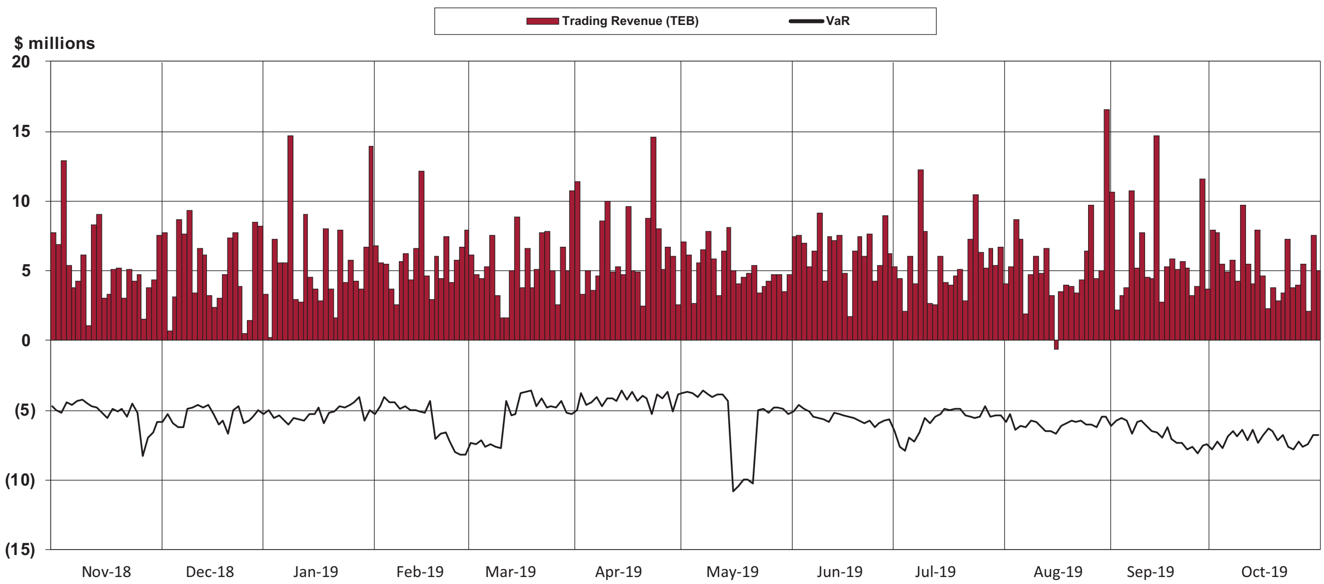
Frequency distribution of daily 2019 trading revenue (TEB) [(1)]

The histogram below presents the frequency distribution of daily trading revenue (TEB) for 2019.



Trading revenue (TEB) [(1)] *versus VaR*

The trading revenue (TEB) versus VaR graph below shows the current year's daily trading revenue (TEB) against the close of business day VaR measures.



(1) Excludes certain month-end transfer pricing and other miscellaneous adjustments.

Stress testing and scenario analysis

Stress testing and scenario analysis is designed to add insight to possible outcomes of abnormal market conditions, and to highlight possible risk concentrations.

We measure the effect on portfolio values under a wide range of extreme moves in market risk factors. Our approach simulates the impact on earnings of extreme market events over a one-month time horizon, assuming that no risk-mitigating actions are taken during this period to reflect the reduced market liquidity that typically accompanies such events.

Scenarios are developed using historical market data during periods of market disruption, or are based on hypothetical impacts of economic events, political events, and natural disasters as predicted by economists, business leaders, and risk managers.

Among the historical scenarios are the 1994 period of U.S. Federal Reserve tightening, and the market events following the 2008 market crisis. The hypothetical scenarios include potential market crises originating in North America, Europe and Asia. In March 2019, a subprime crisis traded scenario was introduced and replaced the "historical" subprime crisis scenario. The subprime crisis traded scenario incorporates trading behaviour by assuming that positions can be dynamically hedged during the course of the scenario, which reduces the holding period (vs. "historical" subprime crisis scenario). In September 2019, two updated Brexit scenarios were re-introduced in accordance with the latest events in the U.K. and Europe: a (i) Brexit "leaves" – hard Brexit scenario where the U.K. leaves the European Union without a formal agreement, or after snap elections are won by hardline conservatives, and (ii) a Brexit "remains" – second referendum scenario where a British snap election is won by a Liberal Party-Labour Party coalition, triggering a second referendum leading to the revocation of Article 50.

Below are examples of the core stress test scenarios which are currently run on a daily basis to add insight into potential exposures under stress:

- Subprime crisis traded
- U.S. Federal Reserve tightening – 1994
- U.S. sovereign debt default and downgrade
- Brexit "leaves" – hard Brexit
- Canada market crisis
- U.S. protectionism
- Eurozone bank crisis
- Brexit "remains" – second referendum
- Quantitative easing tapering and asset price correction
- Oil shock and equity correction
- Chinese hard landing

Stress testing scenarios are periodically reviewed and amended as necessary to ensure they remain relevant. Under stress limit monitoring, limits are placed on the maximum acceptable loss based on risk appetite in aggregate, at the detailed portfolio level, and for specific asset classes.

Non-exchange traded commodity derivatives

In the normal course of business, we trade non-exchange traded commodity derivative contracts. We control and manage our non-exchange traded commodity derivatives risk through the VaR and stress testing methodologies described above. We use modelling techniques or other valuation methodologies to determine the fair value of these contracts.

The following table provides the fair value, based upon maturity of non-exchange traded commodity contracts:

$ millions, as at October 31, 2019	Positive	Negative	Net
Maturity less than 1 year	$ 453	$ 615	$ (162)
Maturity 1–3 years	394	797	(403)
Maturity 4–5 years	256	254	2
Maturity in excess of 5 years	473	18	455
	$ 1,576	$ 1,684	$ (108)

Non-trading activities

Structural interest rate risk

Structural interest rate risk primarily consists of the risk arising due to mismatches in assets and liabilities, which do not arise from trading and trading-related businesses. Interest rate risk results from differences in the maturities or repricing dates of assets and liabilities, both on- and off-balance sheet, as well as from embedded optionality in retail products. This optionality arises predominantly from the commitment and prepayment exposures of mortgage products, non-maturity deposits and some guaranteed investment certificates products with early redemption features. A variety of cash instruments and derivatives, primarily interest rate swaps, are used to manage these risks.

The Board has oversight of the management of non-trading market risk, sets the market risk appetite and annually approves the market risk limits. GALCO and its subcommittee, the Asset Liability Management Committee, regularly review structural market risk positions and provide senior management oversight.

In addition to Board-approved limits on earnings and economic value exposure, more granular management limits are in place to guide day-to-day management of this risk. The ALM group within Treasury is responsible for the ongoing management of structural market risk across the enterprise, with independent oversight and compliance with non-trading market risk policy provided by Capital Markets Risk Management.

ALM activities are designed to manage the effects of potential interest rate movements while balancing the cost of any hedging activities on the current net revenue. The net interest income sensitivity is a measure of the impact of potential changes in interest rates on the projected 12-month pre-tax net interest income of a portfolio of assets, liabilities and off-balance sheet positions in response to prescribed parallel interest rate movements with interest rates floored at zero.

The following table shows the potential impact over the next 12 months, adjusted for structural assumptions (excluding shareholders' equity in the calculation of the present value of shareholders' equity), estimated prepayments and potential early withdrawals, of an immediate and sustained 100 basis point increase or decrease in all interest rates.

Structural interest rate sensitivity – measures

$ millions (pre-tax), as at October 31		2019		2018
	CAD [1]	**USD**	CAD [1]	USD
100 basis point increase in interest rates				
Increase (decrease) in net interest income	$ 192	$ 24	$ 170	$ 32
Increase (decrease) in present value of shareholders' equity	(511)	(307)	(396)	(230)
100 basis point decrease in interest rates				
Increase (decrease) in net interest income	(190)	(35)	(246)	(58)
Increase (decrease) in present value of shareholders' equity	388	206	316	269

(1) Includes CAD and other currency exposures.

Foreign exchange risk

Structural foreign exchange risk primarily consists of the risk inherent in: (a) net investments in foreign operations due to changes in foreign exchange rates; and (b) foreign currency denominated risk-weighted assets and foreign currency denominated capital deductions. This risk, predominantly in U.S. dollars, is managed using derivative hedges and by funding the investments in matching currencies. We actively manage this position to ensure that the potential impact on our capital ratios is in accordance with the policy approved by the CRO, while giving consideration to the impact on earnings and shareholders' equity. Structural foreign exchange risk is managed by Treasury under the guidance of GALCO. Compliance with trading and non-trading market risk policy, as well as market risk limits, is monitored daily by Capital Markets Risk Management.

A 1% appreciation of the Canadian dollar would reduce our shareholders' equity as at October 31, 2019 by approximately $153 million (2018: $130 million) on an after-tax basis.

Our non-functional currency denominated earnings are converted into the functional currencies through spot or forward foreign exchange transactions. Typically, there is no significant impact of exchange rate fluctuations on our consolidated statement of income.

We hedge certain foreign currency contractual expenses using derivatives which are accounted for as cash flow hedges. The net change in fair value of these hedging derivatives included in AOCI amounted to a gain of $3 million (2018: $8 million) on an after-tax basis. This amount will be released from AOCI to offset the hedged currency fluctuations as the expenses are incurred.

Derivatives held for ALM purposes

Where derivatives are held for ALM purposes, and when transactions meet the criteria specified under IFRS, we apply hedge accounting for the risks being hedged, as discussed in Notes 12 and 13 to the consolidated financial statements. Derivative hedges that do not qualify for hedge accounting treatment are referred to as economic hedges and are recorded at fair value on the consolidated balance sheet with changes in fair value recognized in the consolidated statement of income.

Economic hedges for other than FVO financial instruments may lead to income volatility because the hedged items are recorded either on a cost or amortized cost basis or recorded at fair value on the consolidated balance sheet with changes in fair value recognized through other comprehensive income. This income volatility may not be representative of the overall risk.

Equity risk

Non-trading equity risk arises primarily in our strategy and corporate development activities and our merchant banking activities. The investments comprise public and private equities, investments in limited partnerships, and equity-accounted investments.

The following table provides the amortized cost and fair values of our non-trading equities:

$ millions, as at October 31		Amortized cost	Fair value
2019	**Equity securities designated at FVOCI**	**$ 533**	**$ 602**
	Equity-accounted investments in associates (1)	**57**	**85**
		$ 590	**$ 687**
2018	Equity securities designated at FVOCI	$ 468	$ 562
	Equity-accounted investments in associates (1)	63	101
		$ 531	$ 663

(1) Excludes our equity-accounted joint ventures. See Note 25 to the consolidated financial statements for further details.

Pension risk

A number of defined benefit pension plans are operated globally. As at October 31, 2019, our consolidated defined benefit pension plans were in a net asset position of $116 million, compared with $311 million as at October 31, 2018. The change in the net asset position of our pension plans is disclosed in Note 18 to the consolidated financial statements.

Our Canadian pension plans represent approximately 90% of our pension plans, the most significant of which is our principal Canadian pension plan (the CIBC Pension Plan). The estimated impact on our Canadian defined benefit obligations of a 100 basis point change in the discount rate is disclosed in Note 18 to the consolidated financial statements.

The MRCC is responsible for sound governance and oversight, and delegates management authority to the Pension Benefits Management Committee (PBMC). An appropriate investment strategy for the CIBC Pension Plan is set through a statement of investment objectives, policies and procedures.

Within Treasury, the Pension Investment Management department is responsible for developing and implementing custom investment strategies to sustainably deliver pension benefits within manageable risk tolerances and capital impact. Key risks include actuarial risks (such as longevity risk), interest rate risk, currency risk, market (investment) risk, and health-care cost inflation risks.

The CIBC Pension Plan principally manages these risk exposures through its liability-driven investment strategy, which includes the use of derivatives for risk management and rebalancing purposes, as well as the ability to enhance returns. The use of derivatives within the CIBC Pension Plan is governed by the plan's derivatives policy that was approved by the PBMC. The fair value of derivatives held in the CIBC Pension Plan is disclosed in Note 18 to the consolidated financial statements.

A principal risk for the CIBC Pension Plan is interest rate risk which it mitigates through a combination of physical bonds and a bond overlay program funded through the use of repurchase agreements. The plan also operates a currency overlay strategy, which may use forwards or similar instruments, to manage and mitigate its currency risk. Investment risk is mitigated through a multi-asset portfolio construction process that diversifies across a variety of market risk drivers.

Liquidity risk

Liquidity risk is the risk of having insufficient cash or its equivalent in a timely and cost-effective manner to meet financial obligations as they come due. Common sources of liquidity risk inherent in banking services include unanticipated withdrawals of deposits, the inability to replace maturing debt, credit and liquidity commitments, and additional pledging or other collateral requirements.

CIBC's approach to liquidity risk management supports our business strategy, aligns with our risk appetite and adheres to regulatory expectations.

Our management strategies, objectives and practices are regularly reviewed to align with changes to the liquidity environment, including regulatory, business and/or market developments. Liquidity risk remains within CIBC's risk appetite.

Governance and management

We manage liquidity risk in a manner that enables us to withstand a liquidity stress event without an adverse impact on the viability of our operations. Actual and anticipated cash flows generated from on- and off-balance sheet exposures are routinely measured and monitored to ensure compliance with established limits. CIBC incorporates stress testing into its management and measurement of liquidity risk. Stress test results assist with the development of our liquidity assumptions, identification of potential constraints to funding planning, and contribute to the design of CIBC's contingency funding plan.

Liquidity risk is managed using the three lines of defence model, and the ongoing management of liquidity risk is the responsibility of the Treasurer, supported by guidance from GALCO.

The Treasurer is responsible for managing the activities and processes required for measurement, reporting and monitoring of CIBC's liquidity risk position – this is the first line of defence.

The Liquidity and Non-Trading Market Risk group within Capital Markets Risk Management provides independent oversight of the measurement, monitoring and control of liquidity risk, as the second line of defence.

Internal audit, as the third line of defence, provides independent assessment of the design and operating effectiveness of liquidity risk management controls, processes and systems. Internal audit reports the results of its assessment to management and the Board.

The GALCO governs CIBC's liquidity risk management, ensuring the liquidity risk management methodologies, assumptions, and key metrics such as the Liquidity Horizon, are regularly reviewed and consider CIBC's business activities. The Liquidity Risk Management Committee, a subcommittee of GALCO, is responsible for ensuring that CIBC's liquidity risk profile is comprehensively measured and managed in alignment with CIBC's strategic direction, risk appetite and regulatory requirements.

The RMC approves CIBC's liquidity risk management policy, and recommends liquidity risk tolerance to the Board through the risk appetite statement.

Policies

Our liquidity risk management policy requires a sufficient amount of available unencumbered liquid assets and diversified funding sources to meet anticipated liquidity needs in both normal and stressed conditions. CIBC branches and subsidiaries possessing unique liquidity characteristics, due to distinct businesses or jurisdictional requirements, maintain local liquidity practices in alignment with CIBC's liquidity risk management policy.

CIBC's pledging policy sets out consolidated limits for the pledging of CIBC's assets across a broad range of financial activities. These limits ensure unencumbered liquid assets are available for liquidity purposes.

We maintain a detailed global contingency funding plan that sets out the strategies for addressing liquidity shortfalls in emergency and unexpected situations, and delineates the requirements necessary to manage a range of stress conditions, establishes lines of responsibility, articulates implementation, and defines escalation procedures, and is aligned to CIBC's risk appetite. In order to reflect CIBC's organizational complexity, regional and subsidiary contingency funding plans are maintained to respond to liquidity stresses unique to the jurisdictions within which CIBC operates, and support CIBC as an enterprise.

Risk measurement

Our liquidity risk tolerance is defined by our risk appetite statement, which is approved annually by the Board, and forms the basis for the delegation of liquidity risk authority to senior management. We use both regulatory-driven and internally developed liquidity risk metrics to measure our liquidity risk exposure. Internally, our liquidity position is measured using the Liquidity Horizon, which combines contractual and behavioural cash flows to measure the future point in time when projected cumulative cash outflows exceed cash inflows under a combined CIBC-specific and market-wide stress scenario. Expected and potential anticipated inflows and outflows of funds generated from on- and off-balance sheet exposures are measured and monitored on a daily basis to ensure compliance with established limits. These cash flows incorporate both contractual and behavioural on- and off-balance sheet cash flows.

Our liquidity measurement system provides liquidity risk exposure reports that include the calculation of the internal liquidity stress tests and regulatory reporting such as the LCR and Net Cumulative Cash Flow (NCCF). Our liquidity management also incorporates the monitoring of our unsecured wholesale funding position and funding capacity.

Risk appetite

CIBC's risk appetite statement ensures prudent management of liquidity risk by outlining qualitative considerations and quantitative metrics including the LCR and Liquidity Horizon. Quantitative metrics are measured and managed to a set of limits approved by Risk Management.

Stress testing

A key component of our liquidity risk management, and complementing our assessments of liquidity risk exposure, is liquidity risk stress testing. Liquidity stress testing involves the application of name-specific and market-wide stress scenarios at varying levels of severity to assess the amount of available liquidity required to satisfy anticipated obligations as they come due. The scenarios model potential liquidity and funding requirements in the event of unsecured wholesale funding and deposit run-off, contingent liquidity utilization, and liquid asset marketability.

Liquid assets

Available liquid assets include unencumbered cash and marketable securities from on- and off-balance sheet sources, that can be used to access funding in a timely fashion. Encumbered liquid assets, composed of assets pledged as collateral and those assets that are deemed restricted due to legal, operational, or other purposes, are not considered as sources of available liquidity when measuring liquidity risk.

Encumbered and unencumbered liquid assets from on- and off-balance sheet sources are summarized as follows:

$ millions, as at October 31		Bank owned liquid assets	Securities received as collateral	Total liquid assets	Encumbered liquid assets	Unencumbered liquid assets (1)
2019	**Cash and deposits with banks**	**$ 17,359**	**$ –**	**$ 17,359**	**$ 784**	**$ 16,575**
	Securities issued or guaranteed by sovereigns, central banks, and multilateral development banks	**85,881**	**86,205**	**172,086**	**100,203**	**71,883**
	Other debt securities	**4,928**	**3,139**	**8,067**	**1,838**	**6,229**
	Equities	**26,441**	**15,766**	**42,207**	**23,623**	**18,584**
	Canadian government guaranteed National Housing Act mortgage-backed securities	**41,378**	**876**	**42,254**	**11,627**	**30,627**
	Other liquid assets (2)	**11,196**	**463**	**11,659**	**6,864**	**4,795**
		$ 187,183	**$ 106,449**	**$ 293,632**	**$ 144,939**	**$ 148,693**
2018	Cash and deposits with banks	$ 17,691	$ –	$ 17,691	$ 686	$ 17,005
	Securities issued or guaranteed by sovereigns, central banks, and multilateral development banks	67,478	74,933	142,411	75,431	66,980
	Other debt securities	6,684	2,092	8,776	1,240	7,536
	Equities	25,018	20,641	45,659	27,859	17,800
	Canadian government guaranteed National Housing Act mortgage-backed securities	39,465	834	40,299	10,182	30,117
	Other liquid assets (2)	6,500	1,598	8,098	6,621	1,477
		$ 162,836	$ 100,098	$ 262,934	$ 122,019	$ 140,915

(1) Unencumbered liquid assets are defined as on-balance sheet assets, assets borrowed or purchased under resale agreements, and other off-balance sheet collateral received less encumbered liquid assets.
(2) Includes cash pledged as collateral for derivatives transactions, select ABS and precious metals.

The following table summarizes unencumbered liquid assets held by CIBC (parent) and its domestic and foreign subsidiaries:

$ millions, as at October 31	**2019**	2018
CIBC (parent)	**$ 108,878**	$ 99,486
Domestic subsidiaries	**8,588**	15,988
Foreign subsidiaries	**31,227**	25,441
	$ 148,693	$ 140,915

Asset haircuts and monetization depth assumptions under a liquidity stress scenario are applied to determine asset liquidity value. Haircuts take into consideration those margins applicable at central banks – such as the Bank of Canada and the Federal Reserve Bank – historical observations, and securities characteristics including asset type, issuer, credit ratings, currency and remaining term to maturity, as well as available regulatory guidance.

Our unencumbered liquid assets increased $7.8 billion from October 31, 2018, primarily due to regular business activities, including deposit growth.

Furthermore, CIBC maintains access eligibility to the Bank of Canada's Emergency Lending Assistance program and the Federal Reserve Bank's Discount Window.

Asset encumbrance

In the course of CIBC's day-to-day operations, securities and other assets are pledged to secure obligations, participate in clearing and settlement systems and other collateral management purposes.

The following table provides a summary of our total on- and off-balance sheet encumbered and unencumbered assets:

		Encumbered		Unencumbered		Total assets
$ millions, as at October 31		Pledged as collateral	Other (1)	Available as collateral	Other (2)	
2019	**Cash and deposits with banks**	**$ –**	**$ 784**	**$ 16,575**	**$ –**	**$ 17,359**
	Securities	**121,349**	**283**	**102,867**	**–**	**224,499**
	Loans, net of allowance (3)	**2,000**	**40,204**	**35,073**	**310,688**	**387,965**
	Other assets	**6,186**	**–**	**1,815**	**56,218**	**64,219**
		$ 129,535	**$ 41,271**	**$ 156,330**	**$ 366,906**	**$ 694,042**
2018	Cash and deposits with banks	$ –	$ 686	$ 17,005	$ –	$ 17,691
	Securities	104,039	130	96,021	–	200,190
	Loans, net of allowance (3)	1,600	44,553	33,499	292,507	372,159
	Other assets	5,071	–	251	52,088	57,410
		$ 110,710	$ 45,369	$ 146,776	$ 344,595	$ 647,450

(1) Includes assets supporting CIBC's long-term funding activities and assets restricted for legal or other reasons, such as restricted cash.
(2) Other unencumbered assets are not subject to any restrictions on their use to secure funding or as collateral, however they are not considered immediately available to existing borrowing programs.
(3) Loans included as available as collateral represent the loans underlying National Housing Act mortgage-backed securities and Federal Home Loan Banks eligible loans.

Restrictions on the flow of funds

Our subsidiaries are not subject to significant restrictions that would prevent transfers of funds, dividends or capital distributions. However, certain subsidiaries have different capital and liquidity requirements, established by applicable banking and securities regulators.

We monitor and manage our capital and liquidity requirements across these entities to ensure that resources are used efficiently and entities are in compliance with local regulatory and policy requirements.

Liquidity coverage ratio

The objective of the LCR is to promote short-term resilience of a bank's liquidity risk profile, ensuring that it has adequate unencumbered high quality liquid resources to meet its liquidity needs in a 30-day acute stress scenario. Canadian banks are required to achieve a minimum LCR value of 100%. CIBC is in compliance with this requirement.

In accordance with the calibration methodology contained in OSFI's liquidity adequacy requirements (LAR) guidelines, CIBC reports the LCR to OSFI on a monthly basis. The ratio is calculated as follows:

$$\frac{\text{Total High Quality Liquid Assets (HQLA)}}{\text{Total net cash outflows over the next 30 calendar days}} \geq 100\%$$

The LCR's numerator consists of unencumbered HQLA, which follow an OSFI-defined set of eligibility criteria that considers fundamental and market-related characteristics, and relative ability to operationally monetize assets on a timely basis during a period of stress. CIBC's centrally-managed liquid asset portfolio includes those liquid assets reported in the HQLA, such as central government treasury bills and bonds, central bank deposits and high-rated sovereign, agency, provincial, and corporate securities. Asset eligibility limitations inherent in the LCR metric do not necessarily reflect CIBC's internal assessment of its ability to monetize its marketable assets under stress.

The ratio's denominator reflects net cash outflows expected in the LCR's stress scenario over the 30-calendar-day period. Expected cash outflows represent LCR-defined withdrawal or draw-down rates applied against outstanding liabilities and off-balance sheet commitments, respectively. Significant contributors to CIBC's LCR outflows include business and financial institution deposit run-off, draws on undrawn lines of credit and unsecured debt maturities. Cash outflows are partially offset by cash inflows, which are calculated at LCR-prescribed inflow rates, and include performing loan repayments and maturing non-HQLA marketable assets.

The LCR is disclosed using a standard OSFI-prescribed disclosure template.

	$ millions, average of the three months ended October 31, 2019	Total unweighted value (1)	Total weighted value (2)
HQLA			
1	HQLA	**n/a**	**$ 119,440**
Cash outflows			
2	Retail deposits and deposits from small business customers, of which:	**$ 157,628**	**10,598**
3	Stable deposits	**73,788**	**2,214**
4	Less stable deposits	**83,840**	**8,384**
5	Unsecured wholesale funding, of which:	**141,785**	**69,206**
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks	**47,194**	**11,504**
7	Non-operational deposits (all counterparties)	**73,598**	**36,709**
8	Unsecured debt	**20,993**	**20,993**
9	Secured wholesale funding	**n/a**	**6,198**
10	Additional requirements, of which:	**101,231**	**24,396**
11	Outflows related to derivative exposures and other collateral requirements	**12,388**	**5,829**
12	Outflows related to loss of funding on debt products	**3,320**	**3,320**
13	Credit and liquidity facilities	**85,523**	**15,247**
14	Other contractual funding obligations	**2,796**	**2,796**
15	Other contingent funding obligations	**286,860**	**5,430**
16	Total cash outflows	**n/a**	**118,624**
Cash inflows			
17	Secured lending (e.g. reverse repos)	**67,149**	**7,013**
18	Inflows from fully performing exposures	**17,597**	**8,904**
19	Other cash inflows	**7,518**	**7,518**
20	Total cash inflows	**$ 92,264**	**$ 23,435**
			Total adjusted value
21	Total HQLA	**n/a**	**$ 119,440**
22	Total net cash outflows	**n/a**	**$ 95,189**
23	LCR	**n/a**	**125 %**
	$ millions, average of the three months ended July 31, 2019		Total adjusted value
24	Total HQLA	n/a	$ 117,910
25	Total net cash outflows	n/a	$ 91,332
26	LCR	n/a	129 %

(1) Unweighted inflow and outflow values are calculated as outstanding balances maturing or callable within 30 days of various categories or types of liabilities, off-balance sheet items or contractual receivables.
(2) Weighted values are calculated after the application of haircuts (for HQLA) and inflow and outflow rates prescribed by OSFI.
n/a Not applicable as per the LCR common disclosure template.

Our average LCR as at October 31, 2019 decreased to 125% from 129% in the prior quarter, mainly due to higher net cash outflows, partially offset by an increase in HQLA.

CIBC considers the impact of its business decisions on the LCR and other liquidity risk metrics that it regularly monitors as part of a robust liquidity risk management function. Variables that can impact the ratio month-over-month include, but are not limited to, items such as wholesale funding activities and maturities, strategic balance sheet initiatives, and transactions and market conditions affecting collateral. Furthermore, CIBC reports the LCR to OSFI in multiple currencies, and thus measures the extent of potential currency mismatch under the ratio. CIBC predominantly operates in major currencies with deep and fungible foreign exchange markets.

Reporting of the LCR is calibrated centrally by CIBC Treasury, in conjunction with CIBC's SBUs and other functional groups.

Funding

CIBC funds its operations with client-sourced deposits, supplemented with a wide range of wholesale funding.

CIBC's principal approach aims to fund its consolidated balance sheet with deposits primarily raised from personal and commercial banking channels. Personal deposits accounted for $178.1 billion as at October 31, 2019 (2018: $163.9 billion). CIBC maintains a foundation of relationship-based core deposits, whose stability is regularly evaluated through internally developed statistical assessments.

We routinely access a range of short-term and long-term secured and unsecured funding sources diversified by geography, depositor type, instrument, currency and maturity. We raise long-term funding from existing programs including covered bonds, asset securitizations and unsecured debt.

CIBC continuously evaluates opportunities to diversify into new funding products and investor segments in an effort to maximize funding flexibility and minimize concentration and financing costs. We regularly monitor wholesale funding levels and concentrations to internal limits consistent with our desired liquidity risk profile.

GALCO and RMC review and approve CIBC's funding plan, which incorporates projected asset and liability growth, funding maturities, and output from our liquidity position forecasting.

The following table provides the contractual maturities at carrying values of CIBC's wholesale funding sources:

$ millions, as at October 31, 2019	Less than 1 month	1–3 months	3–6 months	6–12 months	Less than 1 year total	1–2 years	Over 2 years	Total
Deposits from banks (1)	**$ 1,391**	**$ 57**	**$ 112**	**$ 3**	**$ 1,563**	**$ –**	**$ –**	**$ 1,563**
Certificates of deposit and commercial paper	**6,641**	**9,412**	**17,611**	**17,666**	**51,330**	**399**	**–**	**51,729**
Bearer deposit notes and bankers' acceptances	**641**	**1,209**	**3,427**	**65**	**5,342**	**–**	**–**	**5,342**
Asset-backed commercial paper	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Senior unsecured medium-term notes (2)	**3,101**	**2,049**	**1,804**	**6,271**	**13,225**	**7,913**	**23,907**	**45,045**
Senior unsecured structured notes	**–**	**–**	**–**	**247**	**247**	**–**	**–**	**247**
Covered bonds/asset-backed securities								
Mortgage securitization	**–**	**520**	**794**	**719**	**2,033**	**3,677**	**11,384**	**17,094**
Covered bonds	**–**	**1,469**	**–**	**1,852**	**3,321**	**4,400**	**11,133**	**18,854**
Cards securitization	**–**	**–**	**1,317**	**856**	**2,173**	**774**	**–**	**2,947**
Subordinated liabilities	**–**	**–**	**–**	**–**	**–**	**–**	**4,684**	**4,684**
Other	**263**	**20**	**–**	**–**	**283**	**–**	**5**	**288**
	$ 12,037	**$ 14,736**	**$ 25,065**	**$ 27,679**	**$ 79,517**	**$ 17,163**	**$ 51,113**	**$ 147,793**
Of which:								
Secured	**$ –**	**$ 1,989**	**$ 2,111**	**$ 3,427**	**$ 7,527**	**$ 8,851**	**$ 22,517**	**$ 38,895**
Unsecured	**12,037**	**12,747**	**22,954**	**24,252**	**71,990**	**8,312**	**28,596**	**108,898**
	$ 12,037	**$ 14,736**	**$ 25,065**	**$ 27,679**	**$ 79,517**	**$ 17,163**	**$ 51,113**	**$ 147,793**
October 31, 2018	$ 12,815	$ 18,208	$ 20,495	$ 29,167	$ 80,685	$ 17,421	$ 52,711	$ 150,817

(1) Includes non-negotiable term deposits from banks.
(2) Includes wholesale funding liabilities which are subject to conversion under bail-in regulations. See the "Capital management" section for additional details.

CIBC's wholesale funding is diversified by currency as demonstrated in the table that follows:

$ billions, as at October 31	**2019**		2018	
CAD	**$ 49.2**	**33 %**	$ 49.6	33 %
USD	**73.0**	**50**	80.8	54
Other	**25.6**	**17**	20.4	13
	$ 147.8	**100 %**	$ 150.8	100 %

Our funding volumes decreased modestly relative to 2018 in response to CIBC's business and liquidity strategies. We do not anticipate any events, commitments or demands that will materially impact our ability to raise funds through deposits or wholesale funding.

We manage liquidity risk in a manner that enables us to withstand severe liquidity stress events. Wholesale funding may present higher run-off risks in stress situations, for which we maintain significant portfolios of unencumbered liquid assets. See the "Liquid assets" section for additional details.

Funding plan

Our funding plan is updated at least quarterly, or in response to material changes in underlying assumptions and business developments. The plan incorporates projected asset and liability growth from our ongoing operations, and the output from our liquidity position forecasting.

Credit ratings

CIBC's access to and cost of wholesale funding are dependent on multiple factors, among them credit ratings provided by rating agencies. Rating agencies' opinions are based upon internal methodologies, and are subject to change based on factors including, but not limited to, financial strength, competitive position, macroeconomic backdrop and liquidity positioning.

Our credit ratings are summarized in the following table:

As at October 31, 2019	DBRS	Fitch	Moody's	S&P
Deposit/Counterparty (1)	**AA**	**AA-**	**Aa2**	**A+**
Legacy senior debt (2)	**AA**	**AA-**	**Aa2**	**A+**
Senior debt (3)	**AA(L)**	**AA-**	**A2**	**BBB+**
Subordinated indebtedness	**A(H)**	**A+**	**Baa1**	**BBB+**
Subordinated indebtedness – NVCC (4)	**A(L)**	**A+**	**Baa1**	**BBB**
Preferred shares – NVCC (4)	**Pfd-2**	**n/a**	**Baa3**	**P-3(H)**
Short-term debt	**R-1(H)**	**F1+**	**P-1**	**A-1**
Outlook	**Stable**	**Stable**	**Stable**	**Stable**

(1) DBRS Long-Term Issuer Rating; Moody's Long-Term Deposit and Counterparty Risk Assessment Rating; S&P's Issuer Credit Rating; Fitch Long-Term Issuer Default and Derivative Counterparty Rating.
(2) Includes senior debt issued prior to September 23, 2018 as well as senior debt issued on or after September 23, 2018 which is not subject to the bail-in regulations.
(3) Comprises liabilities which are subject to conversion under the bail-in regulations.
(4) Comprises instruments which are treated as NVCC in accordance with OSFI's capital adequacy guidelines.
n/a Not applicable.

Additional collateral requirements for rating downgrades

We are required to deliver collateral to certain derivative counterparties in the event of a downgrade to our current credit risk rating. The collateral requirement is based on MTM exposure, collateral valuations, and collateral arrangement thresholds, as applicable. The following table presents the additional cumulative collateral requirements for rating downgrades:

$ billions, as at October 31	2019	2018
One-notch downgrade	**$ 0.1**	$ 0.1
Two-notch downgrade	**0.2**	0.2 (1)
Three-notch downgrade	**0.3**	0.3 (1)

(1) Restated.

Regulatory developments concerning liquidity

OSFI's LAR guideline became effective in 2015. It is shaped by the BCBS' liquidity standards, and includes the LCR, net stable funding ratio (NSFR) and other liquidity monitoring tools, including the OSFI-designed supervisory tool known as the NCCF. OSFI uses the LAR and associated metrics to assess individual banks' liquidity adequacy.

On October 31, 2014, the BCBS published its final NSFR guideline. In April 2019, OSFI issued updated NSFR guidelines following industry and public consultation, clarifying details of the NSFR implementation and its application to the Canadian financial industry. D-SIBs will implement the updated NSFR guidelines beginning January 2020, with public disclosures required to be produced beginning in the first quarter of 2021.

Consistent with the requirements above, we submit the LCR and NCCF to OSFI on a monthly basis and the NSFR on a quarterly basis. We provide the LCR and NSFR to the BCBS twice annually.

Contractual obligations

Contractual obligations give rise to commitments of future payments affecting our short- and long-term liquidity and capital resource needs. These obligations include financial liabilities, credit and liquidity commitments, and other contractual obligations.

Assets and liabilities

The following table provides the contractual maturity profile of our on-balance sheet assets, liabilities and equity at their carrying values. Contractual analysis is not representative of CIBC's liquidity risk exposure, however this information serves to inform CIBC's management of liquidity risk, and provide input when modelling a behavioural balance sheet.

$ millions, as at October 31, 2019	Less than 1 month	1–3 months	3–6 months	6–9 months	9–12 months	1–2 years	2–5 years	Over 5 years	No specified maturity	Total
Assets										
Cash and non-interest-bearing deposits with banks	**$ 3,840**	**$ –**	**$ –**	**$ –**	**$ –**	**$ –**	**$ –**	**$ –**	**$ –**	**$ 3,840**
Interest-bearing deposits with banks	**13,519**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**13,519**
Securities	**5,316**	**3,800**	**3,228**	**2,554**	**2,578**	**9,669**	**41,252**	**25,768**	**27,145**	**121,310**
Cash collateral on securities borrowed	**3,664**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**3,664**
Securities purchased under resale agreements	**31,179**	**18,164**	**5,874**	**464**	**430**	**–**	**–**	**–**	**–**	**56,111**
Loans										
Residential mortgages	**2,457**	**4,652**	**10,505**	**15,312**	**13,379**	**46,194**	**106,660**	**9,106**	**387**	**208,652**
Personal	**774**	**562**	**983**	**992**	**879**	**208**	**2,610**	**2,999**	**33,644**	**43,651**
Credit card	**268**	**536**	**804**	**804**	**804**	**3,214**	**6,325**	**–**	**–**	**12,755**
Business and government	**14,731**	**4,844**	**4,829**	**5,407**	**4,300**	**16,600**	**40,627**	**14,103**	**20,357**	**125,798**
Allowance for credit losses	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**(1,915)**	**(1,915)**
Derivative instruments	**2,883**	**3,588**	**1,475**	**943**	**744**	**2,598**	**3,757**	**7,907**	**–**	**23,895**
Customers' liability under acceptances	**8,242**	**880**	**42**	**2**	**1**	**–**	**–**	**–**	**–**	**9,167**
Other assets	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**31,157**	**31,157**
	$ 86,873	**$ 37,026**	**$ 27,740**	**$ 26,478**	**$ 23,115**	**$ 78,483**	**$ 201,231**	**$ 59,883**	**$ 110,775**	**$ 651,604**
October 31, 2018	$ 71,919	$ 28,094	$ 22,273	$ 28,495	$ 19,833	$ 83,405	$ 187,178	$ 53,821	$ 102,081	$ 597,099
Liabilities										
Deposits (1)	**$ 19,732**	**$ 27,662**	**$ 43,422**	**$ 30,962**	**$ 25,002**	**$ 28,356**	**$ 49,713**	**$ 11,800**	**$ 249,063**	**$ 485,712**
Obligations related to securities sold short	**15,635**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**15,635**
Cash collateral on securities lent	**1,822**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**1,822**
Obligations related to securities sold under repurchase agreements	**39,746**	**11,207**	**460**	**242**	**146**	**–**	**–**	**–**	**–**	**51,801**
Derivative instruments	**3,605**	**3,790**	**683**	**1,828**	**929**	**3,287**	**4,694**	**6,297**	**–**	**25,113**
Acceptances	**8,263**	**880**	**42**	**2**	**1**	**–**	**–**	**–**	**–**	**9,188**
Other liabilities	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**19,069**	**19,069**
Subordinated indebtedness	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**4,684**	**–**	**4,684**
Equity	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**38,580**	**38,580**
	$ 88,803	**$ 43,539**	**$ 44,607**	**$ 33,034**	**$ 26,078**	**$ 31,643**	**$ 54,407**	**$ 22,781**	**$ 306,712**	**$ 651,604**
October 31, 2018	$ 78,258	$ 33,933	$ 36,399	$ 32,776	$ 27,726	$ 29,779	$ 56,793	$ 19,607	$ 281,828	$ 597,099

(1) Comprises $178.1 billion (2018: $163.9 billion) of personal deposits; $296.4 billion (2018: $282.7 billion) of business and government deposits and secured borrowings; and $11.2 billion (2018: $14.4 billion) of bank deposits.

The changes in the contractual maturity profile were primarily due to the natural migration of maturities and also reflect the impact of our regular business activities.

Credit-related commitments

The following table provides the contractual maturity of notional amounts of off-balance sheet credit-related commitments. Since a significant portion of commitments are expected to expire without being drawn upon, the total of the contractual amounts is not representative of future liquidity requirements.

$ millions, as at October 31, 2019	Less than 1 month	1–3 months	3–6 months	6–9 months	9–12 months	1–2 years	2–5 years	Over 5 years	No specified maturity [1]	Total
Securities lending [2]	**$ 36,233**	**$ 4,564**	**$ 3,423**	**$ –**	**$ –**	**$ –**	**$ –**	**$ –**	**$ –**	**$ 44,220**
Unutilized credit commitments	**1,055**	**5,844**	**2,645**	**4,047**	**3,191**	**13,963**	**49,350**	**2,867**	**158,076**	**241,038**
Backstop liquidity facilities	**–**	**8,685**	**1,089**	**587**	**464**	**32**	**–**	**13**	**–**	**10,870**
Standby and performance letters of credit	**1,812**	**2,491**	**1,876**	**3,421**	**2,148**	**789**	**853**	**99**	**–**	**13,489**
Documentary and commercial letters of credit	**76**	**85**	**26**	**8**	**22**	**–**	**7**	**–**	**–**	**224**
Other commitments to extend credit	**2,937**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**2,937**
	$ 42,113	**$ 21,669**	**$ 9,059**	**$ 8,063**	**$ 5,825**	**$ 14,784**	**$ 50,210**	**$ 2,979**	**$ 158,076**	**$ 312,778**
October 31, 2018 [3]	$ 43,191	$ 22,587	$ 11,367	$ 6,716	$ 4,879	$ 11,622	$ 47,445	$ 2,449	$ 150,139	$ 300,395

(1) Includes $122.0 billion (2018: $116.5 billion) of personal, home equity and credit card lines, which are unconditionally cancellable at our discretion.
(2) Excludes securities lending of $1.8 billion (2018: $2.7 billion) for cash because it is reported on the consolidated balance sheet.
(3) Certain prior period amounts have been revised from those previously presented.

Other contractual obligations

The following table provides the contractual maturities of other contractual obligations affecting our funding needs:

$ millions, as at October 31, 2019	Less than 1 month	1–3 months	3–6 months	6–9 months	9–12 months	1–2 years	2–5 years	Over 5 years	Total
Operating leases [1]	**$ 42**	**$ 84**	**$ 127**	**$ 127**	**$ 130**	**$ 529**	**$ 1,255**	**$ 3,253**	**$ 5,547**
Purchase obligations [2]	**102**	**214**	**223**	**189**	**161**	**451**	**619**	**89**	**2,048**
Pension contributions [3]	**17**	**33**	**49**	**49**	**49**	**–**	**–**	**–**	**197**
Underwriting commitments	**60**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**60**
Investment commitments	**1**	**4**	**–**	**–**	**4**	**1**	**8**	**240**	**258**
	$ 222	**$ 335**	**$ 399**	**$ 365**	**$ 344**	**$ 981**	**$ 1,882**	**$ 3,582**	**$ 8,110**
October 31, 2018	$ 331	$ 304	$ 370	$ 347	$ 342	$ 970	$ 1,964	$ 3,751	$ 8,379

(1) Includes rental payments, related taxes and estimated operating expenses.
(2) Obligations that are legally binding agreements whereby we agree to purchase products or services with specific minimum or baseline quantities defined at fixed, minimum or variable prices over a specified period of time are defined as purchase obligations. Purchase obligations are included through to the termination date specified in the respective agreements, even if the contract is renewable. Many of the purchase agreements for goods and services include clauses that would allow us to cancel the agreement prior to expiration of the contract within a specific notice period. However, the amount above includes our obligations without regard to such termination clauses (unless actual notice of our intention to terminate the agreement has been communicated to the counterparty). The table excludes purchases of debt and equity instruments that settle within standard market time frames.
(3) Includes estimated minimum funding contributions for our funded defined benefit pension plans in Canada, the U.S., the U.K., and the Caribbean. Estimated minimum funding contributions are included only for the next annual period as the minimum contributions are affected by various factors, such as market performance and regulatory requirements, and therefore are subject to significant variability.

Other risks

Strategic risk

Strategic risk is the risk of ineffective or improper implementation of business strategies, including mergers and acquisitions. It includes the potential financial loss due to the failure of organic growth initiatives or failure to respond appropriately to changes in the business environment. For additional details on acquisition risk, see the "Top and emerging risks" section.

Oversight of strategic risk is the responsibility of the ExCo and the Board. At least annually, the CEO outlines the process and presents the strategic business plan to the Board for review and approval. The Board reviews the plan in light of management's assessment of emerging market trends, the competitive environment, potential risks and other key issues.

One of the tools for measuring, monitoring and controlling strategic risk is attribution of economic capital against this risk. Our economic capital models include a strategic risk component for those businesses utilizing capital to fund an acquisition or a significant organic growth strategy.

Insurance risk

Insurance risk is the risk of losses arising from the uncertainty of the timing and size of insurance claims. Unfavourable actual experience could emerge due to adverse fluctuations in timing, size and frequency of actual claims (e.g., mortality, morbidity), policyholder behaviour (e.g., cancellation of coverage), or associated expenses.

Insurance contracts provide financial compensation to the beneficiary in the event of an insured risk occurring in exchange for premiums. We are exposed to insurance risk in our life insurance business and in our reinsurance business within the respective subsidiaries.

Senior management of the insurance and reinsurance subsidiaries have primary responsibility for managing insurance risk with oversight by Risk Management. The insurance and reinsurance subsidiaries also have their own boards of directors, and an independent Appointed Actuary who provide additional input to risk management oversight. Processes and oversight are in place to manage the risk to our insurance business. Underwriting risk on business assumed is managed through risk policies that limit exposure to an individual life, to certain types of business and to regions.

Our risk governance practices ensure strong independent oversight and control of risk within the insurance businesses. The subsidiaries' boards outline the internal risk and control structure to manage insurance risk, which includes risk, capital and control policies, processes as well as limits and governance. Senior management of the insurance and reinsurance subsidiaries and Risk Management attend the subsidiaries' board meetings.

Operational risk

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

As part of the normal course of business, CIBC is exposed to operational risks in its business activities and external environment. Our comprehensive Operational Risk Management Policy, supported by policies, tools, systems and governance structure, is used to mitigate operational risks. We continuously monitor our operational risk profile to ensure we are operating within CIBC's approved risk appetite.

Governance and management

Operational risk is managed through the three lines of defence model and articulated in the Operational Risk Management Policy.

(i) As the first line of defence, CIBC's SBUs and functional groups own the risks and are accountable and responsible for identifying and assessing risks inherent in their activities in accordance with the CIBC risk appetite. In addition, they establish and maintain controls to mitigate such risks. The first line of defence may include control groups within the relevant area to facilitate the control framework and other risk-related processes. Control groups provide subject matter expertise to the business lines and/or implement and maintain enterprise-wide control programs and activities. While control groups collaborate with the lines of business in identifying and managing risk, they also challenge risk decisions and risk mitigation strategies.

(ii) The second line of defence is independent from the first line of defence and provides an enterprise-wide view of specific risk types, guidance and effective challenge to risk and control activities. Risk Management is the primary second line of defence. Risk Management may leverage or rely on subject matter expertise of other groups (e.g., third parties or control groups) to better inform their independent assessments, as appropriate.

(iii) As the third line of defence, CIBC's internal audit function provides reasonable assurance of the design and operating effectiveness of CIBC's controls, processes and systems. Internal audit reports the results of its assessment to management and the Board.

A strong risk culture and communication between the three lines of defence are important characteristics of effective risk management.

Global Operational Risk Management (GORM) oversees CIBC's operational risk exposures. The Head of GORM chairs the Operational Risk and Control Committee (ORCC), a subcommittee of the GRC, with representation from SBUs and functional groups. The ORCC is a management forum providing oversight of CIBC's operational risk and internal control environment. Its Chair reports significant operational risk matters to the GRC and RMC.

Operational risk management approach

Information transparency, timely escalation, clear accountability and a robust internal control environment are the principles forming the basis of the Operational Risk Management Policy, which supports and governs the processes of identifying, measuring, mitigating, monitoring, and reporting operational risks. We mitigate operational losses by consistently applying risk-based approaches and employing risk-specific assessment tools. Regular review of our risk governance structure ensures clarity of, and ownership in, key risk areas.

Risk measurement

CIBC's business lines regularly conduct reviews of operational risks inherent in their products, services or processes and assess ways to mitigate and manage them in alignment with CIBC's risk appetite. These reviews include using business process maps, risk and control self-assessments, audit findings, operational risk scenarios, past internal and external loss events, key risk indicators trends, change initiative risk assessments and in-depth risk reviews to form a holistic operational risk profile for the business lines. Under the three lines of defence model, GORM and relevant control groups challenge business lines' risk assessments and mitigation actions.

Operational loss is one of the key operational risk metrics informing us of areas of heightened risk. We collect and analyze internal operational loss event data for themes and trends. The occurrence of a material or potential material loss triggers an investigation to determine the root causes of the incident and the effectiveness of existing mitigating controls, as well as the identification of any additional mitigating actions. Additionally, we monitor the external environment for emerging or potential risks to CIBC. The analysis of material operational risk events is performed by the first line of defence and the outputs of the analysis are subject to formal independent challenge by our second line of defence. The analysis of material operational risk events forms one component of our ongoing operational risk reporting to senior management and the Board.

Business lines conduct change initiative risk assessment on risks inherent to the initiatives (for example, new product launches or major system changes). Identified risks and related mitigation actions are challenged by GORM, as well as control groups, to ensure residual risks remain within the approved risk appetite.

We use both the AMA, a risk-sensitive method prescribed by the BCBS, and the standardized method to quantify our operational risk exposure in the form of operational risk regulatory capital. Our AMA model determines operational risk capital using historical loss data, projected loss data from our loss scenario analysis and the assessment of internal control risks impacting our business environment. The standardized method is also used as agreed with local regulators. Our current AMA model, along with the standardized method, was approved for capital reporting commencing in fiscal 2016.

Under AMA, operational risk capital represents the "worst-case loss" within a 99.9% confidence level. The aggregate risk to CIBC is less than the sum of the individual parts, as the likelihood that all business groups across all regions experience a worst-case loss in every loss category in the same year is extremely low. To adjust for the fact that all risks are not 100% correlated, we incorporate a portfolio effect to ensure that the aggregated risk is representative of the total bank-wide risk. The process for determining correlations considers both internal and external historical correlations and takes into account the uncertainty surrounding correlation estimates.

Under Basel AMA, the recognition of insurance as a risk mitigant may be considered in the measure of operational risk used for regulatory minimum capital requirements. Although our current insurance policies are tailored to provide earnings protection from potential high-severity losses, we do not reflect mitigation through insurance or any other risk transfer mechanism in our AMA model.

In advance of the Basel III capital reforms, institutions that are currently approved to use the AMA for operational risk capital are required to report using the current standardized approach for fiscal year 2020 (see the "Capital management" section for further details).

Back-testing

To ensure the AMA model is performing effectively and maintaining predictability, we back-test capital calculation results each quarter. The back-testing exercise assesses the model's performance against internal loss data. The overall AMA methodology is also independently validated by the Model Validation group to ensure that the applied assumptions are reasonable. The validation exercise includes modelling the relevant internal loss data using alternative methods and comparing the results to the model. The model will be updated to address identified gaps, as appropriate.

Risk mitigation

Our primary tool for mitigating operational risk exposure is a robust internal control environment. Our internal control framework outlines key principles, structure and processes underpinning CIBC's approach to managing risks through effective controls. Under our framework, all key controls are subject to ongoing testing and review to ensure they effectively mitigate our operational risk exposures. In addition, our corporate insurance program affords extra protection from loss while our global business continuity management program ensures that under conditions of interruption or crisis, CIBC's critical business functions could continue to operate and normal operations are restored in a highly effective and efficient manner.

Risk monitoring and reporting

Both forward-looking key risk indicators (KRIs) as well as backward-looking key performance indicators provide insight into CIBC's risk exposure and are used to monitor the main drivers of exposure associated with key operational risks and their adherence to the operational risk appetite. KRIs assist in early detection of potential operational risk events by identifying unfavourable trends and highlighting controls that may not be functioning effectively. Business lines are required to identify and implement KRIs for material risk exposures on an ongoing basis. Escalation triggers are used to highlight risk exposures requiring additional attention from senior management and/or the Board. The second line of defence challenges the selection of KRIs and the appropriateness of thresholds.

Our risk monitoring processes support a transparent risk-reporting program, informing both senior management and the Board on our control environment, operational risk exposures, and mitigation strategies.

Technology, information and cyber security risk

We are also exposed to cyber threats and the associated financial, reputation and business interruption risks. For additional information on these risks and our mitigation strategies, see the "Top and emerging risks" section.

Reputation, conduct and legal risk

Our reputation and financial soundness are of fundamental importance to us and to our clients, shareholders and employees.

Reputation risk is the risk of negative publicity regarding our business conduct or practices which, whether true or not, could significantly harm our reputation as a leading financial institution, or could materially and adversely affect our business, operations or financial condition.

Conduct risk is the risk that actions or omissions of the organization, employees, contingent workers and/or suppliers do not meet the standards of our desired culture and values, or could materially and adversely affect our business, operations or financial condition.

Legal risk is risk of financial loss arising from one or more of the following factors: (a) civil, criminal or regulatory enforcement proceedings against us; (b) our failure to correctly document, enforce or comply with contractual obligations; (c) failure to comply with our legal obligations to customers, investors, employees, counterparties or other stakeholders; (d) failure to take appropriate legal measures to protect our assets or security interests; or (e) misconduct by our employees or agents.

The RMC, together with the Reputation and Legal Risks Committee, Reputation Risk Committee and GRC, provides oversight of the management of reputation and legal risks. The identification, consideration and prudent, proactive management of potential reputation and legal risks is a key responsibility of CIBC and all of our employees.

Our Reputation Risk Management Framework, Global Reputation and Legal Risks Policy and Conduct Risk Framework set standards for safeguarding our reputation through pro-active identification, measurement and management of potential reputation, conduct and legal risks. These policies are supplemented by business procedures for identifying and escalating transactions to the Reputation and Legal Risks Committee that could pose material reputation risk and/or legal risk.

Regulatory compliance risk

Regulatory compliance risk is the risk of CIBC's potential non-conformance with applicable regulatory requirements.

Our regulatory compliance philosophy is to manage and mitigate regulatory compliance risk through the promotion of a strong risk culture within the parameters established by CIBC's Risk Appetite Statement. The foundation of this approach is a comprehensive Regulatory Compliance Management (RCM) framework. The RCM framework, owned by the Senior Vice-President, Chief Compliance Officer and Global Regulatory Affairs, and approved by the RMC, maps regulatory requirements to internal policies, procedures and controls that govern regulatory compliance.

Our Compliance department is responsible for the development and maintenance of a comprehensive regulatory compliance program, including oversight of the RCM framework. This department is independent of business management and reports regularly to the RMC.

Primary responsibility for compliance with all applicable regulatory requirements rests with senior management of the business and functional groups, and extends to all employees. The Compliance department's activities support those groups, with particular emphasis on regulatory requirements that govern the relationship between CIBC and its clients, or that help protect the integrity of the capital markets.

See the "Regulatory developments" section for further details.

Environmental and related social risk

Environmental and related social risk is the risk of financial loss or damage to reputation associated with environmental issues including related social issues, whether arising from our credit and investment activities or related to our own operations. Our corporate environmental policy, originally approved by the Board in 1993, with the most recent biennial update and approval by our CRO in 2018, commits CIBC to responsible conduct in all activities to protect and conserve the environment; safeguard the interests of all stakeholders from unacceptable levels of environmental risk; and support the principles of sustainable development.

Within CIBC's Risk Management function, the Enterprise and Conduct Risk group provides independent oversight of the measurement, monitoring and control of environmental risk. This group is led by the Senior Vice-President, Enterprise & Conduct Risk, who has direct accountability to the CRO for conduct and environmental risk oversight.

Our environmental risk management team is responsible for developing environmental strategy, setting environmental performance standards and targets, and reporting on performance. There is also an enterprise-wide Environmental Management Committee, comprised of senior executives from our SBUs and functional groups, that meets quarterly and provides input into our environmental strategy and provides oversight of CIBC's environmental initiatives.

The corporate environmental policy is addressed by an integrated corporate environmental management program that is under the overall management of the environmental risk management team. Environmental and related social evaluations are integrated into our credit and investment risk assessment processes, with environmental and related social risk management standards and procedures in place for all sectors. In addition, environmental and related social risk assessments in project finance, project-related corporate and bridge loans are required, in accordance with our commitment to the Equator Principles, which are a voluntary set of guidelines for financial institutions based on the screening criteria of the International Finance Corporation. We adopted the Equator Principles in 2003. An escalation process is in place for transactions with the potential to have significant environmental and related social risk, with escalation up to the Reputation and Legal Risks Committee for senior executive review, if required.

We also conduct ongoing research and benchmarking on environmental issues such as climate change as they may pertain to responsible lending practices. We are a participant in the CDP (formerly Carbon Disclosure Project) climate change program, which promotes corporate disclosure to the investment community on greenhouse gas emissions and climate change management.

We are also a supporter of the reporting framework developed by the Task Force on Climate-related Financial Disclosures (TCFD), which provides guidance for voluntary, consistent climate-related risk disclosures. In 2019, CIBC published its first climate-related disclosure aligned to the TCFD recommendations and structured around its four core elements. Our TCFD report, available at https://www.cibc.com/content/dam/about_cibc/inside_cibc/environment/building-a-sustainable-future-report-en.pdf provides details as to how CIBC is identifying and managing both physical and transition risks associated with climate change. In addition, we are a member of the United Nations Environment Programme Finance Initiative (UNEP FI), which has a mission to promote sustainable finance and is guiding our approach to assessing climate change risks, as well as identifying opportunities associated with transitioning to a low carbon economy.

In 2018, CIBC Asset Management Inc. became a signatory to the United Nations-supported Principles for Responsible Investment, which commit signatories to incorporate environmental and social issues into investment analysis and decision making across all investment classes.

The environmental risk management team works closely with our main business units and functional groups to ensure that high standards of environmental responsibility are applied to the banking services that we provide to our clients, the relationships we have with our stakeholders, and to the way we manage our facilities.

More information on our environmental governance, policy, management and performance can be found in our Corporate Responsibility Report, which is available at https://www.cibc.com/content/cibcpublic/en/about-cibc/corporate-responsibility.html.

The information provided on our website does not form a part of this document.

Accounting and control matters

Critical accounting policies and estimates

A summary of significant accounting policies is presented in Note 1 to the consolidated financial statements. Certain accounting policies require us to make judgments and estimates, some of which may relate to matters that are uncertain. Changes in the judgments and estimates required in the critical accounting policies discussed below could have a material impact on our financial results. We have established control procedures to ensure accounting policies are applied consistently and processes for changing methodologies are well controlled.

CIBC adopted IFRS 15 "Revenue from Contracts with Customers" (IFRS 15) as at November 1, 2018 in place of prior guidance, including IAS 18 "Revenue" (IAS 18) and IFRIC 13 "Customer Loyalty Programmes" (IFRIC 13). We applied IFRS 15 on a modified retrospective basis. As permitted, we did not restate our prior period comparative consolidated financial statements, which are reported under the prior guidance. The application of IFRS 15 did not significantly impact our critical accounting policies.

CIBC adopted IFRS 9 "Financial Instruments" (IFRS 9) in place of IAS 39 "Financial Instruments: Recognition and Measurement" (IAS 39) in 2018 to comply with OSFI's advisory that requires that D-SIBs adopt IFRS 9 for their annual periods beginning on November 1, 2017, one year earlier than required by the International Accounting Standards Board (IASB). We applied IFRS 9 on a retrospective basis. As permitted, we did not restate our prior period comparative consolidated financial statements. Amounts reported relating to periods ended on or before October 31, 2017 are reported under IAS 39 and are therefore not comparable to the information presented for 2018 or 2019. IFRS 9 impacted our critical accounting policies in two principal areas: classification and measurement and impairment.

Use and classification of financial instruments

As a financial institution, our assets and liabilities primarily comprise financial instruments, which include deposits, securities, loans, derivatives, acceptances, repurchase agreements, and subordinated indebtedness.
We use these financial instruments for both trading and non-trading activities. Trading activities primarily include the purchase and sale of securities, transacting in foreign exchange and derivative instruments in the course of facilitating client trades and taking proprietary trading positions with the objective of income generation. Non-trading activities generally include the business of lending, investing, funding, and ALM.

The use of financial instruments may either introduce or mitigate exposures to market, credit and/or liquidity risks. See the "Management of risk" section for details on how these risks are managed.

Financial instruments are accounted for according to their classification. Judgment is applied in determining the appropriate classification of financial instruments under IFRS 9, in particular as it relates to the assessment of whether debt financial assets meet the solely payment of principal and interest (SPPI) test, and the assessment of the business model used to manage financial assets. For details on the accounting for these instruments under IFRS 9 and the differences from IAS 39, see Note 2 to the consolidated financial statements.

Accounting for AFS securities under IAS 39

AFS securities included debt and equity securities.

AFS securities were measured at fair value, with the difference between the fair value and the amortized cost included in AOCI. Only equities that did not have a reliably measurable fair value were carried at cost. We had determined that all of our equity securities had reliable fair values.

AFS securities were subject to quarterly reviews to assess whether or not there was an impairment. The assessment of impairment depended on whether the instrument was debt or equity in nature. AFS debt securities were identified as impaired when there was objective observable evidence concerning the inability to collect the contractual principal or interest. Factors that were reviewed for impairment assessment included, but were not limited to, operating performance and future expectations, liquidity and capital adequacy, external credit ratings, deterioration in underlying asset quality, industry valuation levels for comparable entities, and any changes in market and economic outlook.

For AFS equity instruments, objective evidence of impairment existed if there had been a significant or prolonged decline in the fair value of the investment below its cost. In making the impairment assessment, we also considered whether there had been significant adverse changes to the technological, market, economic, or legal environments in which the issuer operates or if the issuer was experiencing significant financial difficulty.

Realized gains and losses on disposal and write-downs to reflect impairment in the value of AFS securities were recorded in the consolidated statement of income. Previously recognized impairment losses for debt securities (but not equity securities) were reversed if a subsequent increase in fair value could be objectively identified and was related to an event occurring after the impairment loss was recognized. Once an AFS equity security was impaired, all subsequent declines in fair value were charged directly to income.

Accounting for FVOCI securities under IFRS 9

FVOCI securities include debt securities that meet the SPPI criteria and the "Hold to collect and for sale" business model and equity securities that are designated at FVOCI upon initial recognition. Impairment of equity securities designated at FVOCI is not required under IFRS 9 because unrealized gains or losses are recognized in Other comprehensive income (OCI) and are directly reclassified to retained earnings upon disposition of the equity securities with no recycling to profit or loss.

Similar to the accounting for AFS debt securities under IAS 39, FVOCI debt securities under IFRS 9 are measured at fair value, with the difference between the fair value and the amortized cost included in AOCI. However, unlike IAS 39, FVOCI debt securities are subject to the expected credit losses impairment model under IFRS 9. For more details, refer to "Allowance for credit losses under IFRS 9" section below and Note 1 to the consolidated financial statements.

Determination of fair value of financial instruments

Under IFRS 9, debt and equity securities mandatorily measured and designated at FVTPL (IAS 39: Debt and equity trading securities), business and government loans mandatorily measured and designated at FVTPL (IAS 39: Trading business and government loans), obligations related to securities sold short, derivative contracts, FVOCI securities (IAS 39: AFS securities) and FVO financial instruments are carried at fair value. FVO financial instruments include certain debt securities, certain secured borrowings, structured deposits and business and government deposits. Retail mortgage interest rate commitments are also designated as FVO financial instruments.

The transition to IFRS 9 did not impact the definition of fair value, which is defined as the price that would be received to sell an asset or paid to transfer a liability at the measurement date in an orderly arm's-length transaction between market participants in the principal market under current market conditions (i.e., the exit price). Fair value measurements are categorized into levels within a fair value hierarchy based on the nature of the valuation inputs (Level 1, 2 or 3). We have an established and documented process for determining fair value. Fair value is based on unadjusted quoted prices in an active market for the same instrument, where available (Level 1). If active market prices or quotes are not available for an instrument, fair value is then based on valuation models in which the significant inputs are observable (Level 2) or in which one or more of the significant inputs are non-observable (Level 3). Estimating fair value requires the application of judgment. The type and level of judgment required is largely dependent on the amount of observable market information available. For instruments valued using internally developed models that use significant non-observable market inputs and are therefore classified within Level 3 of the hierarchy, the judgment used to estimate fair value is more significant than when estimating the fair value of instruments classified within Levels 1 and 2. To ensure that valuations are appropriate, a number of policies and controls are in place, including independent validation of valuation inputs to external sources such as exchange quotes, broker quotes or other management-approved independent pricing sources.

The following table presents amounts, in each category of financial instruments, which are valued using valuation techniques based on Level 3 inputs. For further details of the valuation of and sensitivity associated with Level 3 financial assets and liabilities, see Note 2 to the consolidated financial statements.

$ millions, as at October 31	**2019**		2018	
	Level 3	**Total** (1)	Level 3	Total (1)
Assets				
Securities mandatorily measured and designated at FVTPL and loans mandatorily measured at FVTPL	**$ 1,034**	**1.4 %**	$ 833	1.2 %
Debt securities measured at FVOCI and equity securities designated at FVOCI	**291**	**0.6**	285	0.8
Derivative instruments	**412**	**1.7**	222	1.0
	$ 1,737	**1.1 %**	$ 1,340	1.0 %
Liabilities				
Deposits and other liabilities (2)	**$ 601**	**5.4 %**	$ 423	5.3 %
Derivative instruments	**268**	**1.1**	359	1.7
	$ 869	**1.7 %**	$ 782	1.8 %

(1) Represents the percentage of Level 3 assets and liabilities over total assets and liabilities for each reported category that are carried on the consolidated balance sheet at fair value.
(2) Includes FVO deposits and bifurcated embedded derivatives.

Note 2 to the consolidated financial statements presents the valuation methods used to determine fair value showing separately those financial instruments that are carried at fair value on the consolidated balance sheet and those that are not.

In order to reflect the observed market practice of pricing collateralized and uncollateralized derivatives, our valuation approach uses overnight indexed swap curves as the discount rate in the valuation of collateralized derivatives and market cost of funding in the valuation of uncollateralized derivatives. The use of a market cost of funds curve reduces the fair value of uncollateralized derivative assets incremental to the reduction in fair value for credit risk already reflected through the CVA. In contrast, the use of a market cost of funds curve reduces the fair value of uncollateralized derivative liabilities in a manner that generally includes adjustments for our own credit. As market practices continue to evolve in regard to derivative valuation, further adjustments may be required in the future.

Fair value adjustments

We apply judgment in establishing valuation adjustments that take into account various factors that may have an impact on the valuation of financial instruments that are carried at fair value on the consolidated balance sheet. Such factors include, but are not limited to, the bid-offer spread, illiquidity due to lack of market depth and other market risks, parameter uncertainty, model risk, and credit risk.

The establishment of fair value adjustments involves estimates that are based on accounting processes and judgments by management. We evaluate the adequacy of the fair value adjustments on an ongoing basis. The level of fair value adjustments could change as events warrant and may not reflect ultimate realizable amounts.

As at October 31, 2019, the total valuation adjustments related to financial instruments carried at fair value on the consolidated balance sheet was $231 million (2018: $243 million), primarily related to credit risk, bid-offer spreads, and parameter uncertainty of our derivative assets and liabilities.

Impairment of financial assets

Allowance for credit losses under IAS 39

We established and maintained an allowance for credit losses that was considered the best estimate of probable credit-related losses existing in our portfolio of on- and off-balance sheet loan exposures, giving due regard to current conditions.

The allowance for credit losses consisted of individual and collective components.

Individual allowances

The majority of our business and government loan portfolios were assessed for impairment on an individual loan basis. Individual allowances were established when impaired loans were identified within the individually assessed portfolios. A loan was classified as impaired when we were of the opinion that there was no longer reasonable assurance of the full and timely collection of contractual principal and interest. The individual allowance was the amount required to reduce the carrying value of an impaired loan to its estimated realizable amount. This was determined by discounting the expected future cash flows at the effective interest rate inherent in the loan.

Individual allowances were not established for portfolios that were collectively assessed, including most retail portfolios.

Collective allowances

Consumer and certain small business allowances

Residential mortgages, credit card loans, personal loans, and certain small business loan portfolios consist of large numbers of homogeneous balances of relatively small amounts, for which we took a portfolio approach to establish the collective allowance under IAS 39. As it was not practical to review each individual loan, we utilized a formula basis, by reference to historical ratios of write-offs to current accounts and balances in arrears. For residential mortgages, personal loans and certain small business loans, this historical loss experience enabled CIBC to determine appropriate PD and LGD parameters, which were used in the calculation of the portion of the collective allowance for current accounts. For credit card loans, non-current residential mortgages, personal loans and certain small business loans, the historical loss experience enabled CIBC to calculate flows to write off in our models that determine the collective allowance that pertained to these loans.

We also considered estimates of the time periods over which losses that were present would be identified and a provision taken, our view of current economic and portfolio trends, and evidence of credit quality improvements or deterioration. On a regular basis, the parameters that affected the allowance calculation were updated, based on our experience and the economic environment.

Business and government allowances

For groups of individually assessed loans for which no objective evidence of impairment had been identified on an individual basis, a collective allowance was provided for losses which we estimated were inherent in the portfolio at the reporting date, but not yet specifically identified from an individual assessment of the loan.

The methodology for determining the appropriate level of the collective allowance incorporated a number of factors, including the size of the portfolios, expected loss rates, and relative risk profiles. We also considered estimates of the time periods over which losses that were present would be identified and a provision taken, our view of current economic and portfolio trends, and evidence of credit quality improvements or deterioration. On a regular basis, the parameters that affected the collective allowance calculation were updated, based on our experience and the economic environment. Expected loss rates for business loan portfolios were based on the risk rating of each credit facility and on the PD factors associated with each risk rating, as well as estimates of LGD. The PD factors reflected our historical loss experience and were supplemented by data derived from defaults in the public debt markets. Historical loss experience was adjusted based on observable data to reflect the effects of current conditions. LGD estimates were based on our experience over past years.

Allowance for credit losses under IFRS 9

The new impairment guidance sets out an expected credit loss (ECL) model applicable to all debt instrument financial assets classified as amortized cost or FVOCI. In addition, the ECL model applies to loan commitments and financial guarantees that are not measured at FVTPL.

Incurred loss versus expected loss methodology

The application of ECL significantly changed our credit loss methodology and models. ECL allowances represent credit losses that reflect an unbiased and probability-weighted amount which is determined by evaluating a range of possible outcomes, the time value of money and reasonable and supportable information about past events, current conditions and forecasts of future economic conditions. The incurred loss model under IAS 39 incorporated a single best estimate, the time value of money and information about past events and current conditions. The objective of IFRS 9 is to record lifetime losses on all financial instruments which have experienced a significant increase in credit risk since their initial recognition. As a result, ECL allowances are measured at amounts equal to either: (i) 12-month ECL; or (ii) lifetime ECL for those financial instruments which have experienced a significant increase in credit risk since initial recognition. The incurred loss model recognized lifetime credit losses when there is objective evidence of impairment and also allowances for incurred but not identified credit losses. Because of the inclusion of relative credit deterioration criteria and consideration of forward-looking information, lifetime ECLs are recognized earlier under IFRS 9.

For our business and government portfolios, the individually assessed allowances for impaired instruments recognized under IAS 39 were generally replaced by stage 3 allowances under IFRS 9, while the collective allowances for performing financial instruments were generally replaced by either stage 1 or stage 2 allowances under IFRS 9. For our retail portfolios, the portion of our collective allowances that related to impaired financial instruments under IAS 39 was generally replaced by stage 3 allowances, while the performing portion of our collective allowances was generally replaced by either stage 1 or stage 2 allowances under IFRS 9.

Key drivers of expected credit loss

The ECL impairment requirements of IFRS 9 require that we make judgments and estimates related to matters that are uncertain. In particular, the ECL requirements of IFRS 9 incorporate the following elements that are subject to a high level of judgment:

- Determining when a significant increase in credit risk of a loan has occurred;
- Measuring both 12-month and lifetime credit losses; and
- Forecasting forward-looking information for multiple scenarios and determining the probability weighting of each scenario.

In addition, the interrelationship between these elements is also subject to a high degree of judgment. Changes in the judgments and estimates related to IFRS 9 can have a significant impact on the level of ECL allowance recognized and the period-over-period volatility of the provision for credit losses. Changes in a particular period could have a material impact on our financial results. See Note 5 to our consolidated financial statements for more information concerning the high level of judgment inherent in the estimation of ECL allowance under IFRS 9.

Use of the regulatory framework

Our ECL model leverages the data, systems and processes that are used to calculate Basel expected losses regulatory adjustments for the portion of our portfolios under the AIRB approach. Appropriate adjustments are made to the Basel parameters to meet IFRS 9 requirements, including the conversion of through-the-cycle and downturn parameters used in the Basel regulatory calculations to point-in-time parameters used under IFRS 9 that consider forward-looking information. In addition, credit losses under IFRS 9 are for 12 months for stage 1 financial instruments and lifetime for stage 2 and stage 3 financial instruments, as compared with 12 months for AIRB portfolios under Basel. The main adjustments necessary to Basel risk parameters are explained in the table below:

	Regulatory Capital	*IFRS 9*
PD	Through-the-cycle PD represents long-run average PD throughout a full economic cycle	Point-in-time 12-month or lifetime PD based on current conditions and relevant forward-looking assumptions
LGD	Downturn LGD based on losses that would be expected in an economic downturn and subject to certain regulatory floors Discounted using the cost of capital	Unbiased probability-weighted LGD based on estimated LGD including impact of relevant forward-looking assumptions such as changes in collateral value Discounted using the original effective interest rate
EAD	Based on the drawn balance plus expected utilization of any undrawn portion prior to default, and cannot be lower than the drawn balance	Amortization and repayment of principal and interest from the balance sheet date to the default date is also captured
Other		ECL is discounted from the default date to the reporting date

Attribution of provision for credit losses

As part of the adoption of IFRS 9, we recognize provision for credit losses on both impaired (stage 3) and performing (stages 1 and 2) loans in the respective SBUs. In 2017 and prior periods, provision for credit losses on performing loans was recognized in Corporate and Other, with the exception of provision for credit losses related to CIBC Bank USA, which was recognized in U.S. Commercial Banking and Wealth Management, and provision for credit losses on: (i) performing residential mortgages greater than 90 days delinquent; and (ii) performing personal loans and scored small business loans greater than 30 days delinquent, which was recognized in Canadian Personal and Small Business Banking.

Provision for credit losses recognized directly on our consolidated statement of income is in respect to financial instruments classified as loans and bankers' acceptances. Provision for credit losses for FVOCI debt securities and amortized cost securities are recognized in gains (losses) from debt securities measured at FVOCI and amortized cost, net in the consolidated statement of income.

Hedge accounting

The IFRS 9 hedge accounting guidance is intended to better align the accounting with risk management activities. However, IFRS 9 allows the existing hedge accounting requirements under IAS 39 to continue in place of the hedge accounting requirements under IFRS 9. As permitted, we have elected to not adopt the IFRS 9 hedge accounting requirements and instead have retained the IAS 39 hedge accounting requirements. As required, we have adopted the hedge accounting disclosure requirements under amendments to IFRS 7 that were effective in 2018.

Securitizations and structured entities

Securitization of our own assets

Under IFRS 10 "Consolidated Financial Statements" (IFRS 10), judgment is exercised in determining whether an investor controls an investee including assessing whether the investor has: (i) power over the investee; (ii) exposure, or rights, to variable returns from its involvement with the investee; and (iii) the ability to affect those returns through its power over the investee.

We sponsor several structured entities (SEs) that have purchased and securitized our own assets including Cards II Trust and Crisp Trust, which we consolidate under IFRS 10.

We also securitize our own mortgage assets through a government-sponsored securitization program. We sell these securitized assets to a government-sponsored securitization vehicle that we do not consolidate, as well as to other third parties. IFRS 9 provides guidance on when to derecognize financial assets. A financial asset is derecognized when the contractual rights to receive cash flows from the asset have expired, or when we have transferred the rights to receive cash flows from the asset such that:

- We have transferred substantially all the risks and rewards of the asset; or
- We have neither transferred nor retained substantially all the risks and rewards of the asset, but have transferred control of the asset.

We have determined that our securitization activities related to residential mortgages and cards receivables are accounted for as secured borrowing transactions because we have not met the aforementioned criteria.

We also sell certain U.S. commercial mortgages to third parties that qualify for derecognition because we have transferred substantially all the risks and rewards of the mortgages and have no continuous involvement after the transfer.

Securitization of third-party assets

We also sponsor several SEs that purchase pools of third-party assets. We consider a number of factors in determining whether CIBC controls these SEs. We monitor the extent to which we support these SEs, through direct investment in the debt issued by the SEs and through the provision of liquidity protection to the other debtholders, to assess whether we should consolidate these entities.

IFRS 10 also requires that we reconsider our consolidation assessment if facts and circumstances relevant to the entities indicate that there are changes to one or more of the three elements of control described above. Factors that trigger reassessment include, but are not limited to, significant changes in ownership structure of the entities, changes in contractual or governance arrangements, provision of a liquidity facility beyond the original terms, transactions with the entities that were not contemplated originally and changes in the financing structure of the entities.

Specifically, in relation to our multi-seller conduits, we would reconsider our consolidation assessment if our level of interest in the ABCP issued by the conduits changes significantly, or in the rare event that the liquidity facility that we provide to the conduits is drawn or amended.

A significant increase in our holdings of the outstanding commercial paper issued by the conduits would become more likely in a scenario in which the market for bank-sponsored ABCP suffered a significant deterioration such that the conduits were unable to roll their ABCP.

For additional information on the securitizations of our own assets and third-party assets, see the "Off-balance sheet arrangements" section and Note 6 to the consolidated financial statements.

Asset impairment

Goodwill

As at October 31, 2019, we had goodwill of $5,449 million (2018: $5,564 million). Goodwill is not amortized, but is tested, at least annually, for impairment by comparing the recoverable amount of the cash-generating unit (CGU) to which goodwill has been allocated, with the carrying amount of the CGU including goodwill. Any deficiency is recognized as impairment of goodwill. The recoverable amount of a CGU is defined as the higher of its estimated fair value less cost to sell and its value in use. Goodwill is also required to be tested for impairment whenever there are indicators that it may be impaired.

Estimation of the recoverable amount is an area of significant judgment. Recoverable amounts are estimated using internally developed models which require the use of significant assumptions including forecasted earnings, discount rates, growth rates, forecasted regulatory capital requirements, and price-earnings multiples. Reductions in the estimated recoverable amount could arise from various factors, such as reductions in forecasted cash flows, an increase in the assumed level of required capital, and any adverse changes to the discount rate or terminal growth rates either in isolation or in any combination thereof. Where our estimated recoverable amount is not significantly in excess of the carrying amount of the CGU, additional judgment is required, and reductions in the recoverable amount are more likely to result in an impairment charge.

In the fourth quarter of 2019 we performed our annual impairment test of CIBC FirstCaribbean and determined that the estimated recoverable amount of the CIBC FirstCaribbean CGU was less than its carrying amount as a result of our assessment of the valuation implied by the expected sale of CIBC's controlling interest in CIBC FirstCaribbean. As a result, we recognized a goodwill impairment charge of $135 million, which reduced the carrying amount of the goodwill relating to the CIBC FirstCaribbean CGU to $278 million (US$211 million) as at October 31, 2019.

Reductions in the estimated recoverable amount of the CIBC FirstCaribbean CGU could arise from various factors, including closing adjustments related to the planned sale of CIBC's controlling interest in CIBC FirstCaribbean and other changes in market conditions.

For additional information, see Note 3 and Note 8 to our consolidated financial statements.

Other intangible assets and long-lived assets

As at October 31, 2019, we had other intangible assets with an indefinite life of $142 million (2018: $142 million). Acquired intangible assets are separately recognized if the benefits of the intangible assets are obtained through contractual or other legal rights, or if the intangible assets can be sold, transferred, licensed, rented, or exchanged. Determining the useful lives of intangible assets requires judgment and fact-based analysis.

Intangible assets with an indefinite life are not amortized but are assessed for impairment by comparing the recoverable amount to the carrying amount. An impairment test is required at least annually, or whenever there are indicators that these assets may be impaired.

Long-lived assets and other identifiable intangible assets with a definite life are amortized over their estimated useful lives. These assets are tested for impairment whenever events or changes in circumstances indicate that the carrying amount is higher than the recoverable amount. The recoverable amount is defined as the higher of the estimated fair value less cost to sell and value in use.

Determining the recoverable amount of intangible assets and long-lived assets is an area of judgment as we estimate the future cash flows expected to result from the use of the asset and, where appropriate, cash flows arising from the asset's eventual disposition.

For additional details, see Note 8 to the consolidated financial statements.

Income taxes

We are subject to income tax laws in the various jurisdictions where we operate, and the tax laws in those jurisdictions are potentially subject to different interpretations by us and the relevant taxation authority, which gives rise to uncertainty. We use judgment in the estimation of income taxes and deferred tax assets and liabilities. As a result, management judgment is applied in the interpretation of the relevant tax laws and in estimating the provision for current and deferred income taxes. For tax positions where there is uncertainty regarding the ultimate determination of the tax impact, including positions which are under audit, dispute or appeal, we recognize provisions to consider this uncertainty based on our best estimate of the amount expected to be paid based on an assessment of the relevant factors.

Deferred tax assets or liabilities are determined for each temporary difference based on the tax rates that are expected to be in effect in the period that the assets are realized or the liabilities are settled. Deferred tax liabilities are generally recognized for all taxable temporary differences unless the temporary differences relate to our net investments in foreign operations (NIFOs) and will not reverse in the foreseeable future.

We are required to assess whether it is probable that our deferred tax assets will be realized prior to their expiration and, based on all of the available evidence, determine if any portion of our deferred tax assets should not be recognized. The factors used to assess the probability of realization are based on our past experience of income and capital gains, forecasts of future net income before income taxes, available tax planning strategies that could be implemented to realize the deferred tax assets, and the remaining expiration period of tax loss carryforwards. In addition, for deductible temporary differences arising from our NIFOs, we must consider whether the temporary difference will reverse in the foreseeable future. Although realization is not assured, we believe, based on all of the available evidence, it is probable that the recognized deferred tax assets will be realized.

Income tax accounting impacts all of our reporting segments. For further details on our income taxes, see Note 19 to the consolidated financial statements.

Contingent liabilities and provisions

Legal proceedings and other contingencies

In the ordinary course of its business, CIBC is a party to a number of legal proceedings, including regulatory investigations, in which claims for substantial monetary damages are asserted against CIBC and its subsidiaries. Legal provisions are established if, in the opinion of management, it is both probable that an outflow of economic benefits will be required to resolve the matter, and a reliable estimate can be made of the amount of the obligation. If the reliable estimate of probable loss involves a range of potential outcomes within which a specific amount appears to be a better estimate, that amount is accrued. If no specific amount within the range of potential outcomes appears to be a better estimate than any other amount, the mid-point in the range is accrued. In some instances, however, it is not possible to determine whether an obligation is probable or to reliably estimate the amount of loss, in which case no accrual can be made.

While there is inherent difficulty in predicting the outcome of legal proceedings, based on current knowledge and in consultation with legal counsel, we do not expect the outcome of these matters, individually or in aggregate, to have a material adverse effect on our consolidated financial statements. However, the outcome of these matters, individually or in aggregate, may be material to our operating results for a particular reporting period. We regularly assess the adequacy of CIBC's litigation accruals and make the necessary adjustments to incorporate new information as it becomes available.

CIBC considers losses to be reasonably possible when they are neither probable nor remote. It is reasonably possible that CIBC may incur losses in addition to the amounts recorded when the loss accrued is the mid-point of a range of reasonably possible losses, or the potential loss pertains to a matter in which an unfavourable outcome is reasonably possible but not probable.

A description of significant ongoing matters to which CIBC is a party can be found in Note 22 to the consolidated financial statements. The provisions disclosed in Note 22 include all of CIBC's accruals for legal matters as at October 31, 2019, including amounts related to the significant legal proceedings described in that note and to other legal matters.

CIBC believes the estimate of the aggregate range of reasonably possible losses, in excess of the amounts accrued, for its significant legal proceedings, where it is possible to make such an estimate, is from nil to approximately $1.1 billion as at October 31, 2019. This estimated aggregate range of reasonably possible losses is based upon currently available information for those significant proceedings in which CIBC is involved, taking into account CIBC's best estimate of such losses for those cases for which an estimate can be made. CIBC's estimate involves significant judgment, given the varying stages of the proceedings and the existence of multiple defendants in many of such proceedings whose share of the liability has yet to be determined. The range does not include potential punitive damages and interest. The matters underlying the estimated range as at October 31, 2019 consist of the significant legal matters disclosed in Note 22 to the consolidated financial statements. The matters underlying the estimated range will change from time to time, and actual losses may vary significantly from the current estimate. For certain matters, CIBC does not believe that an estimate can currently be made as many of them are in preliminary stages and certain matters have no specific amount claimed. Consequently, these matters are not included in the range.

Post-employment and other long-term benefit plan assumptions

We sponsor a number of benefit plans to eligible employees, including registered and supplemental pension plans, and post-retirement medical and dental plans (other post-employment benefit plans). We also continue to sponsor a long-term disability income replacement plan and associated medical and dental benefits (collectively, other long-term benefit plans). The long-term disability plan was closed to new claims effective June 1, 2004.

The calculation of net defined benefit plan expense and obligations depends on various actuarial assumptions such as discount rates, health-care cost trend rates, turnover of employees, projected salary increases, retirement age, and mortality rates. The actuarial assumptions used for determining the net defined benefit plan expense for a fiscal year are set at the beginning of the annual reporting period, are reviewed in accordance with accepted actuarial practice and are approved by management.

The discount rate assumption used in measuring the net defined benefit plan expense and obligations reflects market yields, as of the measurement date, on high quality debt instruments with a currency and term to maturity that match the currency and expected timing of benefit payments. Our discount rate is estimated by developing a yield curve based on high quality corporate bonds. While there is a deep market of high quality corporate bonds denominated in Canadian dollars with short and medium terms to maturity, there is not a deep market in bonds with terms to maturity that match the timing of all the expected benefit payments for all of our Canadian plans. As a result, for our Canadian pension, other post-employment and other long-term benefit plans, we estimate the yields of high quality corporate bonds with longer-term maturities by extrapolating current yields on bonds with short- and medium-term durations along the yield curve. Judgment is required in constructing the yield curve, and as a result, different methodologies applied in constructing the yield curve can give rise to different discount rates.

For further details of our annual pension and other post-employment expense and obligations, see Note 18 and Note 1 to the consolidated financial statements.

Accounting developments

Transition to IFRS 16

IFRS 16 "Leases", issued in January 2016, replaces IAS 17 "Leases", and is effective for annual periods beginning on or after January 1, 2019, which for us will be on November 1, 2019. As a lessee, the new standard will result in on-balance sheet recognition for most leases that are considered operating leases under IAS 17, which will result in a gross-up of the consolidated balance sheet through the recognition of a liability for the present value of future lease payments (i.e. lease liability) and an asset representing the right to use the underlying asset (i.e. right-of-use asset). We will no longer recognize the impacted lease payments through operating expenses; instead, we will recognize depreciation expense on the right-of-use asset and interest expense on the lease liability in the consolidated statement of income. Accounting for leases by lessors remains mostly unchanged from IAS 17. However, on transition, intermediate lessors are required to reassess subleases by reference to the right-of-use asset arising from the head lease that could result in on-balance sheet recognition for certain subleases previously classified as operating subleases. The application of IFRS 16 mainly will apply to our office and banking centre leases, as well as certain subleases previously classified as operating subleases.

We expect to adopt IFRS 16 for the fiscal year beginning November 1, 2019 using the modified retrospective method, with no restatement of comparative periods.

As at November 1, 2019, the adoption of IFRS 16 is expected to result in the recognition of approximately $1.6 billion of right-of-use assets and corresponding lease liabilities on our consolidated balance sheet. The reassessment of certain subleases related to a previously recognized finance lease property, a portion of which is rented out and considered investment property, is expected to result in an increase of approximately $0.1 billion as a result of the recognition of additional sublease-related assets, net of the derecognition of amounts related to the corresponding head lease. As at November 1, 2019, the after-tax impact to retained earnings as a result of adopting IFRS 16 is expected to be an increase of $0.1 billion, and the impact to our CET1 ratio is expected to be a reduction of approximately 2 basis points.

In addition, the following permitted recognition exemptions and practical expedients have been applied:

- A single discount rate curve has been applied to portfolios of leases with reasonably similar characteristics at the date of application.
- In contracts where we are the lessee, we have not reassessed contracts that were identified as finance leases under the previous accounting standard (IAS 17).
- We have elected to exclude leases of assets considered as low value and certain short-term leases.
- We have applied the onerous lease provisions recognized as at October 31, 2019 as an alternative to performing an impairment review of our right-of-use assets as at November 1, 2019. Where an onerous lease provision was recorded on a lease, the right-of-use asset has been reduced by the amount of that provision on transition and no further impairment review was performed.
- We have elected not to separate lease and non-lease components of a lease contract when calculating the lease liability and corresponding right-of-use asset for certain classes of assets. Non-lease components may consist of, but are not limited to, common area maintenance expenses and utility charges. Other occupancy costs not within the scope of IFRS 16 will continue to be recorded as operating expenses.

The actual impacts of the initial application of IFRS 16 may vary from our estimates based on final application and testing of the internal control over financial reporting related to IFRS 16, as well as revisions to the accounting policies and judgments, including application of practical expedients. We have updated our accounting systems and internal control processes in response to the standard, and are in the final stages of testing and acceptance for our transition to IFRS 16.

IFRIC 23 "Uncertainty over Income Tax Treatments" (IFRIC 23)

In June 2017, the IASB issued IFRIC 23, which clarifies the accounting for uncertainties in income taxes. IFRIC 23 is effective for annual reporting periods beginning on or after January 1, 2019, which for us is on November 1, 2019.

There will be no impact to our consolidated financial statements as a result of adopting IFRIC 23.

Interest Rate Benchmark Reform: Amendments to IFRS 9, IAS 39 and IFRS 7

As discussed in the "Other regulatory developments" section, certain regulatory actions have led to uncertainties with respect to the long-term viability of certain interest rate benchmarks. The IASB is addressing the interest rate benchmark reform and its effects on financial reporting in two phases. The first phase focuses on issues affecting financial reporting in the period before the interest rate benchmark reform, and the second phase focuses on potential issues that might affect financial reporting once the existing rate is replaced with an alternative rate. In September 2019, the IASB finalized phase one through the issuance of "Interest Rate Benchmark Reform: Amendments to IFRS 9, IAS 39 and IFRS 7", which provides relief for specific hedge accounting requirements to address uncertainties in the period before the interest rate benchmark reform, and provides specific disclosure requirements for the affected hedging relationships. The amendments are effective for annual periods beginning on or after January 1, 2020. As permitted under IFRS 9, we have elected to continue to apply the hedge accounting requirements of IAS 39. Therefore, the amendments will apply to IAS 39 and IFRS 7 for us, mandatorily effective on November 1, 2020. Earlier application is permitted.

We continue to evaluate the impact of the amendments to IAS 39 and IFRS 7 on our consolidated financial statements. The IASB has commenced discussions related to the second phase of the project and we continue to monitor the developments in this area.

Conceptual Framework for Financial Reporting

In March 2018, the IASB issued a revised version of its "Conceptual Framework for Financial Reporting" (Conceptual Framework). The Conceptual Framework sets out the fundamental concepts that underlie the preparation and presentation of financial statements and serves to guide the IASB in developing IFRS standards. The Conceptual Framework also assists entities in developing accounting policies when no IFRS standard applies to a particular transaction, and more broadly, the Conceptual Framework helps entities to understand and interpret the standards. The Conceptual Framework is effective for annual periods beginning on or after January 1, 2020, which for us will be on November 1, 2020. Early application is permitted.

We are currently assessing the impact of the Conceptual Framework on our consolidated financial statements.

Transition to IFRS 17

IFRS 17 "Insurance Contracts" (IFRS 17), issued in May 2017, replaces IFRS 4 "Insurance Contracts", and was originally effective for annual periods beginning on or after January 1, 2021, which for us is on November 1, 2021. In June 2019, the IASB released an exposure draft proposing amendments to IFRS 17, including the expected proposal to defer the effective date from reporting periods beginning on or after January 1, 2021 to January 1, 2022. The IASB plans to finalize the amendments to IFRS 17 in 2020, subsequent to the comment period ended September 2019. IFRS 17 provides comprehensive guidance on the recognition, measurement, presentation and disclosure of insurance contracts.

We continue to evaluate the impact of IFRS 17 on our consolidated financial statements.

Other regulatory developments

Reforms to interest rate benchmarks

Various interest rate and other indices that are deemed to be "benchmarks" are the subject of international regulatory guidance and proposals for reform. The U.K.'s Financial Conduct Authority announced in July 2017 that it would not compel banks to submit LIBOR rates after December 2021. This may cause LIBOR and other current benchmarks to disappear entirely, perform differently than in the past, create disincentives for market participants to continue to administer and contribute to certain benchmarks, or have other consequences which cannot be predicted. Accordingly, this uncertainty in respect of relevant benchmarks may adversely affect the value of, return on, or trading market for contracts linked to any such benchmark.

A significant number of CIBC's derivative, lending and deposit contracts reference various interest rate benchmarks, including contracts with maturity dates which extend beyond December 2021. CIBC also holds securities that reference interest rate benchmarks.

In response to the proposed reforms to interest rate benchmarks, CIBC has established an Enterprise IBOR Transition Program (the "Program") that is supported by a formal governance structure and dedicated working groups that include stakeholders from frontline businesses as well as functional groups such as Technology and Operations, Risk Management, Legal, and Finance, to assess the impact across all of our products. A comprehensive initial impact assessment of contracts that reference various interbank offered rates (IBOR) has been completed to inform an enterprise-wide project plan to support the Program. Key features of this plan include:

- Development of detailed business-level remediation plans for affected contracts, processes and systems;
- An enterprise-wide communication strategy which includes both external and internal stakeholders; and
- Formalization of an enterprise-wide exposure management process.

An IBOR Steering Committee has been established with responsibility for oversight and execution of the Program, including:

- Ensuring key project milestones are met;
- Providing direction and guidance on a holistic basis;
- Reviewing and resolving key issues and risks; and
- Ensuring that our transition strategies and any transition actions remain consistent with CIBC's overall strategy, risk appetite, and control framework.

The Program provides regular updates to senior management, including ExCo.

CIBC continues to actively engage with the industry through various working groups to ensure alignment with market developments in relevant jurisdictions, and will continue to monitor developments in this area including accounting developments intended to address interest rate benchmark reform as discussed under the "Accounting developments" section.

For a discussion of other regulatory developments, see the "Taxes", "Capital management", and "Management of risk" sections.

Client Focused Reforms

In October 2019, the Canadian Securities Administrators published "Reforms to Enhance the Client-Registrant Relationship", an amendment to *National Instrument 31-103 and* its companion policy (referred to as the "Client Focused Reforms"), which is intended to raise the standard of conduct required for registered dealers and advisors to ensure that registrants put client interests' first. The Client Focused Reforms are supported by the introduction of a know-your-product provision and enhancements to the know-your-client, suitability, conflicts of interest, and relationship disclosure information requirements.

The Client Focused Reforms will come into effect on December 31, 2019 and will be phased in over a two-year period. These requirements will impact our Canadian Commercial Banking and Wealth Management and Canadian Personal and Small Business Banking SBUs and we expect to implement changes to our policies and procedures to comply with these requirements.

CDIC – Deposit protection modernization

In April 2019, the Canadian federal government approved changes to the *Canada Deposit Insurance Corporation Act* intended to strengthen and modernize deposit protection. The changes will occur in two phases. The first phase, effective on April 30, 2020, includes changes to extend CDIC coverage to foreign currency deposits and deposits with terms greater than 5 years and to eliminate coverage for travellers' cheques. The second phase, effective on April 30, 2021, includes additional changes such as providing separate coverage for certain registered plans and introducing new requirements for deposits held in trust.

Related-party transactions

We have various processes in place to ensure that the relevant related-party information is identified and reported to the CGC of the Board on a quarterly basis, as required by the *Bank Act* (Canada). The CGC has the responsibility for reviewing our policies and practices in identifying transactions with our related parties that may materially affect us, and reviewing the associated procedures for promoting compliance with the *Bank Act* (Canada).

In the ordinary course of business, we provide banking services and enter into transactions with related parties on terms similar to those offered to unrelated parties. Related parties include key management personnel[(1)], their close family members, and entities that they or their close family members control or jointly control. Related parties also include associates and joint ventures accounted for under the equity method, and post-employment benefit plans for CIBC employees. Loans to these related parties are made in the ordinary course of business and on substantially the same terms as for comparable transactions with unrelated parties. We offer a subsidy on annual fees and preferential interest rates on credit card balances to senior officers which is the same offer extended to all employees of CIBC. In addition, CIBC offers deferred share and other plans to non-employee directors, executives, and certain other key employees. Details of our compensation of key management personnel[(1)] and our investments in equity-accounted associates and joint ventures are disclosed in Notes 24, 17, 18 and 25 to the consolidated financial statements.

(1) Key management personnel are defined as those persons having authority and responsibility for planning, directing and controlling the activities of CIBC directly or indirectly and comprise the members of the Board (referred to as directors), and ExCo and certain named officers per the *Bank Act* (Canada) (collectively referred to as senior officers). Board members who are also ExCo members are included as senior officers.

Policy on the Scope of Services of the Shareholders' Auditor

The "Policy on the Scope of Services of the Shareholders' Auditor" sets out the parameters for the engagement of the shareholders' auditor by CIBC that are consistent with applicable law, including the U.S. Sarbanes-Oxley Act of 2002 and SEC rules. The policy requires the Audit Committee's pre-approval of all work performed by the shareholders' auditor and prohibits CIBC from engaging the shareholders' auditor for "prohibited" services. The Audit Committee is also accountable for the oversight of the work of the shareholders' auditor and for an annual assessment of the engagement team's qualifications, performance and independence, including lead audit partner rotation. The Audit Committee is also responsible for conducting a periodic comprehensive review of the external auditor at least every five years. The Audit Committee's oversight activities over the shareholders' auditor are disclosed in our Management Proxy Circular.

Controls and procedures

Disclosure controls and procedures

CIBC's disclosure controls and procedures are designed to provide reasonable assurance that relevant information is accumulated and communicated to CIBC's management, including the President and Chief Executive Officer and the Chief Financial Officer, to allow timely decisions regarding required disclosure.

CIBC's management, with the participation of the President and Chief Executive Officer and the Chief Financial Officer, has evaluated the effectiveness of CIBC's disclosure controls and procedures as at October 31, 2019 (as defined in the rules of the SEC and the Canadian Securities Administrators). Based on that evaluation, the President and Chief Executive Officer and the Chief Financial Officer have concluded that such disclosure controls and procedures were effective.

Management's annual report on internal control over financial reporting

CIBC's management is responsible for establishing and maintaining adequate internal control over financial reporting for CIBC.

Internal control over financial reporting is a process designed by, or under the supervision of, the President and Chief Executive Officer and the Chief Financial Officer and effected by the Board, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS as issued by the IASB. CIBC's internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records, that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of CIBC; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS as issued by the IASB, and that receipts and expenditures of CIBC are being made only in accordance with authorizations of CIBC's management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of CIBC's assets that could have a material effect on the financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

CIBC's management has used the Internal Control – Integrated Framework that was published in 2013 by the COSO as the basis to evaluate the effectiveness of CIBC's internal control over financial reporting.

As at October 31, 2019, management assessed the effectiveness of CIBC's internal control over financial reporting and concluded that such internal control was effective and that there were no material weaknesses in CIBC's internal control over financial reporting that have been identified by management.

Ernst & Young LLP, the external auditor, has audited the consolidated financial statements of CIBC for the year ended October 31, 2019, and has also issued a report on internal control over financial reporting under standards of the Public Company Accounting Oversight Board (United States).

Changes in internal control over financial reporting

There have been no changes in CIBC's internal control over financial reporting during the year ended October 31, 2019 that have materially affected, or are reasonably likely to materially affect, its internal control over financial reporting.

Supplementary annual financial information

Average balance sheet, net interest income and margin

$ millions, for the year ended October 31	Average balance 2019	2018	2017	Interest 2019	2018	2017	Average rate 2019	2018	2017
Domestic assets [(1)]									
Cash and deposits with banks	**$ 7,156**	$ 5,541	$ 3,294	**$ 164**	$ 95	$ 31	**2.29 %**	1.71 %	0.94 %
Securities	**66,954**	58,854	57,923	**1,852**	1,434	1,390	**2.77**	2.44	2.40
Securities borrowed or purchased under resale agreements	**23,950**	25,320	27,406	**496**	404	276	**2.07**	1.60	1.01
Loans Residential mortgages	**203,575**	204,536	194,350	**6,347**	5,740	4,698	**3.12**	2.81	2.42
Personal and credit card	**53,490**	52,314	49,901	**4,012**	3,731	3,378	**7.50**	7.13	6.77
Business and government	**63,131**	54,298	48,060	**2,434**	1,824	1,429	**3.86**	3.36	2.97
Total loans	**320,196**	311,148	292,311	**12,793**	11,295	9,505	**4.00**	3.63	3.25
Other interest-bearing assets	**3,837**	2,041	1,024	**128**	12	5	**3.34**	0.59	0.49
Derivative instruments	**10,248**	11,660	11,687	**–**	–	–	**–**	–	–
Customers' liability under acceptances	**10,170**	10,038	9,435	**–**	–	–	**–**	–	–
Other non-interest-bearing assets	**17,386**	15,007	14,185	**–**	–	–	**–**	–	–
Total domestic assets	**459,897**	439,609	417,265	**15,433**	13,240	11,207	**3.36**	3.01	2.69
Foreign assets [(1)]									
Cash and deposits with banks	**13,305**	14,283	18,451	**232**	187	149	**1.74**	1.31	0.81
Securities	**49,059**	43,300	34,265	**927**	835	500	**1.89**	1.93	1.46
Securities borrowed or purchased under resale agreements	**35,491**	29,719	19,228	**978**	649	219	**2.76**	2.18	1.14
Loans Residential mortgages	**3,815**	3,401	2,711	**201**	176	140	**5.27**	5.17	5.16
Personal and credit card	**1,435**	1,266	916	**105**	98	83	**7.32**	7.74	9.06
Business and government	**55,443**	47,117	32,719	**2,819**	2,319	1,295	**5.08**	4.92	3.96
Total loans	**60,693**	51,784	36,346	**3,125**	2,593	1,518	**5.15**	5.01	4.18
Other interest-bearing assets	**555**	265	137	**2**	1	–	**0.36**	0.38	–
Derivative instruments	**13,419**	12,387	12,646	**–**	–	–	**–**	–	–
Other non-interest-bearing assets	**7,297**	7,094	4,027	**–**	–	–	**–**	–	–
Total foreign assets	**179,819**	158,832	125,100	**5,264**	4,265	2,386	**2.93**	2.69	1.91
Total assets	**$ 639,716**	$ 598,441	$ 542,365	**$ 20,697**	$ 17,505	$ 13,593	**3.24 %**	2.93 %	2.51 %
Domestic liabilities [(1)]									
Deposits Personal	**$ 157,537**	$ 148,143	$ 143,640	**$ 1,861**	$ 1,299	$ 851	**1.18 %**	0.88 %	0.59 %
Business and government	**153,092**	134,382	129,851	**3,033**	1,378	1,008	**1.98**	1.03	0.78
Bank	**1,915**	2,188	2,256	**29**	26	13	**1.51**	1.19	0.58
Secured borrowings	**39,111**	43,085	38,642	**1,037**	952	613	**2.65**	2.21	1.59
Total deposits	**351,655**	327,798	314,389	**5,960**	3,655	2,485	**1.69**	1.12	0.79
Derivative instruments	**10,790**	11,207	11,960	**–**	–	–	**–**	–	–
Acceptances	**10,171**	10,039	9,436	**–**	–	–	**–**	–	–
Obligations related to securities sold short	**15,412**	14,708	13,400	**285**	269	224	**1.85**	1.83	1.67
Obligations related to securities lent or sold under repurchase agreements	**15,995**	13,699	9,178	**477**	329	130	**2.98**	2.40	1.42
Other liabilities	**14,621**	13,754	11,782	**9**	(7)	(3)	**0.06**	(0.05)	(0.03)
Subordinated indebtedness	**4,549**	3,645	3,088	**193**	170	138	**4.24**	4.66	4.47
Total domestic liabilities	**423,193**	394,850	373,233	**6,924**	4,416	2,974	**1.64**	1.12	0.80
Foreign liabilities [(1)]									
Deposits Personal	**15,543**	13,511	10,182	**193**	114	66	**1.24**	0.84	0.65
Business and government	**97,429**	101,583	83,461	**2,068**	2,319	1,274	**2.12**	2.28	1.53
Bank	**12,277**	12,543	16,105	**197**	152	128	**1.60**	1.21	0.79
Secured borrowings	**226**	–	–	**4**	–	–	**1.77**	–	–
Total deposits	**125,475**	127,637	109,748	**2,462**	2,585	1,468	**1.96**	2.03	1.34
Derivative instruments	**14,130**	11,905	12,942	**–**	–	–	**–**	–	–
Obligations related to securities sold short	**1,089**	592	389	**6**	3	2	**0.55**	0.51	0.51
Obligations related to securities lent or sold under repurchase agreements	**35,413**	27,364	17,125	**721**	407	124	**2.04**	1.49	0.72
Other liabilities	**3,014**	2,420	1,810	**28**	25	44	**0.93**	1.03	2.43
Subordinated indebtedness	**150**	151	194	**5**	4	4	**3.33**	2.65	2.06
Total foreign liabilities	**179,271**	170,069	142,208	**3,222**	3,024	1,642	**1.80**	1.78	1.15
Total liabilities	**602,464**	564,919	515,441	**10,146**	7,440	4,616	**1.68**	1.32	0.90
Shareholders' equity	**37,072**	33,336	26,726	**–**	–	–	**–**	–	–
Non-controlling interests	**180**	186	198	**–**	–	–	**–**	–	–
Total liabilities and equity	**$ 639,716**	$ 598,441	$ 542,365	**$ 10,146**	$ 7,440	$ 4,616	**1.59 %**	1.24 %	0.85 %
Net interest income and margin				**$ 10,551**	$ 10,065	$ 8,977	**1.65 %**	1.68 %	1.66 %
Additional disclosures: Non-interest-bearing deposit liabilities									
Domestic	**$ 48,478**	$ 47,879	$ 45,691						
Foreign	**14,582**	14,311	9,159						

(1) Classification as domestic or foreign is based on domicile of debtor or customer.

Volume/rate analysis of changes in net interest income

$ millions		2019/2018			2018/2017		
		Increase (decrease) due to change in:			Increase (decrease) due to change in:		
		Average balance	Average rate	Total	Average balance	Average rate	Total
Domestic assets (1)							
Cash and deposits with banks		$ 28	$ 41	$ 69	$ 21	$ 43	$ 64
Securities		197	221	418	22	22	44
Securities borrowed or purchased under resale agreements		(22)	114	92	(21)	149	128
Loans	Residential mortgages	(27)	634	607	246	796	1,042
	Personal and credit card	84	197	281	163	190	353
	Business and government	297	313	610	185	210	395
Total loans		354	1,144	1,498	594	1,196	1,790
Other interest-bearing assets		11	105	116	5	2	7
Change in domestic interest income		568	1,625	2,193	621	1,412	2,033
Foreign assets (1)							
Cash and deposits with banks		(13)	58	45	(34)	72	38
Securities		111	(19)	92	132	203	335
Securities borrowed or purchased under resale agreements		126	203	329	119	311	430
Loans	Residential mortgages	21	4	25	36	–	36
	Personal and credit card	13	(6)	7	32	(17)	15
	Business and government	410	90	500	570	454	1,024
Total loans		444	88	532	638	437	1,075
Other interest-bearing assets		1	–	1	–	1	1
Change in foreign interest income		669	330	999	855	1,024	1,879
Total change in interest income		$ 1,237	$ 1,955	$ 3,192	$ 1,476	$ 2,436	$ 3,912
Domestic liabilities (1)							
Deposits	Personal	$ 82	$ 480	$ 562	$ 27	$ 421	$ 448
	Business and government	192	1,463	1,655	35	335	370
	Bank	(3)	6	3	–	13	13
	Secured borrowings	(88)	173	85	70	269	339
Total deposits		183	2,122	2,305	132	1,038	1,170
Obligations related to securities sold short		13	3	16	22	23	45
Obligations related to securities lent or sold under repurchase agreements		55	93	148	64	135	199
Other liabilities		-	16	16	(1)	(3)	(4)
Subordinated indebtedness		42	(19)	23	25	7	32
Change in domestic interest expense		293	2,215	2,508	242	1,200	1,442
Foreign liabilities (1)							
Deposits	Personal	17	62	79	22	26	48
	Business and government	(95)	(156)	(251)	277	768	1,045
	Bank	(3)	48	45	(28)	52	24
	Secured borrowings	–	4	4	–	–	–
Total deposits		(81)	(42)	(123)	271	846	1,117
Obligations related to securities sold short		3	–	3	1	–	1
Obligations related to securities lent or sold under repurchase agreements		120	194	314	74	209	283
Other liabilities		6	(3)	3	15	(34)	(19)
Subordinated indebtedness		–	1	1	(1)	1	–
Change in foreign interest expense		48	150	198	360	1,022	1,382
Total change in interest expense		$ 341	$ 2,365	$ 2,706	$ 602	$ 2,222	$ 2,824
Change in total net interest income		$ 896	$ (410)	$ 486	$ 874	$ 214	$ 1,088

(1) Classification as domestic or foreign is based on domicile of debtor or customer.

Analysis of net loans and acceptances

$ millions, as at October 31	Canada (1)					U.S. (1)				
	2019	2018	2017	2016	2015	**2019**	2018	2017	2016	2015
Residential mortgages	**$ 204,383**	$ 203,930	$ 203,787	$ 184,610	$ 166,616	**$ 1,527**	$ 1,152	$ 902	$ –	$ –
Student	**24**	33	50	73	110	**–**	–	–	–	–
Personal	**41,882**	41,473	39,483	36,896	35,412	**435**	356	326	56	51
Credit card	**12,143**	12,060	11,805	11,755	11,279	**35**	36	35	36	37
Total net consumer loans	**258,432**	257,496	255,125	233,334	213,417	**1,997**	1,544	1,263	92	88
Non-residential mortgages	**6,064**	6,426	6,481	6,734	7,120	**115**	39	95	103	333
Financial institutions	**7,565**	6,885	5,403	4,831	4,137	**8,111**	5,529	3,248	2,100	667
Retail and wholesale	**5,720**	5,219	4,496	4,044	3,667	**2,066**	1,914	1,812	290	310
Business services	**7,037**	7,018	6,237	5,312	5,011	**4,570**	3,840	3,567	1,215	814
Manufacturing – capital goods	**2,465**	2,318	1,912	1,663	1,505	**2,399**	2,143	1,559	128	181
Manufacturing – consumer goods	**3,972**	3,294	3,019	2,663	2,626	**958**	695	702	28	22
Real estate and construction (2)	**18,465**	16,297	13,293	11,684	8,644	**16,871**	14,559	13,761	8,554	7,206
Agriculture	**6,965**	6,011	5,558	5,364	4,828	**124**	79	107	44	50
Oil and gas	**5,222**	5,064	4,762	4,532	4,138	**3,190**	2,375	2,198	1,951	1,469
Mining	**1,024**	824	668	722	761	**154**	60	87	242	305
Forest products	**628**	446	464	465	566	**162**	215	209	4	11
Hardware and software	**651**	575	539	267	280	**1,215**	1,082	883	165	167
Telecommunications and cable	**191**	275	281	444	510	**314**	887	756	30	44
Publishing, printing, and broadcasting	**557**	527	291	333	244	**92**	102	117	–	–
Transportation	**2,193**	1,880	1,818	1,630	1,449	**1,263**	893	602	288	183
Utilities	**2,281**	2,291	1,927	1,663	1,621	**1,759**	1,226	1,445	1,237	845
Education, health and social services (2)	**3,221**	2,870	2,937	2,826	2,128	**2,941**	3,040	3,099	–	–
Governments	**857**	954	869	728	541	**127**	92	7	–	–
Others	**–**	–	–	–	–	**–**	–	12	17	69
Stage 1 and 2 allowance for credit losses (2017 and prior: Collective allowance allocated to business and government loans) (3)(4)	**(144)**	(98)	(195)	(215)	(218)	**(138)**	(108)	(83)	(58)	(50)
Total net business and government loans, including acceptances	**74,934**	69,076	60,760	55,690	49,558	**46,293**	38,662	34,183	16,338	12,626
Total net loans and acceptances	**$ 333,366**	$ 326,572	$ 315,885	$ 289,024	$ 262,975	**$ 48,290**	$ 40,206	$ 35,446	$ 16,430	$ 12,714

(1) Classification by country is primarily based on domicile of debtor or customer.
(2) Certain comparative information has been reclassified.
(3) Stage 3 allowance for credit losses (2017 and prior: individual allowance) is allocated to business and government loans, including acceptances, by category above.
(4) Stage 1 and 2 allowances (2017 and prior: collective allowances) are primarily allocated based on the geographic location where they are recorded.

Analysis of net loans and acceptances (continued)

$ millions, as at October 31	Other (1)					Total				
	2019	2018	2017	2016	2015	**2019**	2018	2017	2016	2015
Residential mortgages	**$ 2,531**	$ 2,453	$ 2,379	$ 2,467	$ 2,406	**$ 208,441**	$ 207,535	$ 207,068	$ 187,077	$ 169,022
Student	**–**	–	–	–	–	**24**	33	50	73	110
Personal	**757**	715	583	519	476	**43,074**	42,544	40,392	37,471	35,939
Credit card	**157**	159	152	155	150	**12,335**	12,255	11,992	11,946	11,466
Total net consumer loans	**3,445**	3,327	3,114	3,141	3,032	**263,874**	262,367	259,502	236,567	216,537
Non-residential mortgages	**258**	266	218	232	245	**6,437**	6,731	6,794	7,069	7,698
Financial institutions	**2,103**	2,043	841	1,723	3,291	**17,779**	14,457	9,492	8,654	8,095
Retail and wholesale	**467**	438	435	561	548	**8,253**	7,571	6,743	4,895	4,525
Business services	**1,822**	1,675	1,736	1,266	1,370	**13,429**	12,533	11,540	7,793	7,195
Manufacturing – capital goods	**128**	125	432	234	293	**4,992**	4,586	3,903	2,025	1,979
Manufacturing – consumer goods	**61**	92	111	114	119	**4,991**	4,081	3,832	2,805	2,767
Real estate and construction (2)	**1,529**	1,624	1,325	1,391	1,124	**36,865**	32,480	28,379	21,629	16,974
Agriculture	**104**	25	22	24	40	**7,193**	6,115	5,687	5,432	4,918
Oil and gas	**253**	440	555	268	324	**8,665**	7,879	7,515	6,751	5,931
Mining	**642**	710	784	928	446	**1,820**	1,594	1,539	1,892	1,512
Forest products	**–**	–	–	–	–	**790**	661	673	469	577
Hardware and software	**–**	–	20	–	12	**1,866**	1,657	1,442	432	459
Telecommunications and cable	**185**	208	301	359	388	**690**	1,370	1,338	833	942
Publishing, printing, and broadcasting	**81**	85	89	87	79	**730**	714	497	420	323
Transportation	**2,012**	1,642	1,847	1,326	899	**5,468**	4,415	4,267	3,244	2,531
Utilities	**1,744**	647	779	532	785	**5,784**	4,164	4,151	3,432	3,251
Education, health and social services (2)	**34**	28	29	32	32	**6,196**	5,938	6,065	2,858	2,160
Governments	**1,657**	1,598	1,662	1,874	1,611	**2,641**	2,644	2,538	2,602	2,152
Others	**–**	–	–	300	711	**–**	–	12	317	780
Stage 1 and 2 allowance for credit losses (2017 and prior: Collective allowance allocated to business and government loans) (3)(4)	**(73)**	(90)	(73)	(65)	(57)	**(355)**	(296)	(351)	(338)	(325)
Total net business and government loans, including acceptances	**13,007**	11,556	11,113	11,186	12,260	**134,234**	119,294	106,056	83,214	74,444
Total net loans and acceptances	**$ 16,452**	$ 14,883	$ 14,227	$ 14,327	$ 15,292	**$ 398,108**	$ 381,661	$ 365,558	$ 319,781	$ 290,981

(1) Classification by country is primarily based on domicile of debtor or customer.
(2) Certain comparative information has been reclassified.
(3) Stage 3 allowance for credit losses (2017 and prior: individual allowance) is allocated to business and government loans, including acceptances, by category above.
(4) Stage 1 and 2 allowances (2017 and prior: collective allowances) are primarily allocated based on the geographic location where they are recorded.

Summary of allowance for credit losses

$ millions, as at or for the year ended October 31	2019	2018 (1)	2017	2016	2015
Balance at beginning of year under IAS 39	**n/a**	$ 1,737	$ 1,813	$ 1,762	$ 1,736
Impact of adopting IFRS 9 at November 1, 2017	**n/a**	63	n/a	n/a	n/a
Balance at beginning of year under IFRS 9	**$ 1,741**	1,800	n/a	n/a	n/a
Provision for credit losses	**1,286**	870	829	1,051	771
Write-offs					
Domestic (2)					
Residential mortgages	**22**	19	21	13	14
Student	**–**	–	–	–	1
Personal and credit card	**897**	866	869	842	781
Other business and government	**30**	37	51	116	42
Foreign (2)					
Residential mortgages	**7**	35	17	21	18
Personal and credit card	**14**	14	19	18	16
Other business and government	**160**	79	80	143	132
Total write-offs	**1,130**	1,050	1,057	1,153	1,004
Recoveries					
Domestic (2)					
Personal and credit card	**173**	174	168	163	171
Other business and government	**6**	6	15	8	8
Foreign (2)					
Residential mortgages	**2**	–	–	–	–
Personal and credit card	**6**	4	5	6	5
Other business and government	**7**	6	5	6	2
Total recoveries	**194**	190	193	183	186
Net write-offs	**936**	860	864	970	818
Interest income on impaired loans	**(40)**	(23)	(26)	(29)	(23)
Foreign exchange and other	**(7)**	(46)	(15)	(1)	96
Balance at end of year	**$ 2,044**	$ 1,741	$ 1,737	$ 1,813	$ 1,762
Comprises:					
Loans	**$ 1,915**	$ 1,639	$ 1,618	$ 1,691	$ 1,670
Undrawn credit facilities and other off-balance sheet exposures	**129**	102	119	122	92
Ratio of net write-offs during the year to average loans outstanding during the year	**0.25 %**	0.24 %	0.26 %	0.33 %	0.30 %

(1) Effective November 1, 2017, all loans that are contractually 90 days in arrears are automatically classified as impaired and as stage 3 under IFRS 9, except for credit card loans which are classified as impaired and are fully written off when payments are contractually 180 days in arrears or at the earlier of the notice of bankruptcy, settlement proposal, or enlistment of credit counselling services. The determination of impairment was generally the same under IAS 39, except (i) residential mortgages guaranteed or insured by a Canadian government (federal or provincial) or a Canadian government agency were not classified as impaired until payments were contractually 365 days in arrears, and (ii) residential mortgages guaranteed or insured by a private insurer, or loans that were fully secured and in the process of collection were not classified as impaired until payments were contractually 180 days in arrears.
(2) Classification as domestic or foreign is primarily based on domicile of debtor or customer.
n/a Not applicable.

Allowance for credit losses on impaired loans as a percentage of gross impaired loans

	Allowance for credit losses (1)					Allowance as a % of gross impaired loans				
$ millions, as at October 31	2019	2018 (2)	2017 (3)	2016 (3)	2015 (3)	2019	2018 (2)	2017 (3)	2016 (3)	2015 (3)
Domestic (4)										
Residential mortgages	**$ 61**	$ 54	$ 22	$ 20	$ 21	**10.5 %**	10.9 %	7.5 %	8.0 %	9.3 %
Personal loans	**98**	79	110	105	99	**62.4**	57.7	94.8	85.4	91.7
Business and government	**217**	56	43	63	77	**45.8**	41.5	41.7	30.9	42.8
Total domestic	**376**	189	175	188	197	**31.0**	24.6	34.2	32.5	38.4
Foreign (4)										
Residential mortgages	**79**	89	123	148	167	**46.5**	49.4	55.7	56.3	48.0
Personal loans	**30**	30	31	40	46	**63.8**	66.7	56.4	57.1	58.2
Business and government	**159**	174	148	196	236	**36.4**	35.8	28.3	26.2	49.3
Total foreign	**268**	293	302	384	449	**41.0**	41.2	37.8	35.6	49.6
Total allowance	**$ 644**	$ 482	$ 477	$ 572	$ 646	**34.5 %**	32.6 %	36.4 %	34.5 %	45.5 %

(1) Excludes allowance on undrawn credit facilities and other off-balance sheet exposures.
(2) Effective November 1, 2017, all loans that are contractually 90 days in arrears are automatically classified as impaired and as stage 3 under IFRS 9, except for credit card loans which are classified as impaired and are fully written off when payments are contractually 180 days in arrears or at the earlier of the notice of bankruptcy, settlement proposal, or enlistment of credit counselling services. The determination of impairment was generally the same under IAS 39, except (i) residential mortgages guaranteed or insured by a Canadian government (federal or provincial) or a Canadian government agency were not classified as impaired until payments were contractually 365 days in arrears, and (ii) residential mortgages guaranteed or insured by a private insurer, or loans that were fully secured and in the process of collection were not classified as impaired until payments were contractually 180 days in arrears.
(3) Under IAS 39, comprises individual allowance, and collective allowance related to personal, scored small business, and mortgage impaired loans that are greater than 90 days delinquent.
(4) Classification as domestic or foreign is primarily based on domicile of debtor or customer.

Allowance on performing loans as a percentage of net loans and acceptances

$ millions, as at October 31	Allowance for credit losses (1)(2) 2019	2018 (3)	2017	2016	2015	Allowance as a % of net loans and acceptances 2019	2018 (3)	2017	2016	2015
Domestic										
Residential mortgages	**$ 38**	$ 29	$ 34	$ 30	$ 26	**– %**	– %	– %	– %	– %
Personal loans	**415**	362	345	345	316	**1.0**	0.9	0.9	0.9	0.9
Credit cards	**413**	415	383	383	334	**3.4**	3.4	3.2	3.3	3.0
Business and government	**144**	98	187	205	208	**0.2**	0.1	0.3	0.4	0.4
Total domestic	**1,010**	904	949	963	884	**0.3**	0.3	0.3	0.3	0.3
Foreign										
Residential mortgages	**33**	42	24	23	22	**0.8**	1.2	0.7	0.9	0.9
Personal loans	**10**	10	9	7	7	**0.8**	0.9	1.0	1.2	1.3
Credit cards	**7**	3	3	3	4	**3.6**	1.5	1.6	1.6	2.1
Business and government	**211**	198	156	123	107	**0.4**	0.4	0.3	0.4	0.4
Total foreign	**261**	253	192	156	140	**0.4**	0.5	0.4	0.5	0.5
Total stage 1 and 2 allowance (2017 and prior: total allowance)	**$ 1,271**	$ 1,157	$ 1,141	$ 1,119	$ 1,024	**0.3 %**	0.3 %	0.3 %	0.3 %	0.4 %

(1) Excludes allowance on undrawn credit facilities and other off-balance sheet exposures.
(2) Stage 1 and 2 allowances (2017 and prior: collective allowances) are primarily allocated based on the geographic location where they are recorded.
(3) Effective November 1, 2017, all loans that are contractually 90 days in arrears are automatically classified as impaired and as stage 3 under IFRS 9, except for credit card loans which are classified as impaired and are fully written off when payments are contractually 180 days in arrears or at the earlier of the notice of bankruptcy, settlement proposal, or enlistment of credit counselling services. The determination of impairment was generally the same under IAS 39, except (i) residential mortgages guaranteed or insured by a Canadian government (federal or provincial) or a Canadian government agency were not classified as impaired until payments were contractually 365 days in arrears, and (ii) residential mortgages guaranteed or insured by a private insurer, or loans that were fully secured and in the process of collection were not classified as impaired until payments were contractually 180 days in arrears.

Net loans and acceptances by geographic location(1)

$ millions, as at October 31	2019	2018	2017	2016	2015
Canada					
Atlantic provinces	**$ 14,578**	$ 14,036	$ 14,194	$ 14,006	$ 13,598
Quebec	**30,113**	28,598	27,027	25,471	23,093
Ontario	**169,073**	165,592	157,987	139,254	125,584
Prairie provinces	**14,680**	13,947	13,746	13,341	12,877
Alberta, Northwest Territories and Nunavut	**45,103**	44,896	44,354	43,308	41,197
British Columbia and Yukon	**60,829**	60,407	59,479	54,567	47,478
Stage 1 and 2 allowance (2017 and prior: collective allowance) allocated to Canada (2)	**(1,010)** (3)	(904) (3)	(902) (4)	(923) (4)	(852) (4)
Total Canada	**333,366**	326,572	315,885	289,024	262,975
U.S.	**48,290**	40,206	35,446	16,430	12,714
Other countries	**16,452**	14,883	14,227	14,327	15,292
Total net loans and acceptances	**$ 398,108**	$ 381,661	$ 365,558	$ 319,781	$ 290,981

(1) Classification by country is primarily based on domicile of debtor or customer.
(2) Stage 1 and 2 allowances (2017 and prior: collective allowances) are primarily allocated based on the geographic location where they are recorded.
(3) Stage 3 allowance for credit losses (2017 and prior: individual allowance) is allocated to provinces above, including acceptances.
(4) Under IAS 39, relates to collective allowance, except for: (i) residential mortgages greater than 90 days delinquent; and (ii) personal loans and scored small business loans greater than 30 days delinquent.

Net impaired loans

$ millions, as at October 31	Canada (1) 2019	2018 (2)	2017	2016	2015	U.S. (1) 2019	2018 (2)	2017	2016	2015
Gross impaired loans										
Residential mortgages	**$ 581**	$ 497	$ 292	$ 251	$ 225	**$ 16**	$ 13	$ 9	$ –	$ –
Student	**1**	2	2	3	5	**–**	–	–	–	–
Personal	**156**	135	114	120	103	**5**	2	2	–	–
Total gross impaired consumer loans	**738**	634	408	374	333	**21**	15	11	–	–
Non-residential mortgages	**3**	3	7	4	4	**–**	–	–	–	–
Financial institutions	**2**	5	–	1	–	**37**	65	8	–	–
Retail, wholesale and business services	**283**	62	38	23	26	**89**	44	52	5	–
Manufacturing – consumer and capital goods	**6**	7	6	19	8	**35**	14	1	–	–
Real estate and construction (3)	**38**	39	33	23	9	**46**	90	137	62	94
Agriculture	**53**	8	9	4	1	**–**	–	–	–	–
Resource-based industries	**46**	1	2	121	126	**69**	54	114	248	1
Telecommunications, media and technology	**2**	2	3	4	2	**2**	2	2	–	–
Transportation	**4**	3	2	1	1	**–**	1	–	–	–
Utilities	**32**	–	–	–	–	**–**	–	–	–	10
Other (3)	**5**	5	3	4	3	**23**	56	45	–	–
Total gross impaired – business and government loans	**474**	135	103	204	180	**301**	326	359	315	105
Total gross impaired loans	**1,212**	769	511	578	513	**322**	341	370	315	105
Other past due loans (4)	**96**	100	337	362	337	**–**	–	–	–	–
Total gross impaired and other past due loans	**$ 1,308**	$ 869	$ 848	$ 940	$ 850	**$ 322**	$ 341	$ 370	$ 315	$ 105
Allowance for credit losses										
Residential mortgages	**$ 61**	$ 54	$ 22	$ 20	$ 21	**$ 3**	$ 2	$ –	$ –	$ –
Student	**–**	–	–	–	–	**–**	–	–	–	–
Personal	**98**	79	110	105	99	**1**	–	–	–	–
Total allowance – consumer loans	**159**	133	132	125	120	**4**	2	–	–	–
Non-residential mortgages	**–**	–	2	2	1	**–**	–	–	–	–
Financial institutions	**1**	–	–	–	–	**1**	14	–	–	–
Retail, wholesale and business services	**151**	26	18	16	19	**28**	27	16	4	–
Manufacturing – consumer and capital goods	**4**	4	5	7	6	**–**	1	–	–	–
Real estate and construction (3)	**16**	15	9	10	7	**28**	41	41	20	27
Agriculture	**24**	4	–	1	–	**–**	–	–	–	–
Resource-based industries	**11**	1	2	21	39	**34**	5	8	8	–
Telecommunications, media and technology	**–**	1	2	3	2	**–**	–	–	–	–
Transportation	**2**	2	2	1	1	**–**	–	–	–	–
Utilities	**5**	–	–	–	–	**–**	–	–	–	6
Other (3)	**3**	3	3	2	2	**10**	–	–	–	–
Total allowance – business and government loans	**217**	56	43	63	77	**101**	88	65	32	33
Total allowance	**$ 376**	$ 189	$ 175	$ 188	$ 197	**$ 105**	$ 90	$ 65	$ 32	$ 33
Net impaired loans										
Residential mortgages	**$ 520**	$ 443	$ 270	$ 231	$ 204	**$ 13**	$ 11	$ 9	$ –	$ –
Student	**1**	2	2	3	5	**–**	–	–	–	–
Personal	**58**	56	4	15	4	**4**	2	2	–	–
Total net impaired consumer loans	**579**	501	276	249	213	**17**	13	11	–	–
Non-residential mortgages	**3**	3	5	2	3	**–**	–	–	–	–
Financial institutions	**1**	5	–	1	–	**36**	51	8	–	–
Retail, wholesale and business services	**132**	36	20	7	7	**61**	17	36	1	–
Manufacturing – consumer and capital goods	**2**	3	1	12	2	**35**	13	1	–	–
Real estate and construction (3)	**22**	24	24	13	2	**18**	49	96	42	67
Agriculture	**29**	4	9	3	1	**–**	–	–	–	–
Resource-based industries	**35**	–	–	100	87	**35**	49	106	240	1
Telecommunications, media and technology	**2**	1	1	1	–	**2**	2	2	–	–
Transportation	**2**	1	–	–	–	**–**	1	–	–	–
Utilities	**27**	–	–	–	–	**–**	–	–	–	4
Other (3)	**2**	2	–	2	1	**13**	56	45	–	–
Total net impaired – business and government loans	**257**	79	60	141	103	**200**	238	294	283	72
Total net impaired loans	**$ 836**	$ 580	$ 336	$ 390	$ 316	**$ 217**	$ 251	$ 305	$ 283	$ 72

(1) Classification by country is primarily based on domicile of debtor or customer.
(2) Effective November 1, 2017, all loans that are contractually 90 days in arrears are automatically classified as impaired and as stage 3 under IFRS 9, except for credit card loans which are classified as impaired and are fully written off when payments are contractually 180 days in arrears or at the earlier of the notice of bankruptcy, settlement proposal, or enlistment of credit counselling services. The determination of impairment was generally the same under IAS 39, except (i) residential mortgages guaranteed or insured by a Canadian government (federal or provincial) or a Canadian government agency were not classified as impaired until payments were contractually 365 days in arrears, and (ii) residential mortgages guaranteed or insured by a private insurer, or loans that were fully secured and in the process of collection were not classified as impaired until payments were contractually 180 days in arrears.
(3) Certain comparative information has been reclassified.
(4) Represents loans where repayment of principal or payment of interest is contractually in arrears between 90 and 180 days.

Net impaired loans (continued)

$ millions, as at October 31	Other [1]					Total				
	2019	2018 [2]	2017	2016	2015	**2019**	2018 [2]	2017	2016	2015
Gross impaired loans										
Residential mortgages	**$ 154**	$ 167	$ 212	$ 263	$ 348	**$ 751**	$ 677	$ 513	$ 514	$ 573
Student	**–**	–	–	–	–	**1**	2	2	3	5
Personal	**42**	43	53	70	79	**203**	180	169	190	182
Total gross impaired consumer loans	**196**	210	265	333	427	**955**	859	684	707	760
Non-residential mortgages	**17**	15	17	17	34	**20**	18	24	21	38
Financial institutions	**–**	1	2	3	5	**39**	71	10	4	5
Retail, wholesale and business services	**43**	52	57	94	141	**415**	158	147	122	167
Manufacturing – consumer and capital goods	**4**	4	5	210	47	**45**	25	12	229	55
Real estate and construction [3]	**59**	72	78	104	139	**143**	201	248	189	242
Agriculture	**–**	1	1	1	3	**53**	9	10	5	4
Resource-based industries	**–**	–	–	–	2	**115**	55	116	369	129
Telecommunications, media and technology	**–**	–	–	–	–	**4**	4	5	4	2
Transportation	**2**	3	4	2	2	**6**	7	6	3	3
Utilities	**–**	–	–	–	1	**32**	–	–	–	11
Other [3]	**11**	12	–	1	–	**39**	73	48	5	3
Total gross impaired – business and government loans	**136**	160	164	432	374	**911**	621	626	951	659
Total gross impaired loans	**332**	370	429	765	801	**1,866**	1,480	1,310	1,658	1,419
Other past due loans [4]	**3**	3	3	3	3	**99**	103	340	365	340
Total gross impaired and other past due loans	**$ 335**	$ 373	$ 432	$ 768	$ 804	**$ 1,965**	$ 1,583	$ 1,650	$ 2,023	$ 1,759
Allowance for credit losses										
Residential mortgages	**$ 76**	$ 87	$ 123	$ 148	$ 167	**$ 140**	$ 143	$ 145	$ 168	$ 188
Student	**–**	–	–	–	–	**–**	–	–	–	–
Personal	**29**	30	31	40	46	**128**	109	141	145	145
Total allowance – consumer loans	**105**	117	154	188	213	**268**	252	286	313	333
Non-residential mortgages	**5**	7	9	12	17	**5**	7	11	14	18
Financial institutions	**–**	1	–	2	3	**2**	15	–	2	3
Retail, wholesale and business services	**18**	28	29	48	65	**197**	81	63	68	84
Manufacturing – consumer and capital goods	**2**	3	3	45	43	**6**	8	8	52	49
Real estate and construction [3]	**30**	39	39	54	68	**74**	95	89	84	102
Agriculture	**–**	1	1	1	3	**24**	5	1	2	3
Resource-based industries	**–**	–	–	–	1	**45**	6	10	29	40
Telecommunications, media and technology	**–**	–	–	–	–	**–**	1	2	3	2
Transportation	**1**	2	2	2	2	**3**	4	4	3	3
Utilities	**–**	–	–	–	1	**5**	–	–	–	7
Other [3]	**2**	5	–	–	–	**15**	8	3	2	2
Total allowance – business and government loans	**58**	86	83	164	203	**376**	230	191	259	313
Total allowance	**$ 163**	$ 203	$ 237	$ 352	$ 416	**$ 644**	$ 482	$ 477	$ 572	$ 646
Net impaired loans										
Residential mortgages	**$ 78**	$ 80	$ 89	$ 115	$ 181	**$ 611**	$ 534	$ 368	$ 346	$ 385
Student	**–**	–	–	–	–	**1**	2	2	3	5
Personal	**13**	13	22	30	33	**75**	71	28	45	37
Total net impaired consumer loans	**91**	93	111	145	214	**687**	607	398	394	427
Non-residential mortgages	**12**	8	8	5	17	**15**	11	13	7	20
Financial institutions	**–**	–	2	1	2	**37**	56	10	2	2
Retail, wholesale and business services	**25**	24	28	46	76	**218**	77	84	54	83
Manufacturing – consumer and capital goods	**2**	1	2	165	4	**39**	17	4	177	6
Real estate and construction [3]	**29**	33	39	50	71	**69**	106	159	105	140
Agriculture	**–**	–	–	–	–	**29**	4	9	3	1
Resource-based industries	**–**	–	–	–	1	**70**	49	106	340	89
Telecommunications, media and technology	**–**	–	–	–	–	**4**	3	3	1	–
Transportation	**1**	1	2	–	–	**3**	3	2	–	–
Utilities	**–**	–	–	–	–	**27**	–	–	–	4
Other [3]	**9**	7	–	1	–	**24**	65	45	3	1
Total net impaired – business and government loans	**78**	74	81	268	171	**535**	391	435	692	346
Total net impaired loans	**$ 169**	$ 167	$ 192	$ 413	$ 385	**$ 1,222**	$ 998	$ 833	$ 1,086	$ 773

(1) Classification by country is primarily based on domicile of debtor or customer.
(2) Effective November 1, 2017, all loans that are contractually 90 days in arrears are automatically classified as impaired and as stage 3 under IFRS 9, except for credit card loans which are classified as impaired and are fully written off when payments are contractually 180 days in arrears or at the earlier of the notice of bankruptcy, settlement proposal, or enlistment of credit counselling services. The determination of impairment was generally the same under IAS 39, except (i) residential mortgages guaranteed or insured by a Canadian government (federal or provincial) or a Canadian government agency were not classified as impaired until payments were contractually 365 days in arrears, and (ii) residential mortgages guaranteed or insured by a private insurer, or loans that were fully secured and in the process of collection were not classified as impaired until payments were contractually 180 days in arrears.
(3) Certain comparative information has been reclassified.
(4) Represents loans where repayment of principal or payment of interest is contractually in arrears between 90 and 180 days.

Deposits

$ millions, for the year ended October 31	Average balance 2019	2018	2017	Interest 2019	2018	2017	Rate 2019	2018	2017
Deposits in domestic bank offices (1)									
Payable on demand									
Personal	**$ 9,939**	$ 10,216	$ 10,567	**$ 17**	$ 15	$ 13	**0.17 %**	0.15 %	0.12 %
Business and government	**43,539**	42,784	41,607	**585**	432	228	**1.34**	1.01	0.55
Bank	**4,517**	4,632	4,419	**3**	1	1	**0.07**	0.02	0.02
Payable after notice									
Personal	**99,859**	98,054	95,035	**855**	644	429	**0.86**	0.66	0.45
Business and government	**44,691**	38,621	34,510	**927**	606	332	**2.07**	1.57	0.96
Bank	**256**	415	359	**4**	6	4	**1.56**	1.45	1.11
Payable on a fixed date									
Personal	**51,522**	43,561	41,688	**1,040**	676	434	**2.02**	1.55	1.04
Business and government	**85,978**	76,674	72,260	**2,063**	1,442	1,040	**2.40**	1.88	1.44
Bank	**1,161**	1,625	1,681	**23**	27	12	**1.98**	1.66	0.71
Secured borrowings	**39,111**	43,085	38,642	**1,037**	952	613	**2.65**	2.21	1.59
Total domestic	**380,573**	359,667	340,768	**6,554**	4,801	3,106	**1.72**	1.33	0.91
Deposits in foreign bank offices									
Payable on demand									
Personal	**1,687**	1,693	1,120	**2**	1	1	**0.12**	0.06	0.09
Business and government	**15,687**	14,149	7,697	**70**	33	8	**0.45**	0.23	0.10
Bank	**13**	10	5	**–**	–	–	**–**	–	–
Payable after notice									
Personal	**6,909**	5,239	3,487	**82**	39	22	**1.19**	0.74	0.63
Business and government	**9,544**	7,740	2,857	**185**	96	18	**1.94**	1.24	0.63
Payable on a fixed date									
Personal	**3,164**	2,891	1,925	**58**	38	18	**1.83**	1.31	0.94
Business and government	**51,082**	55,997	54,381	**1,271**	1,088	656	**2.49**	1.94	1.21
Bank	**8,245**	8,049	11,897	**196**	144	124	**2.38**	1.79	1.04
Secured borrowings	**226**	–	–	**4**	–	–	**1.77**	–	–
Total foreign	**96,557**	95,768	83,369	**1,868**	1,439	847	**1.93**	1.50	1.02
Total deposits	**$ 477,130**	$ 455,435	$ 424,137	**$ 8,422**	$ 6,240	$ 3,953	**1.77 %**	1.37 %	0.93 %

(1) Deposits by foreign depositors in our domestic bank offices amounted to $29.3 billion (2018: $32.3 billion; 2017: $26.8 billion).

Short-term borrowings

$ millions, as at or for the year ended October 31	2019	2018	2017
Amounts outstanding at end of year			
Obligations related to securities sold short	**$ 15,635**	$ 13,782	$ 13,713
Obligations related to securities lent or sold under repurchase agreements	**53,623**	33,571	29,995
Total short-term borrowings	**$ 69,258**	$ 47,353	$ 43,708
Obligations related to securities sold short			
Average balance	**$ 16,501**	$ 15,300	$ 13,789
Maximum month-end balance	**18,448**	17,162	15,211
Average interest rate	**1.76 %**	1.78 %	1.64 %
Obligations related to securities lent or sold under repurchase agreements			
Average balance	**$ 51,408**	$ 41,063	$ 26,303
Maximum month-end balance	**57,346**	45,343	33,261
Average interest rate	**2.33 %**	1.79 %	0.97 %

Fees paid to the shareholders' auditor

$ millions, for the year ended October 31	2019	2018	2017
Audit fees (1)	**$ 22.3**	$ 26.0	$ 21.1
Audit-related fees (2)	**1.7**	2.5	2.6
Tax fees (3)	**1.9**	2.4	1.1
All other fees (4)	**0.1**	0.1	0.1
Total	**$ 26.0**	$ 31.0	$ 24.9

(1) For the audit of CIBC's annual financial statements and the audit of certain of its subsidiaries, as well as other services normally provided by the principal auditor in connection with CIBC's statutory and regulatory filings. Audit fees also include the audit of internal control over financial reporting under standards of the Public Company Accounting Oversight Board (United States).
(2) For the assurance and related services that are reasonably related to the performance of the audit or review of CIBC's financial statements, including accounting consultation, various agreed upon procedures and translation of financial reports.
(3) For tax compliance and advisory services.
(4) Includes fees for non-audit services.

Consolidated financial statements

95 Financial reporting responsibility
96 Independent auditor's report – Canadian generally accepted auditing standards
99 Report of independent registered public accounting firm – Standards of the Public Company Accounting Oversight Board (United States)
102 Report of independent registered public accounting firm – Internal control over financial reporting
103 Consolidated balance sheet
104 Consolidated statement of income
105 Consolidated statement of comprehensive income
106 Consolidated statement of changes in equity
107 Consolidated statement of cash flows
108 Notes to the consolidated financial statements

Details of the notes to the consolidated financial statements

108 Note 1 – Basis of preparation and summary of significant accounting policies
123 Note 2 – Fair value measurement
131 Note 3 – Significant transactions
133 Note 4 – Securities
136 Note 5 – Loans
143 Note 6 – Structured entities and derecognition of financial assets
146 Note 7 – Land, buildings and equipment
147 Note 8 – Goodwill, software and other intangible assets
149 Note 9 – Other assets
149 Note 10 – Deposits
149 Note 11 – Other liabilities
150 Note 12 – Derivative instruments
154 Note 13 – Designated accounting hedges
159 Note 14 – Subordinated indebtedness
159 Note 15 – Common and preferred share capital
163 Note 16 – Capital Trust securities
164 Note 17 – Share-based payments
166 Note 18 – Post-employment benefits
172 Note 19 – Income taxes
174 Note 20 – Earnings per share
175 Note 21 – Commitments, guarantees and pledged assets
177 Note 22 – Contingent liabilities and provisions
180 Note 23 – Concentration of credit risk
181 Note 24 – Related-party transactions
182 Note 25 – Investments in equity-accounted associates and joint ventures
183 Note 26 – Significant subsidiaries
184 Note 27 – Financial instruments – disclosures
185 Note 28 – Offsetting financial assets and liabilities
186 Note 29 – Interest income and expense
187 Note 30 – Segmented and geographic information
190 Note 31 – Future accounting policy changes

Financial reporting responsibility

Management of Canadian Imperial Bank of Commerce (CIBC) is responsible for the preparation, presentation, accuracy and reliability of the Annual Report, which includes the consolidated financial statements and management's discussion and analysis (MD&A). The consolidated financial statements have been prepared in accordance with Section 308(4) of the *Bank Act* (Canada), which requires that the financial statements be prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board. The MD&A has been prepared in accordance with the requirements of applicable securities laws.

The consolidated financial statements and MD&A contain items that reflect the best estimates and judgments of the expected effects of current events and transactions with appropriate consideration to materiality. Financial information appearing throughout the Annual Report is consistent with the consolidated financial statements.

Management has developed and maintains effective systems, controls and procedures to ensure that information used internally and disclosed externally is reliable and timely. CIBC's system of internal controls and supporting procedures are designed to provide reasonable assurance that transactions are authorized, assets are safeguarded and proper records are maintained. These internal controls and supporting procedures include the communication of policies and guidelines, the establishment of an organizational structure that provides appropriate and well-defined responsibilities and accountability, and the careful selection and training of qualified staff. Management has assessed the effectiveness of CIBC's internal control over financial reporting as at year-end using the Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based upon this assessment, we have determined that internal control over financial reporting is effective in all material respects and CIBC is in compliance with the requirements set by the U.S. Securities and Exchange Commission (SEC) under the U.S. Sarbanes-Oxley Act.

CIBC's Chief Executive Officer and Chief Financial Officer have certified CIBC's annual filings with the SEC under the U.S. Sarbanes-Oxley Act and with the Canadian Securities Administrators under Canadian securities laws.

The Internal Audit department reviews and reports on the effectiveness of CIBC's internal control, risk management and governance systems and processes, including accounting and financial controls, in accordance with the audit plan approved by the Audit Committee. Our Chief Auditor has unfettered access to the Audit Committee.

The Board of Directors oversees management's responsibilities for financial reporting through the Audit Committee, which is composed of independent directors. The Audit Committee reviews CIBC's interim and annual consolidated financial statements and MD&A and recommends them for approval by the Board of Directors. Other key responsibilities of the Audit Committee include monitoring CIBC's system of internal control, and reviewing the qualifications, independence and service quality of the shareholders' auditor and internal auditors.

Ernst & Young LLP, the shareholders' auditor, obtains an understanding of CIBC's internal controls and procedures for financial reporting to plan and conduct such tests and other audit procedures as they consider necessary in the circumstances to express their opinions in the reports that follow. Ernst & Young LLP has unrestricted access to the Audit Committee to discuss their audit and related matters.

The Office of the Superintendent of Financial Institutions (OSFI) Canada is mandated to protect the rights and interest of depositors and creditors of CIBC. Accordingly, OSFI examines and enquires into the business and affairs of CIBC, as deemed necessary, to ensure that the provisions of the *Bank Act* (Canada) are being complied with and that CIBC is in sound financial condition.

Victor G. Dodig
President and Chief Executive Officer

Hratch Panossian
Chief Financial Officer

December 4, 2019

Independent auditor's report

To the shareholders and directors of Canadian Imperial Bank of Commerce

Opinion

We have audited the consolidated financial statements of Canadian Imperial Bank of Commerce (CIBC), which comprise the consolidated balance sheets as at October 31, 2019 and 2018, and the consolidated statements of income, consolidated statements of comprehensive income, consolidated statements of changes in equity and the consolidated statements of cash flows for each of the years in the three-year period ended October 31, 2019, and notes to the consolidated financial statements, including a summary of significant accounting policies (collectively referred to as the "consolidated financial statements").

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of CIBC as at October 31, 2019 and 2018, and its consolidated financial performance and its consolidated cash flows for each of the years in the three-year period ended October 31, 2019 in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board.

Basis for opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements" section of our report. We are independent of CIBC in accordance with the ethical requirements that are relevant to our audit of the consolidated 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.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the year ended October 31, 2019. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the "Auditor's responsibilities for the audit of the consolidated financial statements" section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

Allowance for credit losses

Key audit matter

As more fully described in Note 1 and Note 5 to the consolidated financial statements, CIBC has used an expected credit loss (ECL) model to recognize $1,915 million in allowances for credit losses on its consolidated balance sheet. ECL allowances represent an unbiased and probability-weighted amount, which is determined by evaluating a range of possible outcomes and reasonable and supportable information about past events, current conditions and forecasts of future economic conditions. Forward-looking information (FLI), which involves significant judgment, is explicitly incorporated into the estimation of ECL allowances. ECL allowances are measured at amounts equal to either (i) 12-month ECL; or (ii) lifetime ECL for those financial instruments that have experienced a significant increase in credit risk (SICR) since initial recognition or when there is objective evidence of impairment.

Auditing the allowance for credit losses was complex and required the involvement of specialists due to the inherent complexity of the models, assumptions, judgments and the interrelationship of these variables in measuring the ECL. Significant assumptions and judgments with respect to the estimation of the allowance for credit losses include (i) the determination of when a loan has experienced a SICR; (ii) the forecast of FLI for multiple economic scenarios and the probability weighting of those scenarios; (iii) the calculation of both 12-month and lifetime credit losses; and (iv) the application of expert credit judgment. The allowance for credit losses is a significant estimate for which variations in model methodology, assumptions and judgments can have a material effect on the measurement of expected credit losses.

How our audit addressed the key audit matter

We obtained an understanding, evaluated the design and tested the operating effectiveness of management's controls, including those related to technology, over the allowance for credit losses. The controls we tested included, amongst others, controls over model development and validation, economic forecasting, data completeness and accuracy, and the governance and oversight controls over the review of the overall ECL, including the application of expert credit judgment.

To test the allowance for credit losses, amongst other procedures, we assessed, with the assistance of our credit risk specialists, whether the methodology and assumptions used in significant models that estimate ECL are consistent with the requirements of IFRS, CIBC's own historical data and industry standards. This included an assessment of the thresholds used to determine a SICR. For a sample of FLI variables, with the assistance of our economic specialists, we evaluated management's forecasting methodology and compared management's FLI to independently derived forecasts and publicly available information. We also evaluated the scenario probability weights used in the ECL models. On a sample basis, we independently recalculated the ECL. We assessed the application of management's expert credit judgment by evaluating that the amounts recorded were reflective of the credit quality and macroeconomic trends, among other factors. We tested the completeness and accuracy of data used in the measurement of the ECL. We also assessed the adequacy of the allowance for credit loss financial statement note disclosures.

Fair value measurement of derivatives

Key audit matter

As more fully described in Note 2 and Note 12 of the consolidated financial statements, CIBC has recognized $24 billion in derivative assets and $25 billion in derivative liabilities. The portfolio of derivative instruments is presented by level within the fair value hierarchy, with a majority of the portfolio classified as Level 2. While derivative instruments classified as Level 1 have quoted market prices, those classified as Level 2 and 3 require valuation techniques that use observable and non-observable market inputs, and involve the application of management judgment.

Auditing the valuation of certain derivatives was complex and required the application of significant auditor judgment, as well as involvement of valuation specialists for those derivatives where the fair value was determined based on complex models and/or where the fair value was calculated based on non-observable market inputs. The significant inputs and assumptions used to determine fair value, among other factors, included interest rates, foreign exchange rates, equity prices, commodity prices, correlations and volatilities. The valuation of derivatives is sensitive to these inputs as they are forward-looking and could be affected by future economic and market conditions.

How our audit addressed the key audit matter

We obtained an understanding, evaluated the design and tested the operating effectiveness of management's controls, including those related to technology, over the valuation of CIBC's derivatives portfolio. For example, we tested controls over the development and validation of models used to determine the fair value of derivatives, as well as controls over the independent price verification process, which includes a review of the significant inputs described above.

To test the valuation of these derivatives, our audit procedures included, among others, an evaluation of the methodologies and significant inputs used by CIBC. With the assistance of our valuation specialists, we performed an independent valuation for a sample of derivatives to assess the modelling assumptions and significant inputs used by CIBC to estimate the fair value. We independently obtained significant inputs and assumptions from external market data in performing our independent valuation. For a sample of models and with the assistance of our valuation specialists, we assessed the valuation methodologies used by CIBC to determine fair value. We also assessed the adequacy of the disclosures related to the fair value measurement of derivatives.

Measurement of uncertain tax provisions

Key audit matter

CIBC describes its significant accounting judgments, estimates and assumptions in relation to accounting for uncertainty in income taxes in Note 19 of the consolidated financial statements. CIBC operates in a tax environment with constantly evolving and complex tax legislation for financial institutions. Uncertainty in tax positions may arise as tax legislation is subject to interpretation. Estimating uncertain tax provisions requires management judgment to be applied in the interpretation of tax laws across the various jurisdictions in which CIBC operates. This includes judgment in the determination of whether it is probable that CIBC will have to make a payment to tax authorities relating to certain complex tax positions and, when probable, the measurement of such provision when recognized.

Auditing the recognition and measurement of CIBC's uncertain tax provisions required the involvement of our tax professionals and the application of judgment, including the interpretation of tax legislation and jurisprudence.

How our audit addressed the key audit matter

We obtained an understanding, evaluated the design, and tested the operating effectiveness of management's controls over the recognition and measurement of CIBC's uncertain tax provisions. This included controls over management's assessment of the technical merits of tax positions and the process related to the measurement of any related income tax provisions.

With the assistance of our tax professionals, our audit procedures included, among others, an assessment of the technical merits of income tax positions taken by CIBC and any related uncertain tax provisions recorded. Furthermore, we reviewed and evaluated correspondence from the relevant income tax authorities, income tax advice obtained by CIBC from external advisors, and CIBC's internal documentation with respect to uncertain tax positions. We evaluated the reasonability of CIBC's treatment of any new information received during the year relating to the amounts recorded. We evaluated the application of CIBC's accounting policy for income taxes and whether it had been applied consistently and is in accordance with IFRS and assessed the adequacy of income tax disclosures.

Other information

Management is responsible for the other information. The other information comprises:

- Management's discussion and analysis; and
- The information, other than the consolidated financial statements and our auditor's report thereon, in the Annual Report.

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

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

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, 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 consolidated financial statements

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

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

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

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

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

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of CIBC'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 CIBC's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause CIBC to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within CIBC to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

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

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

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

/s/ Ernst & Young LLP
Chartered Professional Accountants
Licensed Public Accountants
Toronto, Canada
December 4, 2019

Report of independent registered public accounting firm

To the shareholders and directors of Canadian Imperial Bank of Commerce

Opinion on the consolidated financial statements

We have audited the accompanying consolidated balance sheets of Canadian Imperial Bank of Commerce (CIBC) as of October 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended October 31, 2019, and the related notes (collectively referred to as the "consolidated financial statements").

In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of CIBC at October 31, 2019 and 2018, and its consolidated financial performance and its consolidated cash flows for each of the years in the three-year period ended October 31, 2019 in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board.

Adoption of IFRS 9

As discussed in Note 1 to the consolidated financial statements, CIBC changed its method of accounting for the classification and measurement of financial instruments in 2018 due to the adoption of IFRS 9 "Financial Instruments". Our opinion is not qualified with respect to this matter.

Report on internal control over financial reporting

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), CIBC's internal control over financial reporting as of October 31, 2019, based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated December 4, 2019 expressed an unqualified opinion thereon.

Basis for opinion

These consolidated financial statements are the responsibility of CIBC's management. Our responsibility is to express an opinion on CIBC's consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to CIBC in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical audit matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Allowance for credit losses

Description of the matter

As more fully described in Note 1 and Note 5 to the consolidated financial statements, CIBC has used an expected credit loss (ECL) model to recognize $1,915 million in allowances for credit losses on its consolidated balance sheet. ECL allowances represent an unbiased and probability-weighted amount, which is determined by evaluating a range of possible outcomes and reasonable and supportable information about past events, current conditions and forecasts of future economic conditions. Forward-looking information (FLI), which involves significant judgment, is explicitly incorporated into the estimation of ECL allowances. ECL allowances are measured at amounts equal to either (i) 12-month ECL; or (ii) lifetime ECL for those financial instruments that have experienced a significant increase in credit risk (SICR) since initial recognition or when there is objective evidence of impairment.

Auditing the allowance for credit losses was complex and required the involvement of specialists due to the inherent complexity of the models, assumptions, judgments and the interrelationship of these variables in measuring the ECL. Significant assumptions and judgments with respect to the estimation of the allowance for credit losses include (i) the determination of when a loan has experienced a SICR; (ii) the forecast of FLI for multiple economic scenarios and the probability weighting of those scenarios; (iii) the calculation of both 12-month and lifetime credit losses; and (iv) the application of expert credit judgment. The allowance for credit losses is a significant estimate for which variations in model methodology, assumptions and judgments can have a material effect on the measurement of expected credit losses.

How we addressed the matter in our audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of management's controls, including those related to technology, over the allowance for credit losses. The controls we tested included, amongst others, controls over model development and validation, economic forecasting, data completeness and accuracy, and the governance and oversight controls over the review of the overall ECL, including the application of expert credit judgment.

To test the allowance for credit losses, amongst other procedures, we assessed, with the assistance of our credit risk specialists, whether the methodology and assumptions used in significant models that estimate ECL are consistent with the requirements of IFRS, CIBC's own historical data and industry standards. This included an assessment of the thresholds used to determine a SICR. For a sample of FLI variables, with the assistance of our economic specialists, we evaluated management's forecasting methodology and compared management's FLI to independently derived forecasts and publicly available information. We also evaluated the scenario probability weights used in the ECL models. On a sample basis, we independently recalculated the ECL. We assessed the application of management's expert credit judgment by evaluating that the amounts recorded were reflective of the credit quality and macroeconomic trends, among other factors. We tested the completeness and accuracy of data used in the measurement of the ECL. We also assessed the adequacy of the allowance for credit loss financial statement note disclosures.

Fair value measurement of derivatives

Description of the matter

As more fully described in Note 2 and Note 12 of the consolidated financial statements, CIBC has recognized $24 billion in derivative assets and $25 billion in derivative liabilities. The portfolio of derivative instruments is presented by level within the fair value hierarchy, with a majority of the portfolio classified as Level 2. While derivative instruments classified as Level 1 have quoted market prices, those classified as Level 2 and 3 require valuation techniques that use observable and non-observable market inputs, and involve the application of management judgment.

Auditing the valuation of certain derivatives was complex and required the application of significant auditor judgment, as well as involvement of valuation specialists for those derivatives where the fair value was determined based on complex models and/or where the fair value was calculated based on non-observable market inputs. The significant inputs and assumptions used to determine fair value, among other factors, included interest rates, foreign exchange rates, equity prices, commodity prices, correlations and volatilities. The valuation of derivatives is sensitive to these inputs as they are forward-looking and could be affected by future economic and market conditions.

How we addressed the matter in our audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of management's controls, including those related to technology, over the valuation of CIBC's derivatives portfolio. For example, we tested controls over the development and validation of models used to determine the fair value of derivatives, as well as controls over the independent price verification process, which includes a review of the significant inputs described above.

To test the valuation of these derivatives, our audit procedures included, among others, an evaluation of the methodologies and significant inputs used by CIBC. With the assistance of our valuation specialists, we performed an independent valuation for a sample of derivatives to assess the modelling assumptions and significant inputs used by CIBC to estimate the fair value. We independently obtained significant inputs and assumptions from external market data in performing our independent valuation. For a sample of models and with the assistance of our valuation specialists, we assessed the valuation methodologies used by CIBC to determine fair value. We also assessed the adequacy of the disclosures related to the fair value measurement of derivatives.

Measurement of uncertain tax provisions

Description of the matter	CIBC describes its significant accounting judgments, estimates and assumptions in relation to accounting for uncertainty in income taxes in Note 19 of the consolidated financial statements. CIBC operates in a tax environment with constantly evolving and complex tax legislation for financial institutions. Uncertainty in tax positions may arise as tax legislation is subject to interpretation. Estimating uncertain tax provisions requires management judgment to be applied in the interpretation of tax laws across the various jurisdictions in which CIBC operates. This includes judgment in the determination of whether it is probable that CIBC will have to make a payment to tax authorities relating to certain complex tax positions and, when probable, the measurement of such provision when recognized. Auditing the recognition and measurement of CIBC's uncertain tax provisions required the involvement of our tax professionals and the application of judgment, including the interpretation of tax legislation and jurisprudence.
How we addressed the matter in our audit	We obtained an understanding, evaluated the design, and tested the operating effectiveness of management's controls over the recognition and measurement of CIBC's uncertain tax provisions. This included controls over management's assessment of the technical merits of tax positions and the process related to the measurement of any related income tax provisions. With the assistance of our tax professionals, our audit procedures included, among others, an assessment of the technical merits of income tax positions taken by CIBC and any related uncertain tax provisions recorded. Furthermore, we reviewed and evaluated correspondence from the relevant income tax authorities, income tax advice obtained by CIBC from external advisors, and CIBC's internal documentation with respect to uncertain tax positions. We evaluated the reasonability of CIBC's treatment of any new information received during the year relating to the amounts recorded. We evaluated the application of CIBC's accounting policy for income taxes and whether it had been applied consistently and is in accordance with IFRS and assessed the adequacy of income tax disclosures.

We have served as CIBC's auditor since 2002.

/s/ Ernst & Young LLP
Chartered Professional Accountants
Licensed Public Accountants
Toronto, Canada
December 4, 2019

Report of independent registered public accounting firm

To the shareholders and directors of Canadian Imperial Bank of Commerce

Opinion on internal control over financial reporting

We have audited Canadian Imperial Bank of Commerce's (CIBC) internal control over financial reporting as of October 31, 2019, based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, CIBC maintained, in all material respects, effective internal control over financial reporting as of October 31, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of CIBC as of October 31, 2019 and 2018, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended October 31, 2019, and the related notes and our report dated December 4, 2019 expressed an unqualified opinion thereon.

Basis for opinion

CIBC's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying "Management's annual report on internal control over financial reporting" section contained in the accompanying management's discussion and analysis. Our responsibility is to express an opinion on CIBC's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to CIBC in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and limitations of internal control over financial reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ Ernst & Young LLP
Chartered Professional Accountants
Licensed Public Accountants
Toronto, Canada
December 4, 2019

Consolidated balance sheet

Millions of Canadian dollars, as at October 31	2019	2018
ASSETS		
Cash and non-interest-bearing deposits with banks	**$ 3,840**	$ 4,380
Interest-bearing deposits with banks	**13,519**	13,311
Securities (Note 4)	**121,310**	101,664
Cash collateral on securities borrowed	**3,664**	5,488
Securities purchased under resale agreements	**56,111**	43,450
Loans (Note 5)		
Residential mortgages	**208,652**	207,749
Personal	**43,651**	43,058
Credit card	**12,755**	12,673
Business and government	**125,798**	109,555
Allowance for credit losses	**(1,915)**	(1,639)
	388,941	371,396
Other		
Derivative instruments (Note 12)	**23,895**	21,431
Customers' liability under acceptances	**9,167**	10,265
Land, buildings and equipment (Note 7)	**1,813**	1,795
Goodwill (Note 8)	**5,449**	5,564
Software and other intangible assets (Note 8)	**1,969**	1,945
Investments in equity-accounted associates and joint ventures (Note 25)	**586**	526
Deferred tax assets (Note 19)	**517**	601
Other assets (Note 9)	**20,823**	15,283
	64,219	57,410
	$ 651,604	$ 597,099
LIABILITIES AND EQUITY		
Deposits (Note 10)		
Personal	**$ 178,091**	$ 163,879
Business and government	**257,502**	240,149
Bank	**11,224**	14,380
Secured borrowings	**38,895**	42,607
	485,712	461,015
Obligations related to securities sold short	**15,635**	13,782
Cash collateral on securities lent	**1,822**	2,731
Obligations related to securities sold under repurchase agreements	**51,801**	30,840
Other		
Derivative instruments (Note 12)	**25,113**	20,973
Acceptances	**9,188**	10,296
Deferred tax liabilities (Note 19)	**38**	43
Other liabilities (Note 11)	**19,031**	18,223
	53,370	49,535
Subordinated indebtedness (Note 14)	**4,684**	4,080
Equity		
Preferred shares (Note 15)	**2,825**	2,250
Common shares (Note 15)	**13,591**	13,243
Contributed surplus	**125**	136
Retained earnings	**20,972**	18,537
Accumulated other comprehensive income (AOCI)	**881**	777
Total shareholders' equity	**38,394**	34,943
Non-controlling interests	**186**	173
Total equity	**38,580**	35,116
	$ 651,604	$ 597,099

The accompanying notes and shaded sections in "MD&A – Management of risk" are an integral part of these consolidated financial statements.

Victor G. Dodig
President and Chief Executive Officer

Nicholas D. Le Pan
Director

Consolidated statement of income

Millions of Canadian dollars, except as noted, for the year ended October 31	**2019**	2018	2017
Interest income[1]			
Loans	**$ 16,048**	$ 13,901	$ 11,028
Securities	**2,779**	2,269	1,890
Securities borrowed or purchased under resale agreements	**1,474**	1,053	495
Deposits with banks	**396**	282	180
	20,697	17,505	13,593
Interest expense			
Deposits	**8,422**	6,240	3,953
Securities sold short	**291**	272	226
Securities lent or sold under repurchase agreements	**1,198**	736	254
Subordinated indebtedness	**198**	174	142
Other	**37**	18	41
	10,146	7,440	4,616
Net interest income	**10,551**	10,065	8,977
Non-interest income			
Underwriting and advisory fees	**475**	420	452
Deposit and payment fees	**908**	877	843
Credit fees	**958**	851	744
Card fees	**458**	510	463
Investment management and custodial fees	**1,305**	1,247	1,034
Mutual fund fees	**1,595**	1,624	1,573
Insurance fees, net of claims	**430**	431	427
Commissions on securities transactions	**313**	357	349
Gains (losses) from financial instruments measured/designated at fair value through profit or loss (FVTPL), net (2017: Trading income (loss) and designated at fair value (FVO) gains (losses), net)	**761**	603	227
Gains (losses) from debt securities measured at fair value through other comprehensive income (FVOCI) and amortized cost, net (2017: Available-for-sale (AFS) debt and equity securities gains, net) (Note 4)	**34**	(35)	143
Foreign exchange other than trading (FXOTT)	**304**	310	252
Income from equity-accounted associates and joint ventures (Note 25)	**92**	121	101
Other	**427**	453	695
	8,060	7,769	7,303
Total revenue	**18,611**	17,834	16,280
Provision for credit losses (Note 5)	**1,286**	870	829
Non-interest expenses			
Employee compensation and benefits	**5,726**	5,665	5,198
Occupancy costs	**892**	875	822
Computer, software and office equipment	**1,874**	1,742	1,630
Communications	**303**	315	317
Advertising and business development	**359**	327	282
Professional fees	**226**	226	229
Business and capital taxes	**110**	103	96
Other (Notes 3 and 8)	**1,366**	1,005	997
	10,856	10,258	9,571
Income before income taxes	**6,469**	6,706	5,880
Income taxes (Note 19)	**1,348**	1,422	1,162
Net income	**$ 5,121**	$ 5,284	$ 4,718
Net income attributable to non-controlling interests	**$ 25**	$ 17	$ 19
Preferred shareholders	**$ 111**	$ 89	$ 52
Common shareholders	**4,985**	5,178	4,647
Net income attributable to equity shareholders	**$ 5,096**	$ 5,267	$ 4,699
Earnings per share (EPS) (in dollars) (Note 20)			
Basic	**$ 11.22**	$ 11.69	$ 11.26
Diluted	**11.19**	11.65	11.24
Dividends per common share (in dollars) (Note 15)	**5.60**	5.32	5.08

(1) Interest income included $18.8 billion for the year ended October 31, 2019 (2018: $16.0 billion) calculated based on the effective interest rate method.

The accompanying notes and shaded sections in "MD&A – Management of risk" are an integral part of these consolidated financial statements.

Consolidated statement of comprehensive income

Millions of Canadian dollars, for the year ended October 31	**2019**	2018	2017
Net income	**$ 5,121**	$ 5,284	$ 4,718
Other comprehensive income (OCI), net of income tax, that is subject to subsequent reclassification to net income			
Net foreign currency translation adjustments			
Net gains (losses) on investments in foreign operations	**(21)**	635	(1,148)
Net gains (losses) on hedges of investments in foreign operations	**(10)**	(349)	772
	(31)	286	(376)
Net change in debt securities measured at FVOCI (2017: AFS debt and equity securities)			
Net gains (losses) on securities measured at FVOCI	**244**	(142)	6
Net (gains) losses reclassified to net income	**(28)**	(29)	(107)
	216	(171)	(101)
Net change in cash flow hedges			
Net gains (losses) on derivatives designated as cash flow hedges	**137**	(25)	70
Net (gains) losses reclassified to net income	**(6)**	(26)	(60)
	131	(51)	10
OCI, net of income tax, that is not subject to subsequent reclassification to net income			
Net gains (losses) on post-employment defined benefit plans	**(220)**	226	139
Net gains (losses) due to fair value change of FVO liabilities attributable to changes in credit risk	**28**	(2)	(10)
Net gains (losses) on equity securities designated at FVOCI	**(2)**	29	n/a
Total OCI (1)	**122**	317	(338)
Comprehensive income	**$ 5,243**	$ 5,601	$ 4,380
Comprehensive income attributable to non-controlling interests	**$ 25**	$ 17	$ 19
Preferred shareholders	**$ 111**	$ 89	$ 52
Common shareholders	**5,107**	5,495	4,309
Comprehensive income attributable to equity shareholders	**$ 5,218**	$ 5,584	$ 4,361

(1) Includes $44 million of gains for 2019 (2018: $19 million of losses; 2017: $24 million of losses) relating to our investments in equity-accounted associates and joint ventures.
n/a Not applicable.

Millions of Canadian dollars, for the year ended October 31	**2019**	2018	2017
Income tax (expense) benefit allocated to each component of OCI			
Subject to subsequent reclassification to net income			
Net foreign currency translation adjustments			
Net gains (losses) on investments in foreign operations	**$ –**	$ (31)	$ 42
Net gains (losses) on hedges of investments in foreign operations	**(16)**	43	(170)
	(16)	12	(128)
Net change in debt securities measured at FVOCI (2017: AFS debt and equity securities)			
Net gains (losses) on securities measured at FVOCI	**(36)**	18	(23)
Net (gains) losses reclassified to net income	**10**	8	36
	(26)	26	13
Net change in cash flow hedges			
Net gains (losses) on derivatives designated as cash flow hedges	**(49)**	8	(23)
Net (gains) losses reclassified to net income	**2**	9	22
	(47)	17	(1)
Not subject to subsequent reclassification to net income			
Net gains (losses) on post-employment defined benefit plans	**77**	(87)	(54)
Net gains (losses) due to fair value change of FVO liabilities attributable to changes in credit risk	**(10)**	1	4
Net gains (losses) on equity securities designated at FVOCI	**–**	(11)	n/a
	$ (22)	$ (42)	$ (166)

n/a Not applicable.

The accompanying notes and shaded sections in "MD&A – Management of risk" are an integral part of these consolidated financial statements.

Consolidated statement of changes in equity

Millions of Canadian dollars, for the year ended October 31		2019		2018		2017
Preferred shares (Note 15)						
Balance at beginning of year	$	**2,250**	$	1,797	$	1,000
Issue of preferred shares		**575**		450		800
Treasury shares		**–**		3		(3)
Balance at end of year	$	**2,825**	$	2,250	$	1,797
Common shares (Note 15)						
Balance at beginning of year	$	**13,243**	$	12,548	$	8,026
Issued pursuant to the acquisition of The PrivateBank		**–**		194		3,443
Issued pursuant to the acquisition of Geneva Advisors		**–**		–		126
Issued pursuant to the acquisition of Wellington Financial		**–**		47		–
Other issue of common shares		**377**		555		957
Purchase of common shares for cancellation		**(30)**		(104)		–
Treasury shares		**1**		3		(4)
Balance at end of year	$	**13,591**	$	13,243	$	12,548
Contributed surplus						
Balance at beginning of year	$	**136**	$	137	$	72
Issue of replacement equity-settled awards pursuant to the acquisition of The PrivateBank		**–**		–		72
Compensation expense arising from equity-settled share-based awards		**16**		31		7
Exercise of stock options and settlement of other equity-settled share-based awards		**(27)**		(32)		(15)
Other		**–**		–		1
Balance at end of year	$	**125**	$	136	$	137
Retained earnings						
Balance at beginning of year	$	**18,537**	$	16,101	$	13,584
Impact of adopting IFRS 9 at November 1, 2017		**n/a**		(144)		n/a
Impact of adopting IFRS 15 at November 1, 2018		**6**		n/a		n/a
Balance at beginning of year		**18,543**		15,957		n/a
Net income attributable to equity shareholders		**5,096**		5,267		4,699
Dividends (Note 15)						
Preferred		**(111)**		(89)		(52)
Common		**(2,488)**		(2,356)		(2,121)
Premium on purchase of common shares for cancellation		**(79)**		(313)		–
Realized gains (losses) on equity securities designated at FVOCI reclassified from AOCI		**18**		49		n/a
Other [(1)]		**(7)**		22		(9)
Balance at end of year	$	**20,972**	$	18,537	$	16,101
AOCI, net of income tax						
AOCI, net of income tax, that is subject to subsequent reclassification to net income						
Net foreign currency translation adjustments						
Balance at beginning of year	$	**1,024**	$	738	$	1,114
Net change in foreign currency translation adjustments		**(31)**		286		(376)
Balance at end of year	$	**993**	$	1,024	$	738
Net gains (losses) on debt securities measured at FVOCI (2017: AFS debt and equity securities)						
Balance at beginning of year under IAS 39		**n/a**	$	60	$	161
Impact of adopting IFRS 9 at November 1, 2017		**n/a**		(28)		n/a
Balance at beginning of year under IFRS 9	$	**(139)**		32		n/a
Net change in securities measured at FVOCI		**216**		(171)		(101)
Balance at end of year	$	**77**	$	(139)	$	60
Net gains (losses) on cash flow hedges						
Balance at beginning of year	$	**(18)**	$	33	$	23
Net change in cash flow hedges		**131**		(51)		10
Balance at end of year	$	**113**	$	(18)	$	33
AOCI, net of income tax, that is not subject to subsequent reclassification to net income						
Net gains (losses) on post-employment defined benefit plans						
Balance at beginning of year	$	**(143)**	$	(369)	$	(508)
Net change in post-employment defined benefit plans		**(220)**		226		139
Balance at end of year	$	**(363)**	$	(143)	$	(369)
Net gains (losses) due to fair value change of FVO liabilities attributable to changes in credit risk						
Balance at beginning of year	$	**(12)**	$	(10)	$	–
Net change attributable to changes in credit risk		**28**		(2)		(10)
Balance at end of year	$	**16**	$	(12)	$	(10)
Net gains (losses) on equity securities designated at FVOCI						
Impact of adopting IFRS 9 at November 1, 2017		**n/a**	$	85		n/a
Balance at beginning of year under IFRS 9		**65**		85		n/a
Net gains (losses) on equity securities designated at FVOCI	$	**(2)**		29		n/a
Realized gains (losses) on equity securities designated at FVOCI reclassified to retained earnings [(2)]		**(18)**		(49)		n/a
Balance at end of year	$	**45**	$	65		n/a
Total AOCI, net of income tax	$	**881**	$	777	$	452
Non-controlling interests						
Balance at beginning of year under IAS 39		**n/a**	$	202	$	201
Impact of adopting IFRS 9 at November 1, 2017		**n/a**		(4)		n/a
Balance at beginning of year under IFRS 9	$	**173**		198		n/a
Net income attributable to non-controlling interests		**25**		17		19
Dividends		**(11)**		(31)		(8)
Other		**(1)**		(11)		(10)
Balance at end of year	$	**186**	$	173	$	202
Equity at end of year	$	**38,580**	$	35,116	$	31,237

(1) In 2018, includes the recognition of loss carryforwards relating to foreign exchange translation amounts on CIBC's net investment in foreign operations that were previously reclassified to retained earnings as part of our transition to IFRS in 2012.
(2) Includes nil reclassified to retained earnings (2018: $11 million; 2017: n/a), relating to our investments in equity-accounted associates and joint ventures.
n/a Not applicable.

The accompanying notes and shaded sections in "MD&A – Management of risk" are an integral part of these consolidated financial statements.

Consolidated statement of cash flows

Millions of Canadian dollars, for the year ended October 31	2019	2018	2017
Cash flows provided by (used in) operating activities			
Net income	**$ 5,121**	$ 5,284	$ 4,718
Adjustments to reconcile net income to cash flows provided by (used in) operating activities:			
Provision for credit losses	**1,286**	870	829
Amortization and impairment (1)	**838**	657	542
Stock options and restricted shares expense	**16**	31	7
Deferred income taxes	**108**	69	21
Losses (gains) from debt securities measured at FVOCI and amortized cost (2017: AFS debt and equity securities (gains), net)	**(34)**	35	(143)
Net losses (gains) on disposal of land, buildings and equipment	**(7)**	(14)	(305)
Other non-cash items, net	**(229)**	(292)	(15)
Net changes in operating assets and liabilities			
Interest-bearing deposits with banks	**(208)**	(2,599)	394
Loans, net of repayments	**(17,653)**	(16,155)	(30,547)
Deposits, net of withdrawals	**19,838**	20,770	18,407
Obligations related to securities sold short	**1,853**	69	3,375
Accrued interest receivable	**(122)**	(341)	(34)
Accrued interest payable	**138**	205	90
Derivative assets	**(2,484)**	2,780	3,588
Derivative liabilities	**4,037**	(2,084)	(5,549)
Securities measured at FVTPL (2017: Trading and FVO securities)	**(1,826)**	(647)	(657)
Other assets and liabilities designated at fair value (2017: Other FVO assets and liabilities)	**1,222**	(380)	1,071
Current income taxes	**(309)**	(301)	(1,063)
Cash collateral on securities lent	**(909)**	707	(494)
Obligations related to securities sold under repurchase agreements	**20,961**	2,869	16,277
Cash collateral on securities borrowed	**1,824**	(453)	398
Securities purchased under resale agreements	**(10,785)**	(1,195)	(10,556)
Other, net	**(4,041)**	(18)	2,103
	18,635	9,867	2,457
Cash flows provided by (used in) financing activities			
Issue of subordinated indebtedness	**1,500**	1,534	–
Redemption/repurchase/maturity of subordinated indebtedness	**(1,001)**	(638)	(55)
Issue of preferred shares, net of issuance cost	**568**	445	792
Issue of common shares for cash	**157**	186	194
Purchase of common shares for cancellation	**(109)**	(417)	–
Net sale (purchase) of treasury shares	**1**	6	(7)
Dividends paid	**(2,406)**	(2,109)	(1,425)
	(1,290)	(993)	(501)
Cash flows provided by (used in) investing activities			
Purchase of securities measured/designated at FVOCI and amortized cost (2017: Purchase of AFS securities)	**(42,304)**	(33,011)	(37,864)
Proceeds from sale of securities measured/designated at FVOCI and amortized cost (2017: Proceeds from sale of AFS securities)	**13,764**	12,992	18,787
Proceeds from maturity of debt securities measured at FVOCI and amortized cost (2017: Proceeds from maturity of AFS securities)	**10,948**	12,402	19,368
Cash used in acquisitions, net of cash acquired	**(25)**	(315)	(2,517)
Net cash provided by dispositions of investments in equity-accounted associates and joint ventures	**-**	200	60
Net sale (purchase) of land, buildings and equipment	**(272)**	(255)	201
	(17,889)	(7,987)	(1,965)
Effect of exchange rate changes on cash and non-interest-bearing deposits with banks	**4**	53	(51)
Net increase (decrease) in cash and non-interest-bearing deposits with banks during year	**(540)**	940	(60)
Cash and non-interest-bearing deposits with banks at beginning of year	**4,380**	3,440	3,500
Cash and non-interest-bearing deposits with banks at end of year (2)	**$ 3,840**	$ 4,380	$ 3,440
Cash interest paid	**$ 10,008**	$ 7,235	$ 4,526
Cash interest received	**19,840**	16,440	12,611
Cash dividends received	**735**	724	949
Cash income taxes paid	**1,549**	1,654	2,204

(1) Comprises amortization and impairment of buildings, furniture, equipment, leasehold improvements, goodwill, software and other intangible assets.
(2) Includes restricted balance of $479 million (2018: $438 million; 2017: $436 million).

The accompanying notes and shaded sections in "MD&A – Management of risk" are an integral part of these consolidated financial statements.

Notes to the consolidated financial statements

Canadian Imperial Bank of Commerce (CIBC) is a diversified financial institution governed by the *Bank Act* (Canada). CIBC was formed through the amalgamation of the Canadian Bank of Commerce and Imperial Bank of Canada in 1961. Through our four strategic business units (SBUs) – Canadian Personal and Small Business Banking, Canadian Commercial Banking and Wealth Management, U.S. Commercial Banking and Wealth Management, and Capital Markets – CIBC provides a full range of financial products and services to 10 million personal banking, business, public sector and institutional clients in Canada, the U.S. and around the world. Refer to Note 30 for further details on our business units. CIBC is incorporated and domiciled in Canada, with our registered and principal business offices located at Commerce Court, Toronto, Ontario.

Note 1 | Basis of preparation and summary of significant accounting policies

Basis of preparation

The consolidated financial statements of CIBC have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). These consolidated financial statements also comply with Section 308(4) of the *Bank Act* (Canada) and the requirements of the Office of the Superintendent of Financial Institutions (OSFI).

CIBC has consistently applied the same accounting policies throughout all periods presented, except for the adoption of IFRS 9 "Financial Instruments" effective November 1, 2017 and the adoption of IFRS 15 "Revenue from Contracts with Customers" effective November 1, 2018, both of which were adopted without restatement of comparative periods as discussed below under the sections titled "Accounting for financial instruments" and "Fee and commission income".

These consolidated financial statements are presented in millions of Canadian dollars, unless otherwise indicated.

These consolidated financial statements were authorized for issue by the Board of Directors (the Board) on December 4, 2019.

Summary of significant accounting policies

The following paragraphs describe our significant accounting policies.

Use of estimates and assumptions

The preparation of the consolidated financial statements in accordance with IFRS requires management to make estimates and assumptions that affect the recognized and measured amounts of assets, liabilities, net income, comprehensive income and related disclosures. Significant estimates and assumptions are made in the areas of the valuation of financial instruments, allowance for credit losses, the evaluation of whether to consolidate structured entities (SEs), asset impairment, income taxes, provisions and contingent liabilities, post-employment and other long-term benefit plan assumptions and valuation of self-managed loyalty points programs. Actual results could differ from these estimates and assumptions.

Basis of consolidation

We consolidate entities over which we have control. We have control over another entity when we have: (i) power to direct relevant activities of the entity; (ii) exposure, or rights, to variable returns from our involvement with the entity; and (iii) the ability to affect those returns through our power over the entity.

Subsidiaries

Subsidiaries are entities over which CIBC has control. Generally, CIBC has control of its subsidiaries through a shareholding of more than 50% of the voting rights, and has significant exposure to the subsidiaries based on its ownership interests of more than 50%. The effects of potential voting rights that CIBC has the practical ability to exercise are considered when assessing whether control exists. Subsidiaries are consolidated from the date control is obtained by CIBC and are deconsolidated from the date control is lost. Consistent accounting policies are applied for all consolidated subsidiaries. Details of our significant subsidiaries are provided in Note 26.

Structured entities

An SE is an entity that has been 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 to administrative tasks only and the significant relevant activities are directed by contractual arrangements. SEs often have some or all of the following features or attributes: (i) restricted activities; (ii) a narrow and well-defined objective, such as to securitize our own financial assets or third-party financial assets to provide sources of funding or to provide investment opportunities for investors by passing on risks and rewards associated with the assets of the SE to investors; (iii) insufficient equity to permit the SE to finance its activities without subordinated financial support; or (iv) financing in the form of multiple contractually linked instruments to investors that create concentrations of credit or other risks. Examples of SEs include securitization vehicles, asset-backed financings, and investment funds.

When voting rights are not relevant in deciding whether CIBC has power over an entity, particularly for complex SEs, the assessment of control considers all facts and circumstances, including the purpose and design of the investee, its relationship with other parties and each party's ability to make decisions over significant activities, and whether CIBC is acting as a principal or as an agent.

Consolidation conclusions are reassessed whenever there is a change in the specific facts and circumstances relevant to one or more of the three elements of control. Factors that trigger the reassessment include, but are not limited to, significant changes in ownership structure of the entities, changes in contractual or governance arrangements, provision of a liquidity facility beyond the original terms, transactions with the entities that were not contemplated originally and changes in the financing structure of the entities.

Transactions eliminated on consolidation

All intercompany transactions, balances and unrealized gains and losses on transactions are eliminated on consolidation.

Non-controlling interests

Non-controlling interests are presented on the consolidated balance sheet as a separate component of equity that is distinct from CIBC's shareholders' equity. The net income attributable to non-controlling interests is presented separately in the consolidated statement of income.

Associates and joint ventures

We classify investments in entities over which we have significant influence, and that are neither subsidiaries nor joint ventures, as associates. Significant influence is presumed to exist where we hold, either directly or indirectly, between 20% and 50% of the voting rights of an entity, or, in the case of a limited partnership, where CIBC is a co-general partner. Significant influence also may exist where we hold less than 20% of the voting rights of an entity, for example if we have influence over policy-making processes through representation on the entity's Board of Directors, or by other means. Where we are a party to a contractual arrangement whereby, together with one or more parties, we undertake an economic activity that is subject to joint control, we classify our interest in the venture as a joint venture.

Investments in associates and interests in joint ventures are accounted for using the equity method. Under the equity method, such investments are initially measured at cost, including attributable goodwill and intangible assets, and are adjusted thereafter for the post-acquisition change in our share of the net assets of the investment.

In applying the equity method for an investment that has a different reporting period from that of CIBC, adjustments are made for the effects of any significant events or transactions that occur between the reporting date of the investment and CIBC's reporting date.

Foreign currency translation

Monetary assets and liabilities and non-monetary assets and liabilities measured at fair value that are denominated in foreign currencies are translated into the functional currencies of operations at prevailing exchange rates at the date of the consolidated balance sheet. Revenue and expenses are translated using average monthly exchange rates. Realized and unrealized gains and losses arising from translation into functional currencies are included in the consolidated statement of income, with the exception of unrealized foreign exchange gains and losses on FVOCI equity securities, which are included in AOCI.

Assets and liabilities of foreign operations with a functional currency other than the Canadian dollar, including goodwill and fair value adjustments arising on acquisition, are translated into Canadian dollars at the exchange rates prevailing as at the consolidated balance sheet date, while revenue and expenses of these foreign operations are translated into Canadian dollars at the average monthly exchange rates. Exchange gains and losses arising from the translation of these foreign operations and from the results of hedging the net investment in these foreign operations, net of applicable taxes, are included in Net foreign currency translation adjustments, in AOCI.

Any accumulated exchange gains and losses, including the impact of hedging, and any applicable taxes in AOCI are reclassified into the consolidated statement of income when there is a disposal of a foreign operation, including a partial disposal of a foreign operation that involves the loss of control. On partial disposal of a foreign operation that does not involve the loss of control, the proportionate share of the accumulated exchange gains and losses, including the impact of hedging, and any applicable taxes previously recognized in AOCI are reclassified into the consolidated statement of income.

Accounting for financial instruments

CIBC adopted IFRS 9 "Financial Instruments" (IFRS 9) in place of IAS 39 "Financial Instruments: Recognition and Measurement" (IAS 39) as of November 1, 2017 to comply with OSFI's advisory that requires that domestic systemically important banks (D-SIBs) adopt IFRS 9 for their annual periods beginning on November 1, 2017, one year earlier than required by the IASB. We applied IFRS 9 on a retrospective basis. As permitted, we did not restate our prior period comparative consolidated financial statements. Amounts reported relating to the year ended October 31, 2017 are reported under IAS 39 and are therefore not comparable to the information presented for 2018 or 2019.

The adoption of IFRS 9 in the first quarter of 2018 resulted in changes in accounting policy in two principal areas, classification and measurement and impairment, as described in more detail below. We had previously early adopted the "own credit" provisions of IFRS 9 as of November 1, 2014 and we have elected, as a policy choice permitted under IFRS 9, to continue to apply the hedge accounting requirements of IAS 39.

Classification and measurement of financial instruments under IAS 39

CIBC recognizes financial instruments on its consolidated balance sheet when it becomes a party to the contractual provisions of the instrument.

Under IAS 39, all financial assets were classified at initial recognition as trading, AFS, fair value option (FVO), held-to-maturity (HTM), or loans and receivables, based on the purpose for which the instrument was acquired and its characteristics. All financial assets and derivatives were required to be measured at fair value with the exception of loans and receivables, debt securities classified as HTM, and AFS equity instruments whose fair value could not be reliably measured. Reclassification of non-derivative financial assets out of trading to loans and receivables was allowed when they were no longer held for trading, and if they met the definition of loans and receivables and we had the intention and ability to hold the financial assets for the foreseeable future or until maturity. Reclassification of non-derivative financial assets out of trading to AFS was also allowed under rare circumstances. Non-derivative financial assets could be reclassified out of AFS to loans and receivables if they met the definition of loans and receivables and we had the intention and ability to hold the financial assets for the foreseeable future or until maturity, or reclassified out of AFS to HTM if we had the intention to hold the financial assets until maturity.

Financial liabilities, other than derivatives, obligations related to securities sold short and FVO liabilities, were measured at amortized cost. Derivatives, obligations related to securities sold short and FVO liabilities were measured at fair value. Interest expense was recognized on an accrual basis using the effective interest rate method.

Loans and receivables

Under IAS 39, loans and receivables were defined as non-derivative financial assets with fixed or determinable payments that did not have a quoted market price in an active market and for which we did not intend to sell immediately or in the near term at the time of inception. Loans and receivables were recognized initially at fair value, which represents the cash advanced to the borrower plus direct and incremental transaction costs. Subsequently, they were measured at amortized cost, using the effective interest rate method, net of an allowance for credit losses. Interest income was recognized on an accrual basis using the effective interest rate method. Certain loans and receivables could be designated at fair value (see below).

Trading financial instruments

Under IAS 39, trading financial instruments were defined as assets and liabilities that were held for trading activities or that were part of a managed portfolio with a pattern of short-term profit-taking. These were measured initially at fair value. Loans and receivables that we intended to sell immediately or in the near term were classified as trading financial instruments.

Trading financial instruments were remeasured at fair value as at the consolidated balance sheet date. Gains and losses realized on disposition and unrealized gains and losses from changes in fair value were included in Non-interest income as Trading income (loss), except to the extent they were economically hedging an FVO asset or liability, in which case the gains and losses were included in FVO gains (losses), net. Dividends and interest income earned on trading securities and dividends and interest expense incurred on securities sold short were included in Interest income and Interest expense, respectively.

AFS financial assets

Under IAS 39, AFS financial assets were defined as non-derivative financial assets that were not classified as trading, FVO or loans and receivables, and were measured initially at fair value, plus direct and incremental transaction costs. Only equity instruments whose fair value could not be reliably measured were measured at cost. We determined that all of our equity securities had reliable fair values. As a result, all AFS financial assets were remeasured at FVOCI subsequent to initial recognition, except that foreign exchange gains or losses on AFS debt instruments were recognized in the consolidated statement of income. Unrealized foreign exchange gains or losses on AFS equity securities, along with all other fair value changes, were recognized in OCI until the investment was sold or impaired, whereupon the cumulative gains and losses previously recognized in OCI were transferred from AOCI to the consolidated statement of income. Realized gains and losses on sale, determined on an average cost basis, and write-downs to reflect impairment were included in AFS securities gains (losses), net. Dividends and interest income from AFS financial assets were included in Interest income.

Designated at fair value financial instruments

Under IAS 39, FVO financial instruments were defined as those that we designated on initial recognition as instruments that we would measure at fair value through the consolidated statement of income. This designation, once made, was irrevocable. In addition to the requirement that reliable fair values were available, there were restrictions imposed by IFRS and by OSFI on the use of this designation. The criteria for applying the FVO at inception were met when: (i) the application of the FVO eliminated or significantly reduced the measurement inconsistency that otherwise would arise from measuring assets or liabilities on a different basis; or (ii) the financial instruments were part of a portfolio which was managed on a fair value basis, in accordance with our investment strategy, and were reported internally on that basis. FVO could also be applied to financial instruments that had one or more embedded derivatives that would otherwise require bifurcation as they significantly modified the cash flows of the contract.

Gains and losses realized on dispositions and unrealized gains and losses from changes in fair value of FVO financial instruments, and gains and losses arising from changes in fair value of derivatives, trading securities and obligations related to securities sold short that were managed as economic hedges of the FVO financial instruments, were included in FVO gains (losses), net. Dividends and interest earned and interest expense incurred on FVO assets and liabilities were included in Interest income and Interest expense, respectively. Changes in the fair value of FVO liabilities that were attributable to changes in own credit risk were recognized in OCI.

Classification and measurement of financial instruments under IFRS 9

Under IFRS 9, all financial assets must be classified at initial recognition as financial instruments mandatorily measured at FVTPL (trading and non-trading), financial instruments measured at amortized cost, debt financial instruments measured at FVOCI, equity financial instruments designated at FVOCI, or financial instruments designated at FVTPL, based on the contractual cash flow characteristics of the financial assets and the business model under which the financial assets are managed. All financial assets and derivatives are required to be measured at fair value with the exception of financial assets measured at amortized cost. Financial assets are required to be reclassified when and only when the business model under which they are managed has changed. All reclassifications are to be applied prospectively from the reclassification date.

The IFRS 9 classification and measurement model requires that all debt instrument financial assets that do not meet a “solely payment of principal and interest” (SPPI) test, including those that contain embedded derivatives, be classified at initial recognition as FVTPL. The SPPI test is conducted to identify whether the contractual cash flows of a financial instrument are “solely payments of principal and interest” such that any variability in the contractual cash flows is consistent with a “basic lending arrangement”. “Principal” for the purpose of this test is defined as the fair value of the financial asset at initial recognition and may change over the life of the financial asset, for example, due to repayments of principal or amortization of the premium/discount. “Interest” for the purpose of this test is defined as the consideration for the time value of money and credit risk, which are the most significant elements of interest within a lending arrangement. Contractual terms that introduce a more than de minimis exposure to risks or volatility in the contractual cash flows that are unrelated to a basic lending arrangement do not give rise to contractual cash flows that are solely payments of principal and interest on the amount outstanding. The intent of the SPPI test is to ensure that debt instruments that contain non-basic lending features, such as conversion options and equity-linked payouts, are measured at FVTPL.

For debt instrument financial assets that meet the SPPI test, classification at initial recognition is determined based on the business model under which these instruments are managed. Debt instruments that are managed on a “held for trading” or “fair value” basis are classified as FVTPL. Debt instruments that are managed on a “hold to collect and for sale” basis are classified as FVOCI for debt. Debt instruments that are managed on a “hold to collect” basis are classified as amortized cost. We consider the following in our determination of the applicable business model for financial assets:

I) The business purpose of the portfolio;
II) The risks that are being managed and the type of business activities that are being carried out on a day-to-day basis to manage the risks;
III) The basis on which performance of the portfolio is being evaluated; and
IV) The frequency and significance of sales activity.

All equity instrument financial assets are classified at initial recognition as FVTPL unless they are not held with the intent for short-term profit-taking and an irrevocable designation is made to classify the instrument as FVOCI for equities.

The classification and measurement of financial liabilities remain essentially unchanged from the IAS 39 requirements, except that changes in the fair value of liabilities designated at FVTPL using the FVO which are attributable to changes in own credit risk are presented in OCI, rather than profit or loss. We early adopted the “own credit” provisions of IFRS 9 as of November 1, 2014.

Derivatives continue to be measured at FVTPL under IFRS 9, except to the extent that they are designated in a hedging relationship, in which case the IAS 39 hedge accounting requirements continue to apply.

Financial instruments mandatorily measured at FVTPL (trading and non-trading)

Under IFRS 9, trading financial instruments are mandatorily measured at FVTPL as they are held for trading purposes or are part of a managed portfolio with a pattern of short-term profit-taking. Non-trading financial assets are also mandatorily measured at fair value if their contractual cash flow characteristics do not meet the SPPI test or if they are managed together with other financial instruments on a fair value basis.

Trading and non-trading financial instruments mandatorily measured at FVTPL are remeasured at fair value as at the consolidated balance sheet date. Gains and losses realized on disposition and unrealized gains and losses from changes in fair value are included in Non-interest income as Gains (losses) from financial instruments measured/designated at FVTPL, net. Interest income and dividends earned on trading and non-trading securities and dividends and interest expense incurred on securities sold short are included in Interest income and Interest expense, respectively.

Financial instruments designated at FVTPL (fair value option)

Under IFRS 9, financial instruments designated at FVTPL are those that we voluntarily designate at initial recognition as instruments that we will measure at fair value through the consolidated statement of income that would otherwise fall into a different accounting category. As was the case under IAS 39, the

FVO designation, once made, is irrevocable and can only be applied if reliable fair values are available, when doing so eliminates or significantly reduces the measurement inconsistency that would otherwise arise from measuring assets or liabilities on a different basis and if certain OSFI requirements are met. Financial liabilities may also be designated at FVTPL when they are part of a portfolio which is managed on a fair value basis, in accordance with our investment strategy, and are reported internally on that basis. Designation at FVTPL may also be applied to financial liabilities that have one or more embedded derivatives that would otherwise require bifurcation. Unlike IAS 39, however, there is no need to apply FVO to equity instruments as the default accounting is financial instruments mandatorily measured at FVTPL. As was the case under IAS 39, we apply the FVO to certain mortgage commitments.

Gains and losses realized on dispositions and unrealized gains and losses from changes in the fair value of FVO financial instruments are treated in the same manner as financial instruments which are mandatorily measured at FVTPL, except that changes in the fair value of FVO liabilities that are attributable to changes in own credit risk are recognized in OCI. Dividends and interest earned and interest expense incurred on FVO assets and liabilities are included in Interest income and Interest expense, respectively.

Financial assets measured at amortized cost

Under IFRS 9, financial assets measured at amortized cost are debt financial instruments with contractual cash flows that meet the SPPI test and are managed on a "hold to collect" basis. These financial assets are recognized initially at fair value plus or minus direct and incremental transaction costs, and are subsequently measured at amortized cost, using the effective interest rate method, net of an allowance for expected credit losses (ECL).

Consistent with IAS 39, loans measured at amortized cost under IFRS 9 include residential mortgages, personal loans, credit cards and most business and government loans. Most securities classified as HTM under IAS 39 and certain portfolios of treasury securities that were classified as AFS under IAS 39 (but which are managed on a "hold to collect" basis) are also classified as amortized cost under IFRS 9. Also consistent with IAS 39, most deposits with banks, securities purchased under resale agreements, cash collateral on securities borrowed and most customers' liability under acceptances are accounted for at amortized cost under IFRS 9.

Debt financial assets measured at FVOCI

Under IFRS 9, debt financial instruments measured at FVOCI are non-derivative financial assets with contractual cash flows that meet the SPPI test and are managed on a "hold to collect and for sale" basis.

Subsequent measurement of debt instruments classified at FVOCI under IFRS 9 operates in a similar manner to AFS debt securities under IAS 39, except that the ECL impairment model must be applied to these instruments under IFRS 9. As a result, FVOCI debt instruments are measured initially at fair value, plus direct and incremental transaction costs. Subsequent to initial recognition, FVOCI debt instruments are remeasured at FVOCI, with the exception that changes in ECL allowances in addition to related foreign exchange gains or losses are recognized in the consolidated statement of income. Cumulative gains and losses previously recognized in OCI are transferred from AOCI to the consolidated statement of income when the debt instrument is sold. Realized gains and losses on sale, determined on an average cost basis, and changes in ECL allowances, are included in Gains (losses) from debt securities measured at FVOCI and amortized cost, net in the consolidated statement of income. Interest income from FVOCI debt instruments is included in Interest income. FVOCI debt instruments include our treasury securities which are managed on a "hold to collect and for sale" basis.

A debt financial instrument is classified as impaired (stage 3) when one or more events that have a detrimental impact on the estimated future cash flows of that financial instrument have occurred after its initial recognition. Evidence of impairment includes indications that the borrower is experiencing significant financial difficulties, or a default or delinquency has occurred.

Equity financial instruments designated at FVOCI

Under IFRS 9, equity financial instruments are measured at FVTPL unless an irrevocable designation is made to measure them at FVOCI. Gains or losses from changes in the fair value of equity instruments designated at FVOCI, including any related foreign exchange gains or losses, are recognized in OCI. In contrast to AFS equity securities under IAS 39, amounts recognized in OCI will not be subsequently recycled to profit or loss, with the exception of dividends, which are recognized as interest income when received in the consolidated statement of income. Instead, cumulative gains or losses upon derecognition of the equity instrument will be transferred within equity from AOCI to retained earnings and presented in Realized gains (losses) on equity securities designated at FVOCI reclassified to retained earnings in the consolidated statement of changes in equity. Financial assets designated as FVOCI include non-trading equity securities, primarily related to our investment in private companies and limited partnerships.

Impairment of financial assets under IAS 39

We classified a loan as impaired when, in our opinion, there was objective evidence of impairment as a result of one or more loss events that occurred after initial recognition of the loans with a negative impact on the estimated future cash flows of a loan or a portfolio of loans.

Objective evidence of impairment included indications that the borrower was experiencing significant financial difficulties, or a default or delinquency had occurred. Generally, loans on which repayment of principal or payment of interest was contractually 90 days in arrears were automatically considered impaired unless they were fully secured and in the process of collection. Notwithstanding management's assessment of collectability, such loans were considered impaired if payments were 180 days in arrears. Exceptions were as follows:

- Credit card loans were not classified as impaired and were fully written off at the earlier of the notice of bankruptcy, settlement proposal, enlistment of credit counselling services, or when payments were contractually 180 days in arrears.
- Loans guaranteed or insured by a Canadian government (federal or provincial) or a Canadian government agency were classified as impaired only when payments were contractually 365 days in arrears.

In certain circumstances, we could modify a loan for economic or legal reasons related to a borrower's financial difficulties. Once a loan was modified, if management still did not expect full collection of payments under the modified loan terms, the loan was classified as impaired. An impaired loan was measured at its estimated realizable value determined by discounting the expected future cash flows at the loan's original effective interest rate. When a loan or a group of loans had been classified as impaired, interest income was recognized thereafter using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss. For credit card loans, interest was accrued only to the extent that there was an expectation of receipt.

A loan was no longer considered impaired when all past due amounts, including interest, had been recovered, and it was determined that the principal and interest were fully collectable in accordance with the original contractual terms or revised market terms of the loan with all criteria for the impaired classification having been remedied. Once a loan was modified and management expected full collection of payments under the modified loan terms, the loan was not considered impaired. No portion of cash received on an impaired loan was recognized in the consolidated statement of income until the loan returned to unimpaired status.

Loans were written off, either partially or in full, against the related allowance for credit losses when we judged that there was no realistic prospect of future recovery in respect of amounts written off. When loans were secured, this was generally after all collateral had been realized or transferred to CIBC, or in certain circumstances, when the net realizable value of any collateral and other available information suggested that there was no reasonable expectation of further recovery. In subsequent periods, any recoveries of amounts previously written off were credited to the provision for credit losses.

Allowance for credit losses
Under IAS 39, allowance for credit losses consisted of individual and collective components:

Individual allowance
We conducted ongoing credit assessments of the majority of the business and government loan portfolios on an account-by-account basis at each reporting date and we established an allowance for credit losses when there was objective evidence that a loan is impaired.

Collective allowance
Loans were grouped in portfolios of similar credit risk characteristics and impairment was assessed on a collective basis in two circumstances:

(i) Incurred but not yet identified credit losses – for groups of individually assessed loans for which no objective evidence of impairment had been identified on an individual basis:
   - A collective allowance was provided for losses which we estimated were inherent in the business and government portfolio as at the reporting date, but which had not yet been specifically identified from an individual assessment of the loan.
   - The collective allowance was established with reference to expected loss rates associated with different credit portfolios at different risk levels and the estimated time period for losses that were present but yet to be specifically identified. We also considered estimates of the time periods over which losses that were present would be identified and a provision taken, our view of economic and portfolio trends, and evidence of credit quality improvements or deterioration. The period between a loss occurring and its identification was estimated by management for each identified portfolio. The parameters that affected the collective allowance calculation were updated regularly, based on our experience and that of the market in general.
   - Expected loss rates were based on the risk rating of each credit facility and on the probability of default (PD) factors, as well as estimates of loss given default (LGD) associated with each risk rating. The PD factors reflected our historical loss experience and were supplemented by data derived from defaults in the public debt markets. Historical loss experience was adjusted based on current observable data to reflect the effects of current conditions. LGD estimates were based on our experience over past years.

(ii) For groups of loans where each loan was not considered to be individually significant:
   - Residential mortgages, credit card loans, personal loans, and certain small business loan portfolios consisted of large numbers of homogeneous balances of relatively small amounts, for which collective allowances were established by reference to historical ratios of write-offs to current accounts and balances in arrears.
   - For residential mortgages, personal loans and certain small business loans, this historical loss experience enabled CIBC to determine appropriate PD and LGD parameters, which were used in the calculation of the collective allowance. For credit card loans, the historical loss experience enabled CIBC to calculate roll-rate models in order to determine an allowance amount driven by flows to write-off.
   - We also considered estimates of the time periods over which losses that were present would be identified and a provision taken, our view of current and ongoing economic and portfolio trends, and evidence of credit quality improvements or deterioration. The parameters that affected the collective allowance calculation were updated regularly, based on our experience and that of the market in general.

Individual and collective allowances were provided for off-balance sheet credit exposures that were not measured at fair value. These allowances were included in Other liabilities.

AFS debt instruments
An AFS debt instrument was identified as impaired when there was objective observable evidence about our inability to collect the contractual principal or interest.

When an AFS debt instrument was determined to be impaired, an impairment loss was recognized by reclassifying the cumulative unrealized losses in AOCI to the consolidated statement of income. Impairment losses previously recognized in the consolidated statement of income were reversed in the consolidated statement of income if the fair value subsequently increases and the increase could be objectively determined to relate to an event occurring after the impairment loss was recognized.

AFS equity instruments
Objective evidence of impairment for an investment in an AFS equity instrument existed if there had been a significant or prolonged decline in the fair value of the investment below its cost, or if there was information about significant adverse changes in the technological, market, economic, or legal environment in which the issuer operates, or if the issuer was experiencing significant financial difficulty.

When an AFS equity instrument was determined to be impaired, an impairment loss was recognized by reclassifying the cumulative unrealized losses in AOCI to the consolidated statement of income. Impairment losses previously recognized in the consolidated statement of income could not be subsequently reversed. Further decreases in fair value subsequent to the recognition of an impairment loss were recognized directly in the consolidated statement of income, and subsequent increases in fair value were recognized in OCI.

Impairment of financial assets under IFRS 9
Under IFRS 9, ECL allowances are recognized on all financial assets that are debt instruments classified either as amortized cost or FVOCI and for all loan commitments and financial guarantees that are not measured at FVTPL. The application of an ECL model represents a significant change from the incurred loss model under IAS 39. ECL allowances represent credit losses that reflect an unbiased and probability-weighted amount which is determined by evaluating a range of possible outcomes, the time value of money and reasonable and supportable information about past events, current conditions and forecasts of future economic conditions. Forward-looking information is explicitly incorporated into the estimation of ECL allowances, which involves significant judgment (see Note 5 for additional details). In contrast, the incurred loss model under IAS 39 incorporated a single best estimate, the time value of money and information about past events and current conditions.

ECL allowances for loans and acceptances are included in allowance for credit losses on the consolidated balance sheet. ECL allowances for FVOCI debt securities are included as a component of the carrying value of the securities, which are measured at fair value. ECL allowances for other financial assets are included in the carrying value of the instrument. ECL allowances for guarantees and loan commitments are included in other liabilities.

ECL allowances are measured at amounts equal to either: (i) 12-month ECL; or (ii) lifetime ECL for those financial instruments which have experienced a significant increase in credit risk since initial recognition or when there is objective evidence of impairment. In contrast, under the incurred loss model lifetime credit losses were recognized when there was objective evidence of impairment and allowances for incurred but not identified credit losses were also recognized.

The calculation of ECL allowances is based on the expected value of three probability-weighted scenarios to measure the expected cash shortfalls, discounted at the effective interest rate. A cash shortfall is the difference between the contractual cash flows that are due and the cash flows that we expect to receive. The key inputs in the measurement of ECL allowances are as follows:

The PD is an estimate of the likelihood of default over a given time horizon;

The LGD is an estimate of the loss arising in the case where a default occurs at a given time; and

The exposure at default (EAD) is an estimate of the exposure at a future default date.

Lifetime ECL is the expected credit losses that result from all possible default events over the expected life of a financial instrument. 12-month ECL is the portion of lifetime expected credit losses that represent the expected credit losses that result from default events on the financial instrument that are possible within the 12 months after the reporting date.

Due to the inclusion of relative credit deterioration criteria and consideration of forward-looking information, lifetime credit losses are generally recognized earlier under IFRS 9.

Stage migration and significant increase in credit risk

As a result of the requirements above, financial instruments subject to ECL allowances are categorized into three stages.

For performing financial instruments:

Stage 1 is comprised of all performing financial instruments which have not experienced a significant increase in credit risk since initial recognition. We recognize 12 months of ECL for stage 1 financial instruments. In assessing whether credit risk has increased significantly, we compare the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of its initial recognition.

Stage 2 is comprised of all performing financial instruments which have experienced a significant increase in credit risk since initial recognition. We recognize lifetime ECL for stage 2 financial instruments. 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, then we revert to recognizing 12 months of ECL as the financial instrument has migrated back to stage 1.

We determine whether a financial instrument has experienced a significant increase in credit risk since its initial recognition on an individual financial instrument basis. Changes in the required ECL allowance, including the impact of financial instruments migrating between stage 1 and stage 2, are recorded in Provision for credit losses in the consolidated statement of income. Significant judgment is required in the application of significant increase in credit risk (see Note 5 for additional details).

Stage 3 financial instruments are those that we have classified as impaired. We recognize lifetime ECL for all stage 3 financial instruments. We classify a financial instrument as impaired when one or more events that have a detrimental impact on the estimated future cash flows of that financial instrument have occurred after its initial recognition. Evidence of impairment includes indications that the borrower is experiencing significant financial difficulties, or a default or delinquency has occurred. Under IFRS 9, all financial instruments on which repayment of principal or payment of interest is contractually 90 days in arrears are automatically considered impaired, except for credit card loans, which are classified as impaired and are fully written off when payments are contractually 180 days in arrears or at the earlier of the notice of bankruptcy, settlement proposal, or enlistment of credit counselling services. The determination of impairment was the same under IAS 39, except that under IAS 39: (i) residential mortgages guaranteed or insured by a Canadian government (federal or provincial) or a Canadian government agency were classified as impaired only when payments were contractually 365 days in arrears; and (ii) residential mortgages guaranteed or insured by a private insurer, or loans that were fully secured and in the process of collection, were classified as impaired only when payments were contractually 180 days in arrears.

A financial instrument is no longer considered impaired when all past due amounts, including interest, have been recovered, and it is determined that the principal and interest are fully collectable in accordance with the original contractual terms or revised market terms of the financial instrument with all criteria for the impaired classification having been remedied.

Financial instruments are written off, either partially or in full, against the related allowance for credit losses when we judge that there is no realistic prospect of future recovery in respect of those amounts. When financial instruments are secured, this is generally after all collateral has been realized or transferred to CIBC, or in certain circumstances, when the net realizable value of any collateral and other available information suggests that there is no reasonable expectation of further recovery. In subsequent periods, any recoveries of amounts previously written off are credited to the provision for credit losses.

Purchased loans

Both purchased performing and purchased credit-impaired loans are initially measured at their acquisition date fair values. As a result of recording these loans at fair value, no allowance for credit losses is recognized in the purchase equation at the acquisition date under either IAS 39 or IFRS 9. Fair value is determined by estimating the principal and interest cash flows expected to be collected and discounting those cash flows at a market rate of interest. At the acquisition date, we classify a loan as performing where we expect timely collection of all amounts in accordance with the original contractual terms of the loan and as credit-impaired where it is probable that we will not be able to collect all contractually required payments.

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 under both IAS 39 and IFRS 9. The remaining unamortized amounts relating to those loans are recorded in income in the period that the loan is repaid. Under IFRS 9, ECL allowances are established in Provision for credit losses in the consolidated statement of income immediately after the acquisition date based on classifying each loan in stage 1, since the acquisition date is established as the initial recognition date of purchased performing loans for the purpose of assessing whether a significant increase in credit risk has occurred. Subsequent to the acquisition date, ECL allowances are estimated in a manner consistent with our significant increase in credit risk and impairment policies that we apply to loans that we originate. In contrast, under IAS 39 collective allowances were established after the acquisition date as the purchased loan portfolio turned over and to the extent that the credit quality of the acquired portfolio deteriorated. Under IAS 39, actual individual allowances for credit losses were recorded as they arose subsequent to the acquisition date in a manner that was consistent with our IAS 39 impairment policy for loans that we originated.

For purchased credit-impaired loans under both IAS 39 and IFRS 9, the acquisition date fair value adjustment on each loan consists of management's estimate of the shortfall of principal and interest cash flows expected to be collected and the time value of money. The time value of money component of the fair value adjustment is amortized to interest income over the expected remaining life of the loan using the effective interest rate method. Subsequent to the acquisition date, we regularly re-estimate the expected cash flows for purchased credit-impaired loans. Decreases in the expected cash flows will result in an increase in our allowances under IFRS 9, which is consistent with the previous IAS 39 requirements. Increases in the expected cash flows will result in a recovery of the ECL allowance under IFRS 9. Under IAS 39, increases in the expected cash flows resulted in a recovery of provision for credit losses and a reduction in our allowance for credit losses, or if no allowance existed, an increase in interest income. ECL allowances for purchased credit-impaired loans are reported in stage 3.

Originated credit impaired financial assets

The accounting for originated credit-impaired financial assets operates in a similar manner to the accounting for purchased credit-impaired loans in that originated credit-impaired assets are initially recognized at fair value with no initial expected credit loss allowance as concerns about the collection of future cash flows is instead reflected in the origination date discount. The time value of money component of the discount is amortized to interest income over the expected remaining life of the financial asset using the effective interest rate method. Changes in expectation regarding the contractual cash flows for loans are recognized immediately in provision for credit losses and for securities are recognized in Gains (losses) from debt securities measured at FVOCI and amortized cost, net.

This accounting generally applies to financial assets that result from debt restructuring arrangements in which a previously impaired financial asset is exchanged for a new financial asset that is either recognized at a fair value that represents a deep discount to par or for which there are significant concerns over the ability to collect the contractual cash flows.

Other significant accounting policies related to the accounting for financial instruments following the application of IFRS 9 are as follows:

Determination of fair value

The transition to IFRS 9 did not impact the definition of fair value, which continues to be defined as the price that would be received to sell an asset or paid to transfer a liability between market participants in an orderly transaction in the principal market at the measurement date under current market conditions (i.e., the exit price). Fair value measurements are categorized into three levels within a fair value hierarchy (Level 1, 2 or 3) based upon the market observability of the valuation inputs used in measuring the fair value. See Note 2 for more details about fair value measurement subsequent to initial recognition by type of financial instrument.

Transaction costs

Transaction costs relating to financial instruments mandatorily measured or designated at FVTPL are expensed as incurred under IFRS 9, consistent with the accounting for transaction costs related to trading and FVO instruments under IAS 39. Transaction costs are amortized over the expected life of the instrument using the effective interest rate method for instruments measured at amortized cost under both IFRS 9 and IAS 39, and debt instruments measured at FVOCI under IFRS 9 and as AFS under IAS 39. For equity instruments designated at FVOCI under IFRS 9 and for equity instruments accounted for at AFS under IAS 39, transaction costs are included in the instrument's carrying value.

Date of recognition of securities

Under IFRS 9, we continue to account for all securities on our consolidated balance sheet using settlement date accounting, consistent with our accounting under IAS 39.

Effective interest rate

Under IFRS 9, interest income and expense for all financial instruments measured at amortized cost and for debt securities measured at FVOCI is recognized in Interest income and Interest expense using the effective interest rate method, which is similar to the requirements under IAS 39 for loans and receivables and AFS debt securities. The effective interest rate is the rate that exactly discounts estimated future cash receipts or payments through the expected life of the financial instrument to the net carrying value of the financial asset or liability upon initial recognition. When calculating the effective interest rate, we estimate future cash flows considering all contractual terms of the financial instrument, but not future credit losses.

Fees relating to loan origination, including commitment, restructuring and renegotiation fees, are considered an integral part of the yield earned on the loan and are accounted for using the effective interest rate method. Fees received for commitments that are not expected to result in a loan are included in Non-interest income over the commitment period. Loan syndication fees are included in Non-interest income on completion of the syndication arrangement, provided that the yield on the portion of the loan we retain is at least equal to the average yield earned by the other lenders involved in the financing; otherwise, an appropriate portion of the fee is deferred as unearned income and amortized to interest income using the effective interest rate method.

Under IFRS 9, interest income is recognized on stage 1 and stage 2 financial assets measured at amortized cost by applying the effective interest rate to the gross carrying amount of the financial instrument. For stage 3 financial instruments, interest income is recognized using the rate of interest used to discount the estimated future cash flows for the purpose of measuring the impairment loss and applied to the net carrying value of the financial instrument, which is similar to the methodology under IAS 39 applied to impaired loans.

Securitizations and derecognition of financial assets

Securitization of our own assets provides us with an additional source of liquidity. As we generally retain substantially all of the risks and rewards of the transferred assets, assets remain on the consolidated balance sheet and funding from these transactions is accounted for as Deposits – secured borrowing transactions.

Under both IAS 39 and IFRS 9, securitizations to non-consolidated SEs are accounted for as sales, with the related assets being derecognized, only where:

- Our contractual right to receive cash flows from the assets has expired;
- We transfer our contractual rights to receive the cash flows of the financial asset, and have: (i) transferred substantially all the risks and rewards of ownership, or (ii) neither retained nor transferred substantially all the risks and rewards, but have not retained control; or
- The transfer meets the criteria of a qualifying pass-through arrangement.

Derecognition of financial liabilities

Under both IFRS 9 and IAS 39, a financial liability is derecognized when the obligation under the liability is discharged, cancelled or expires. If an existing financial liability is replaced by another liability from the same lender on substantially different terms, or the terms of the existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying values is recognized in the consolidated statement of income. The repurchase of a debt instrument is considered an extinguishment of that debt instrument even if we intend to resell the instrument in the near term.

Financial guarantees

Financial guarantees are financial contracts that require the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument.

Under both IAS 39 and IFRS 9, financial guarantee contracts issued by CIBC that are not classified as insurance contracts are initially recognized as a liability at fair value, adjusted for transaction costs that are directly attributable to the issuance of the guarantees, which is generally the premium received or receivable on the date the guarantee was given. Subsequently, financial guarantee liabilities are measured at the higher of the initial fair value, less cumulative amortization, and the applicable allowance. Under IFRS 9 the allowance is calculated using the ECL methodology, while under IAS 39 the allowance, if any, represented the present value of any expected payment when a payment under the guarantee had become probable. A financial guarantee that qualifies as a derivative is remeasured at fair value as at each reporting date and reported as Derivative instruments in assets or liabilities, as appropriate.

Mortgage commitments

Mortgage interest rate commitments are extended to our retail clients in contemplation of borrowing to finance the purchase of homes under mortgages to be funded by CIBC in the future. These commitments are usually for periods of up to 120 days and generally entitle the borrower to receive funding at the lower of the interest rate at the time of the commitment and the rate applicable at the funding date. We use financial instruments, such as interest rate derivatives, to economically hedge our exposure to an increase in interest rates. Based on our estimate of the commitments expected to be exercised, a financial liability would be recognized on our consolidated balance sheet, to which we apply the FVO. We also carry the associated economic hedges at fair value on the consolidated balance sheet. Changes in the fair value of the FVO commitment liability and the associated economic hedges are included in gains (losses) from financial instruments measured/designated at FVTPL, net under IFRS 9 and FVO gains (losses), net under IAS 39. In addition, since the fair value of the commitments is priced into the mortgage, the difference between the mortgage amount and its fair value at funding is recognized in the consolidated statement of income to offset the carrying value of the mortgage commitment that is released upon its expiry.

Offsetting of financial assets and financial liabilities

Financial assets and financial liabilities are offset, and the amount presented net, when we have a legally enforceable right to set off the recognized amounts and intend to settle on a net basis or to realize the asset and settle the liability simultaneously.

Acceptances and customers' liability under acceptances

Acceptances constitute a liability of CIBC on negotiable instruments issued to third parties by our customers. We earn a fee for guaranteeing and then making the payment to the third parties. The amounts owed to us by our customers in respect of these guaranteed amounts are reflected in assets as Customers' liability under acceptances.

Securities purchased under resale agreements and obligations related to securities sold under repurchase agreements

Securities purchased under resale agreements are treated as collateralized lending transactions as they represent the purchase of securities affected with a simultaneous agreement to sell them back at a future date at a fixed price, which is generally near term. These transactions are classified and measured at amortized cost under IFRS 9, as they meet the SPPI criteria and are managed under a hold to collect business model. Under IAS 39, they were also generally accounted for at amortized cost unless they were designated under the FVO. Under IFRS 9, an ECL is applied to these instruments, while under IAS 39 an allowance was only provided to the extent there was an impairment. Under both IFRS 9 and IAS 39, interest income is accrued using the effective interest rate method and is included in Interest income – Securities borrowed or purchased under resale agreements in the consolidated statement of income.

Similarly, securities sold under agreements to repurchase are treated as collateralized borrowing transactions with interest expense accrued using the effective interest rate method and are included in Interest expense – Securities lent or sold under repurchase agreements in the consolidated statement of income.

Cash collateral on securities borrowed and securities lent

The right to receive back cash collateral paid and the obligation to return cash collateral received on borrowing and lending of securities, which is generally near term, is recognized as cash collateral on securities borrowed and securities lent, respectively. These transactions are classified and measured at amortized cost as they meet the SPPI criteria and are managed under a hold to collect business model. Under IFRS 9, an ECL is applied to these instruments, while under IAS 39 an allowance was only provided to the extent there was an impairment. Interest income on cash collateral paid and interest expense on cash collateral received together with the security borrowing fees and security lending income are included in Interest income – Securities borrowed or purchased under resale agreements and Interest expense – Securities lent or sold under repurchase agreements, respectively. For securities borrowing and lending transactions where securities are pledged or received as collateral, securities pledged by CIBC remain on the consolidated balance sheet and securities received by CIBC are not recognized on the consolidated balance sheet.

Derivatives

We use derivative instruments for both asset/liability management (ALM) and trading purposes. The derivatives used for ALM purposes allow us to manage financial risks, such as movements in interest and foreign exchange rates, while our derivative trading activities are primarily driven by client trading activities. We may also take proprietary trading positions with the objective of earning income.

Under both IAS 39 and IFRS 9, all derivative instruments are recognized initially, and are measured subsequently, at fair value and are reported as assets where they have a positive fair value and as liabilities where they have a negative fair value, in both cases as derivative instruments. Any realized and unrealized gains or losses on derivatives used for trading purposes were recognized immediately in Trading income (loss) under IAS 39 and are recognized in Gains (losses) from financial instruments measured/designated at FVTPL, net under IFRS 9. The accounting for derivatives used for ALM purposes depends on whether they qualify for hedge accounting as discussed below.

Fair values of exchange-traded derivatives are based on quoted market prices. Fair values of over-the-counter (OTC) derivatives, including OTC derivatives that are centrally cleared, are obtained using valuation techniques, including discounted cash flow models and option pricing models. See Note 12 for further information on the valuation of derivatives.

Derivatives used for ALM purposes that qualify for hedge accounting

As permitted under IFRS 9, we have elected to continue to apply the hedge accounting requirements of IAS 39. However, in 2018, we adopted the new hedge accounting disclosure requirements under the amendments to IFRS 7 "Financial Instruments: Disclosures." Details of the additional disclosures are provided in Note 13.

We apply hedge accounting for derivatives held for ALM purposes that meet specified criteria. There are three types of hedges: fair value, cash flow and hedges of net investments in foreign operations (NIFOs). When hedge accounting is not applied, the change in the fair value of the derivative is recognized in the consolidated statement of income (see "Derivatives used for ALM purposes that are not designated for hedge accounting" below).

In order for derivatives to qualify for hedge accounting, the hedge relationship must be designated and formally documented at its inception in accordance with IAS 39. The particular risk management objective and strategy, the specific asset, liability or cash flow being hedged, as well as how hedge effectiveness is assessed, are documented. Hedge effectiveness requires a high correlation of changes in fair values or cash flows between the hedged and hedging items.

We assess the effectiveness of derivatives in hedging relationships, both at inception and on an ongoing basis. Ineffectiveness results to the extent that the change in the fair value of the hedging derivative differs from the change in the fair value of the hedged risk in the hedged item, or the cumulative change in the fair value of the hedging derivative exceeds the cumulative change in the fair value of expected future cash flows of the hedged item. The amount of ineffectiveness of hedging instruments is recognized immediately in the consolidated statement of income.

Fair value hedges

We designate fair value hedges primarily as part of interest rate risk management strategies that use derivatives to hedge changes in the fair value of financial instruments with fixed interest rates. Changes in fair value attributed to the hedged interest rate risk are accounted for as basis adjustments to the hedged financial instruments and are included in Net interest income. Changes in fair value from the hedging derivatives are also included in Net interest income. Any differences between the two represent hedge ineffectiveness that is included in Net interest income.

Similarly, for hedges of foreign exchange risk, changes in the fair value from the hedging derivatives and non-derivatives are included in FXOTT. Changes in the fair value of the hedged item from the hedged foreign exchange risk are accounted for as basis adjustments and are also included in FXOTT. Any difference between the two represents hedge ineffectiveness.

If the hedging instrument expires or is sold, terminated or exercised, or where the hedge no longer meets the criteria for hedge accounting, the hedge relationship is terminated and the basis adjustment applied to the hedged item is amortized over the remaining term of the hedged item. If the hedged item is derecognized, the unamortized basis adjustment is recognized immediately in the consolidated statement of income.

Cash flow hedges

We designate cash flow hedges as part of interest rate risk management strategies that use derivatives to mitigate our risk from variable cash flows by effectively converting certain variable-rate financial instruments to fixed-rate financial instruments, and as part of foreign exchange rate risk management strategies to hedge forecasted foreign currency denominated cash flows. We also designate cash flow hedges to hedge changes in CIBC's share price in respect of certain cash-settled share-based payment awards.

The effective portion of the change in fair value of the derivative instrument is recognized in OCI until the variability in cash flows being hedged is recognized in the consolidated statement of income in future accounting periods, at which time an appropriate portion of the amount that was in AOCI is reclassified into the consolidated statement of income. The ineffective portion of the change in fair value of the hedging derivative is included in Net interest income, FXOTT, or Non-interest expenses immediately as it arises.

If the hedging instrument expires or is sold, terminated or exercised, or where the hedge no longer meets the criteria for hedge accounting, the hedge relationship is terminated. Upon termination of the hedge relationship, any remaining amount in AOCI remains therein until it is recognized in the consolidated statement of income when the variability in cash flows hedged or the hedged forecast transaction is ultimately recognized in the consolidated statement of income. When the forecasted transaction is no longer expected to occur, the related cumulative gain or loss in AOCI is recognized immediately in the consolidated statement of income.

Hedges of NIFOs with a functional currency other than the Canadian dollar

We may designate NIFO hedges to mitigate the foreign exchange risk on our NIFOs with a functional currency other than the Canadian dollar.

These hedges are accounted for in a similar manner to cash flow hedges. The change in fair value of the hedging instrument relating to the effective portion is recognized in OCI. The change in fair value of the hedging instrument attributable to the forward points and relating to the ineffective portion are recognized immediately in FXOTT. Gains and losses in AOCI are reclassified to the consolidated statement of income upon the disposal or partial disposal of the investment in the foreign operation that involves the loss of control, as explained in the "Foreign currency translation" policy above.

Derivatives used for ALM purposes that are not designated for hedge accounting

The change in fair value of the derivatives not designated as accounting hedges but used to economically hedge FVO assets or liabilities was included in FVO gains (losses), net under IAS 39 and Gains (losses) from financial instruments measured/designated at FVTPL, net under IFRS 9. The change in fair value of other derivatives not designated as accounting hedges but used for other economic hedging purposes is included in FXOTT, Non-interest income, or in the case of economic hedges of cash-settled share-based payment obligations, in compensation expense, as appropriate.

Embedded derivatives

Under both IAS 39 and IFRS 9, derivatives embedded in financial liabilities are accounted for as separate derivatives when their economic characteristics and risks are not closely related to those of the host instrument and the terms of the embedded derivative represent those of a freestanding derivative in situations where the combined instrument is not classified as FVTPL or designated as FVTPL using the FVO. These embedded derivatives, which are classified together with the host instrument on the consolidated balance sheet, are measured at fair value, with changes therein included in the consolidated statement of income. The residual amount of the host liability is accreted to its maturity value through Interest income and Interest expense, respectively, using the effective interest rate method.

Gains at inception on derivatives embedded in financial instruments bifurcated for accounting purposes are not recognized at inception; instead they are recognized over the life of the residual host instrument. Where an embedded derivative is separable from the host instrument but the fair value, as at the acquisition or reporting date, cannot be reliably measured separately or is otherwise not bifurcated, the entire combined contract is measured at FVTPL.

Under IFRS 9, embedded derivatives are no longer bifurcated from financial assets as was the case under IAS 39. Instead the financial asset is classified in its entirety into the appropriate classification at initial recognition through an assessment of the contractual cash flow characteristics of the asset and the business model under which it is managed.

Accumulated other comprehensive income

AOCI is included on the consolidated balance sheet as a separate component of total equity, net of income tax. It includes net unrealized gains and losses on FVOCI debt and equity securities under IFRS 9 (AFS under IAS 39), the effective portion of gains and losses on derivative instruments designated within effective cash flow hedges, unrealized foreign currency translation gains and losses on foreign operations with a functional currency other than the Canadian dollar net of gains or losses on related hedges, net gains (losses) related to fair value changes of FVO liabilities attributable to changes in own credit risk, and net gains (losses) on post-employment defined benefit plans.

Treasury shares

Where we repurchase our own equity instruments, these instruments are treated as treasury shares and are deducted from equity at their cost with any gain or loss recognized in Contributed surplus or Retained earnings as appropriate. No gain or loss is recognized in the consolidated statement of income on the purchase, sale, issue or cancellation of our own equity instruments. Any difference between the carrying value and the consideration, if reissued, is also included in Contributed surplus.

Liabilities and equity

We classify financial instruments as a liability or equity based on the substance of the contractual arrangement. An instrument is classified as a liability if it is a contractual obligation to deliver cash or another financial asset, or to exchange financial assets or financial liabilities at potentially unfavourable terms. A contract is also classified as a liability if it is a non-derivative and could obligate us to deliver a variable number of our own shares or it is a derivative other than one that can be settled by the delivery of a fixed amount of cash or another financial asset for a fixed number of our own equity instruments. An instrument is classified as equity if it evidences a residual interest in our assets after deducting all liabilities. The components of a compound financial instrument are classified and accounted for separately as assets, liabilities, or equity as appropriate. Incremental costs directly attributable to the issuance of equity instruments are shown in equity, net of income tax.

Land, buildings and equipment

Land is recognized initially at cost and is subsequently measured at cost less any accumulated impairment losses. Buildings, furniture, equipment and leasehold improvements are recognized initially at cost and are subsequently measured at cost less accumulated depreciation and any accumulated impairment losses.

Depreciation commences when the assets are available for use and is recognized on a straight-line basis to depreciate the cost of these assets to their estimated residual value over their estimated useful lives. The estimated useful lives are as follows:

- Buildings – 40 years
- Computer equipment – 3 to 7 years
- Office furniture and other equipment – 4 to 15 years
- Leasehold improvements – over the estimated useful life

Depreciation methods, useful lives and residual values are reviewed at each annual reporting date and are adjusted if appropriate.

Gains and losses on disposal are included in Non-interest income – Other.

We consider a portion of land and a building underlying a finance lease arrangement as investment property since we sub-lease this portion to third parties. Our investment property is recognized initially at cost and is subsequently measured at cost less accumulated depreciation and any accumulated impairment losses. Our investment property is depreciated on a straight-line basis over its estimated useful life, being the term of the lease.

Rental income is included in Non-interest income – Other.

Goodwill, software and other intangible assets

Goodwill represents the excess of the purchase price over the fair value of the net identifiable assets, liabilities and contingent liabilities acquired in business combinations. Identifiable intangible assets are recognized separately from goodwill when they are separable or arise from contractual or other legal rights, and have fair values that can be reliably measured.

Goodwill is not amortized, but is subject to impairment review at least annually or more frequently if there are indicators that the goodwill may be impaired. Refer to the “Impairment of non-financial assets” policy below.

Intangible assets represent software and customer relationships, core deposit intangibles, investment management contracts, and brand names recognized as part of past acquisitions. Intangible assets with definite useful lives are measured at cost less accumulated amortization and accumulated impairment losses. Each intangible asset is assessed for legal, regulatory, contractual, competitive or other factors to determine if the useful life is definite. Intangible assets with definite useful lives are amortized over their estimated useful lives, which are as follows:

- Software – 5 to 10 years
- Contract-based intangibles – 8 to 15 years
- Core deposit and customer relationship intangibles – 3 to 16 years

Intangible assets with indefinite useful lives are measured at cost less any accumulated impairment losses. Indefinite-life intangible assets are tested for impairment at least annually and whenever there is an indication that the asset may be impaired. Refer to the “Impairment of non-financial assets” policy below.

Impairment of non-financial assets

The carrying values of non-financial assets with definite useful lives, including buildings and equipment, investment property, and intangible assets with definite useful lives are reviewed to determine whether there is any indication of impairment. Goodwill and intangible assets with indefinite useful lives are tested for impairment at least annually, and whenever there is an indication that the asset may be impaired. If any such indication of impairment exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss, if any.

For the purpose of reviewing non-financial assets with definite useful lives for impairment, asset groups are reviewed at their lowest level for which identifiable cash inflows are largely independent of cash inflows of other assets or groups of assets. This grouping is referred to as a cash-generating unit (CGU).

Corporate assets do not generate separate cash inflows. Corporate assets are tested for impairment at the minimum collection of CGUs to which the corporate asset can be allocated reasonably and consistently.

The recoverable amount is the greater of fair value less costs to sell and value in use. Value in use is the present value of the future cash flows expected to be derived from the asset or CGU. When the carrying value exceeds its recoverable amount, an impairment loss equal to the difference between the two amounts is recognized in the consolidated statement of income. If an impairment subsequently reverses, the carrying value of the asset is increased to the extent that the carrying value of the underlying assets does not exceed the carrying value that would have been determined, net of depreciation or amortization, if no impairment had been recognized. Any impairment reversal is recognized in the consolidated statement of income in the period in which it occurs.

Goodwill is assessed for impairment based on the group of CGUs expected to benefit from the synergies of the business combination, and the lowest level at which management monitors the goodwill. Any potential goodwill impairment is identified by comparing the recoverable amount of the CGU grouping to which the goodwill is allocated to its carrying value including the allocated goodwill. If the recoverable amount is less than its carrying value, an impairment loss is recognized in the consolidated statement of income in the period in which it occurs. Impairment losses on goodwill are not subsequently reversed if conditions change.

Income taxes

Income tax comprises current tax and deferred tax. Income tax is recognized in the consolidated statement of income, except to the extent that it relates to items recognized in OCI or directly in equity, in which case it is recognized accordingly.

Current tax is the tax expected to be payable on the taxable profit for the year, calculated using tax rates enacted or substantively enacted as at the reporting date, and any adjustment to tax payable in respect of previous years. Current tax assets and liabilities are offset when CIBC intends to settle on a net basis and the legal right to offset exists.

Deferred tax is recognized on temporary differences between the carrying value of assets and liabilities on the consolidated balance sheet and the corresponding amounts attributed to such assets and liabilities for tax purposes. Deferred tax liabilities are generally recognized for all taxable temporary differences unless the temporary differences relate to our NIFOs and will not reverse in the foreseeable future. Deferred tax assets, other than those arising from our NIFOs, are recognized to the extent that it is probable that future taxable profits will be available against which deductible temporary differences can be utilized. Deferred tax assets arising from our NIFOs are recognized for deductible temporary differences which are expected to reverse in the foreseeable future to the extent that it is probable that future taxable profits will be available against which these deductible temporary differences can be utilized. Deferred tax is not recognized for temporary differences on the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable income, or for taxable temporary differences arising on the initial recognition of goodwill.

Deferred tax is measured at the tax rates that are expected to be applied to the temporary differences when they reverse, based on the laws that have been enacted or substantively enacted as at the reporting date.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and they relate to income taxes levied by the same tax authority on the same taxable entity or tax reporting group.

We are subject to income tax laws in the various jurisdictions where we operate, and the tax laws in those jurisdictions are potentially subject to different interpretations by us and the relevant taxation authority, which gives rise to uncertainty. For tax positions where there is uncertainty regarding the ultimate determination of the tax impact, including positions which are under audit, dispute or appeal, we recognize provisions to consider this uncertainty based on our best estimate of the amount expected to be paid based on an assessment of the relevant factors.

Pension and other post-employment benefits

We are the sponsor of a number of employee benefit plans. These plans include both defined benefit and defined contribution pension plans, and various other post-employment benefit plans including post-retirement medical and dental benefits.

Defined benefit plans

The cost of pensions and other post-employment benefits earned by employees is actuarially determined separately for each plan using the projected unit credit method and our best estimate of salary escalation, retirement ages of employees, mortality and expected health-care costs. This represents CIBC's defined benefit obligation, which is measured as at the reporting date. The discount rate used to measure the defined benefit obligation is based on the yield of a portfolio of high-quality corporate bonds denominated in the same currency in which the benefits are expected to be paid and with terms to maturity that, on average, match the terms of the defined benefit obligation.

Plan assets are measured at fair value as at the reporting date.

The net defined benefit asset (liability) represents the present value of the defined benefit obligation less the fair value of plan assets. The net defined benefit asset (liability) is included in Other assets and Other liabilities, respectively.

Current service cost reflects the cost of providing post-employment benefits earned by employees in the current period. Current service cost is calculated as the present value of the benefits attributed to the current year of service and is recognized in the consolidated statement of income. The current service cost is calculated using a separate discount rate to reflect the longer duration of future benefit payments associated with the additional year of service to be earned by the plan's active participants.

Past service costs arising from plan amendments or curtailments are recognized in net income in the period in which they arise.

Net interest income or expense comprises interest income on plan assets and interest expense on the defined benefit obligation. Interest income is calculated by applying the discount rate to the plan assets, and interest expense is calculated by applying the discount rate to the defined benefit obligation. Net interest income or expense is recognized in the consolidated statement of income.

Actuarial gains and losses represent changes in the present value of the defined benefit obligation which result from changes in actuarial assumptions and differences between previous actuarial assumptions and actual experience, and from differences between the actual return on plan assets and assumed interest income on plan assets. Net actuarial gains and losses are recognized in OCI in the period in which they arise and are not subject to subsequent reclassification to net income. Cumulative net actuarial gains and losses are included in AOCI.

When the calculation results in a net defined benefit asset, the recognized asset is limited to the present value of economic benefits available in the form of future refunds from the plan or reductions in future contributions to the plan (the asset ceiling). For plans where we do not have an unconditional right to a refund of surplus, we determine the asset ceiling by reference to future economic benefits available in the form of reductions in future contributions to the plan, in which case the present value of economic benefits is calculated giving consideration to minimum funding requirements for future service that apply to the plan. Where a reduction in future contributions to the plan is not currently realizable at the reporting date, we estimate whether we will have the ability to reduce contributions for future service at some point during the life of the plan by taking into account, among other things, expected future returns on plan assets. If it is anticipated that we will not be able to recover the value of the net defined benefit asset, after considering minimum funding requirements for future service, the net defined benefit asset is reduced to the amount of the asset ceiling.

When the payment in the future of minimum funding requirements related to past service would result in a net defined benefit surplus, or an increase in a net defined benefit surplus, the minimum funding requirements are recognized as a liability to the extent that the surplus would not be fully available as a refund or a reduction in future contributions. Any funded status surplus is limited to the present value of future economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan.

Defined contribution plans

Costs for defined contribution plans are recognized during the year in which the service is provided.

Other long-term employee benefits

CIBC sponsors a closed long-term disability plan that is classified as a long-term defined benefit arrangement. As the amount of the long-term disability benefit does not depend on the length of service, the obligation is recognized when an event occurs that gives rise to an obligation to make payments. CIBC also offers other medical and dental benefits to employees while on long-term disability.

The amount of other long-term employee benefits is actuarially calculated using the projected unit credit method. Under this method, the benefit is discounted to determine its present value. The methodology used to determine the discount rate used to value the long-term employee benefit obligation is consistent with that for pension and other post-employment benefit plans. Actuarial gains and losses and past service costs are recognized in the consolidated statement of income in the period in which they arise.

Share-based payments

We provide compensation to certain employees and directors in the form of share-based awards.

Compensation expense for share-based awards is recognized from the service commencement date to the earlier of the contractual vesting date or the employee's retirement eligible date. For grants regularly awarded in the annual incentive compensation cycle (annual incentive grant), the service commencement date is considered to be the start of the fiscal year that precedes the fiscal year in which the grant is made. The service commencement date in respect of special awards granted outside of the annual cycle is the grant date. The amount of compensation expense recognized is based on management's best estimate of the number of share-based awards expected to vest, including estimates of expected forfeitures, which are revised periodically as appropriate. For the annual incentive grant, compensation expense is recognized from the service commencement date based on the estimated fair value of the forthcoming grant with the estimated fair value adjusted to the actual fair value at the grant date.

Under the Restricted Share Award (RSA) plan, where grants are settled in the cash equivalent of common shares, changes in the obligation which arise from fluctuations in the market price of common shares, net of related hedges, are recognized in the consolidated statement of income as compensation expense in proportion to the award recognized. Under the Restricted Stock plan, where restricted stock is granted and settled in common shares, compensation expense is based on the grant date fair value. Compensation expense results in a corresponding increase to contributed surplus. When the restricted stock vests and is released from restriction, the amount recognized in Contributed surplus is credited to common share capital.

Under the Performance Share Unit (PSU) plan, where grants are settled in the cash equivalent of common shares, changes in the obligation which arise from fluctuations in the market price of common shares, and revised estimates of the performance factor, net of related hedges, are recognized in the consolidated statement of income as compensation expense in proportion to the award recognized. The performance factor ranges from 75% to 125% of the initial number of units awarded based on CIBC's performance relative to the other major Canadian banks.

Compensation expense in respect of the Employee Stock Option Plan (ESOP) is based on the grant date fair value. Where the service commencement date precedes the grant date, compensation expense is recognized from the service commencement date based on the estimated fair value of the award at the grant date, with the estimated fair value adjusted to the actual fair value at the grant date. Compensation expense results in a corresponding increase to contributed surplus. If the ESOP award is exercised, the proceeds we receive, together with the amount recognized in Contributed surplus, are credited to common share capital. If the ESOP award expires unexercised, the compensation expense remains in Contributed surplus.

As part of our acquisition of Wellington Financial Fund V LP (Wellington Financial) in the first quarter of 2018, equity-settled awards in the form of exchangeable shares with specific service and non-market performance vesting conditions were issued to selected employees. Compensation expense in respect of the exchangeable shares is based on the grant date fair value, adjusted for changes in the estimated impact of the non-market performance conditions.

Compensation in the form of Deferred Share Units (DSUs) issued pursuant to the Deferred Share Unit Plan, the Deferred Compensation Plan (DCP), and the Directors' Plan, entitle the holder to receive the cash equivalent of a CIBC common share. At the time DSUs are granted, the related expense in respect of the cash compensation that an employee or director would otherwise receive would have been fully recognized. Changes in the obligations which arise from fluctuations in the market price of common shares, net of related hedges, are recognized in the consolidated statement of income as compensation expense for employee DSUs and as Non-interest expense – Other for Directors' DSUs.

Our contributions under the Employee Share Purchase Plan (ESPP) are expensed as incurred.

The impact due to our changes in common share price in respect of cash-settled share-based compensation under the RSA and PSU plans is hedged through the use of derivatives. We designate these derivatives within cash flow hedge accounting relationships. The effective portion of the change in fair value of these derivatives is recognized in OCI and is reclassified into compensation expense, within the consolidated statement of income, over the period that the hedged awards impact the consolidated statement of income. The ineffective portion of the change in fair value of the hedging derivatives is recognized in the consolidated statement of income immediately as it arises.

Provisions and contingent liabilities

Provisions are liabilities of uncertain timing or amount. A provision is recognized when we have a present legal or constructive obligation as a result of a past event, it is probable that an outflow of economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation. The provision is recognized as the best estimate of the amount required to settle the obligation at the reporting date, taking into account the risk and uncertainties related to the obligation. Where material, provisions are discounted to reflect the time value of money, and the increase in the obligation due to the passage of time is presented as Interest expense in the consolidated statement of income.

Contingent liabilities are possible obligations that arise from past events whose existence will be confirmed only by the occurrence, or non-occurrence, of one or more uncertain future events not wholly within the control of CIBC, or are present obligations that have arisen from past events but are not recognized because it is not probable that settlement will require the outflow of economic benefits.

Provisions and contingent liabilities are disclosed in the consolidated financial statements.

Earnings per share

We present basic and diluted EPS for our common shares.

Basic EPS is computed by dividing net income for the period attributable to CIBC common shareholders by the weighted-average number of common shares outstanding during the period.

Diluted EPS is computed by dividing net income for the period attributable to CIBC common shareholders by the weighted-average number of diluted common shares outstanding for the period. Diluted common shares reflect the potential dilutive effect of contingently issuable shares and the exercise of stock options based on the treasury stock method. The number of contingently issuable shares included in diluted EPS is based on the number of shares that would be issuable if the end of the reporting period were the end of the contingency period. For stock options, the treasury stock method determines the number of incremental common shares by assuming that outstanding stock options, whose exercise price is less than the average market price of common shares during the period, are exercised and then reduced by the number of common shares assumed to be repurchased with the exercise proceeds from the assumed exercise of the options. Instruments determined to have an antidilutive effect for the period are excluded from the calculation of diluted EPS.

Fee and commission income

CIBC adopted IFRS 15 "Revenue from Contracts with Customers" (IFRS 15) as at November 1, 2018 in place of prior guidance, including IAS 18 "Revenue" (IAS 18) and IFRIC 13 "Customer Loyalty Programmes" (IFRIC 13). We applied IFRS 15 on a modified retrospective basis. As permitted, we did not restate our prior period comparative consolidated financial statements, which are reported under the prior guidance. The impact of adopting IFRS 15 was not significant (see "Transition impact from adoption of IFRS 15" section below).

The new guidance includes a five-step, principles-based recognition and measurement approach, as well as requirements for accounting for contract costs, and enhanced quantitative and qualitative disclosure requirements. The application of this guidance involves the use of judgment. IFRS 15 excludes from its scope revenue related to financial instruments, lease contracts and insurance contracts. As a result, the majority of our revenue was not impacted by the adoption of this standard, including net interest income, net gains (losses) from financial instruments measured/designated at FVTPL and net gains (losses) from debt securities measured at FVOCI.

Measurement differences resulting from the adoption of IFRS 15 include the upfront expensing of previously deferred mutual fund sales commissions. In addition, the adoption of IFRS 15 has resulted in the revaluation of our self-managed credit card loyalty points liability, which is now subject to both upward and downward remeasurement to reflect the expected cost of redemption as this expectation changes over time. Previously, under IFRIC 13, decreases in the expected cost of redemptions were only recognized as points were redeemed, while increases were recognized immediately.

In addition, the adoption of IFRS 15 has resulted in changes to the presentation of certain revenue and expense items in the consolidated statement of income. Presentation differences include the net presentation of certain expenditures where CIBC is deemed the agent rather than the principal and the gross presentation of certain expenditures where CIBC is deemed the principal rather than the agent. Our prior period comparative consolidated financial statements are reported under the prior guidance, without restatement; however, the measurement and presentation differences in the current period are not significant.

Our accounting policies under both IFRS 15 and IAS 18 are provided below.

Fee and commission income (IAS 18 and IFRIC 13)

The recognition of fee and commission income was determined by the purpose of the fee or commission and the basis of accounting for any associated financial instrument. Income earned on completion of a significant act was recognized when the act was completed. Income earned from the provision of services was recognized as revenue as the services were provided. Income which formed an integral part of the effective interest rate of a financial instrument was recognized as an adjustment to the effective interest rate.

Fee and commission income (IFRS 15)

The recognition of fee and commission income is determined by the purpose of the fee or commission and the terms specified in the contract with the customer. Revenue is recognized when, or as, a performance obligation is satisfied by transferring control of the service to the customer, in the amount of the consideration to which we expect to be entitled. Revenue may therefore be recognized at a point in time upon completion of the service or over time as the services are provided. When revenue is recognized over time, we are generally required to provide the services each period, such that control of the services is transferred evenly to the customer, and we therefore measure our progress towards completion of the service based upon the time elapsed. For contracts where the transaction price includes variable consideration, revenue is only recognized to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved, which typically occurs by the end of the reporting period. When another party is involved in providing a service to a customer, we determine whether the nature of our performance obligation is that of a principal or an agent. If we control the service before it is transferred to the customer, we are acting as the principal and present revenue separately from the amount paid to the other party; otherwise we are the agent and present revenue net of the amount paid to the other party. Our performance obligations typically have a term of one year or less, with payment received upon satisfaction of the performance obligation or shortly afterwards, and as a result there is no significant financing component and we do not typically capitalize the costs of obtaining contracts with our customers. Income which forms an integral part of the effective interest rate of a financial instrument continues to be recognized as an adjustment to the effective interest rate.

In addition to these general principles, the following specific policies applied under IAS 18 and IFRIC 13 in 2017 and 2018, and IFRS 15 in 2019:

Underwriting and advisory fees are earned on debt and equity securities placements and transaction-based advisory services. Under IAS 18 and IFRS 15, underwriting fees are typically recognized at the point in time when the transaction is completed. Under IAS 18 and IFRS 15, advisory fees are generally recognized as revenue over the period of the engagement as the related services are provided or at the point in time when the transaction is completed.

Deposit and payment fees arise from personal and business deposit accounts and cash management services. Under IAS 18 and IFRS 15, monthly and annual fees are recognized over the period that the related services are provided. Under IAS 18 and IFRS 15, transactional fees are recognized at the point in time the related services are provided.

Credit fees consist of loan syndication fees, loan commitment fees, letter of credit fees, banker's acceptance stamping fees, and securitization fees. Under IAS 18 and IFRS 15, credit fees are generally recognized over the period that the related services are provided, except for loan syndication fees, which are typically recognized at the point in time that the financing placement is completed.

Card fees primarily include interchange income, overlimit fees, cash advance fees, and annual fees. Under IAS 18 and IFRS 15, card fees are recognized at the point in time the related services are provided, except for annual fees, which are recognized over the 12-month period to which they relate. Under IFRIC 13 and IFRS 15, the cost of credit card loyalty points is recognized as a reduction of interchange income when the loyalty points are issued for both self-managed and third-party loyalty points programs. Under IFRIC 13, credit card loyalty points for self-managed loyalty programs were recognized as deferred revenue when the loyalty points were issued and as revenue when the loyalty points were redeemed. Under IFRS 15, credit card loyalty point liabilities are recognized for self-managed loyalty point programs and are subject to periodic remeasurement to reflect the expected cost of redemption as this expectation changes over time.

Commissions on securities transactions include brokerage commissions for transactions executed on behalf of clients, trailer fees and mutual fund sales commissions. Under IAS 18 and IFRS 15, brokerage commissions and mutual fund sales commissions are generally recognized at the point in time that the related transaction is executed. Under IAS 18 and IFRS 15, trailer fees are typically recognized over time based upon the daily net asset value of the mutual fund units held by clients.

Investment management fees are primarily based on the respective value of the assets under management (AUM) or assets under administration (AUA) and, under IAS 18 and IFRS 15, are recognized over the period that the related services are provided. Under IAS 18 and IFRS 15, investment management fees relating to our asset management and private wealth management business are generally calculated based on point-in-time AUM balances, and investment management fees relating to our retail brokerage business are generally calculated based on point-in-time AUM or AUA balances. Under IAS 18 and IFRS 15, custodial fees are recognized as revenue over the applicable service period, which is generally the contract term.

Mutual fund fees are earned on fund management services and, under IAS 18 and IFRS 15, are recognized over the period that the mutual funds are managed based upon the daily net asset values of the respective mutual funds. In certain circumstances, CIBC may, on a discretionary basis, elect to absorb certain expenses that would otherwise be payable by the mutual funds directly. Under IAS 18 and IFRS 15, these expenses are recognized in Non-interest expenses on the consolidated statement of income.

Transition impact from adoption of IFRS 15

As indicated above, CIBC adopted IFRS 15 as at November 1, 2018 in place of prior guidance, including IAS 18 and IFRIC 13. We applied IFRS 15 on a modified retrospective basis by recognizing a cumulative $6 million after-tax credit from the initial application in opening November 1, 2018 retained earnings. The impact of the initial adoption of IFRS 15 related to the upfront expensing of previously deferred mutual fund sales commissions and the revaluation of our self-managed credit card loyalty points liability.

Transition impact from adoption of IFRS 9

As indicated above, CIBC adopted IFRS 9 in place of IAS 39 as of November 1, 2017. As permitted, we did not restate our prior period comparative consolidated financial statements. Amounts reported relating to periods ended on or before October 31, 2017 are reported under IAS 39 and are therefore not comparable to the information presented for 2018 or 2019. Differences in the carrying amounts of financial instruments that resulted from the adoption of IFRS 9, other than from the voluntary adoption of the "own credit" provisions, have been recognized in our opening November 1, 2017 retained earnings and AOCI as if we had always followed the requirements of IFRS 9. The following table reconciles the carrying amounts under IAS 39 to the carrying amounts under IFRS 9, and the impact, net of tax, on shareholders' equity and total equity due to the transition to IFRS 9 on November 1, 2017:

$ millions	IAS 39 carrying amount as at Oct. 31, 2017	Reclassification	Remeasurements	IFRS 9 carrying amount as at Nov. 1, 2017
ASSETS				
Cash and non-interest-bearing deposits with banks	$ 3,440	$ –	$ –	$ 3,440
Interest-bearing deposits with banks	10,712	–	–	10,712
Securities				
Trading and FVO securities				
Opening balance	50,827			
To securities mandatorily measured and designated at FVTPL		(50,827) (1)		
Closing balance				–
AFS and HTM securities				
Opening balance	42,592			
To debt securities measured at FVOCI		(32,945) (2)		
To equity securities designated at FVOCI		(459) (3)		
To securities mandatorily measured at FVTPL		(1,092) (4)		
To securities measured at amortized cost		(8,096) (5)		
Closing balance				–
Securities mandatorily measured and designated at FVTPL				
Opening balance	–			
From AFS securities		1,092 (4)		
From trading and FVO securities		50,827 (1)		
From loans		12 (4)		
Closing balance				51,931
Debt securities measured at FVOCI				
Opening balance	–			
From AFS securities		32,945 (2)		
Closing balance				32,945
Equity securities designated at FVOCI				
Opening balance	–			
From AFS securities		459 (3)		
Closing balance				459
Securities measured at amortized cost				
Opening balance	–			
From AFS and HTM securities		8,110 (5)		
Closing balance				8,110
	93,419	26	–	93,445
Cash collateral on securities borrowed	5,035	–	–	5,035
Securities purchased under resale agreements	40,383 (6)	–	–	40,383
Loans				
Loans, net of allowance for credit losses	356,734	(375) (4)	(138) (7)	356,221
Loans mandatorily measured at FVTPL	–	363 (4)	–	363
	356,734	(12)	(138)	356,584
Other	55,541	2	25	55,568
Total assets	$ 565,264	$ 16	$ (113)	$ 565,167
LIABILITIES AND EQUITY				
Deposits (8)	$ 439,706	$ –	$ –	$ 439,706
Cash collateral on securities lent	2,024	–	–	2,024
Obligations related to securities sold under repurchase agreements	27,971	–	–	27,971
Subordinated indebtedness	3,209	–	–	3,209
Obligations related to securities sold short	13,713	–	–	13,713
Other	47,404	–	(6)	47,398
Total liabilities	534,027	–	(6)	534,021
Equity				
Preferred shares	1,797	–	–	1,797
Common shares	12,548	–	–	12,548
Contributed surplus	137	–	–	137
Retained earnings	16,101	4	(148)	15,957
Accumulated other comprehensive income				
Opening balance	452			
Reclassification of AFS debt securities to securities measured at amortized cost		16		
Reclassification of AFS equity securities to securities mandatorily measured at FVTPL		(4)		
Recognition of ECL under IFRS 9 on debt securities measured at FVOCI			45	
Closing balance				509
Total shareholders' equity	31,035	16	(103)	30,948
Non-controlling interests	202	–	(4)	198
Total equity	31,237	16	(107)	31,146
	$ 565,264	$ 16	$ (113)	$ 565,167

(1) In our structured credit run-off portfolio, certain securities have been reclassified from FVO to securities mandatorily measured at FVTPL.
(2) Certain AFS debt securities have been reclassified to debt securities measured at FVOCI as the securities met the "solely payment of principal and interest" criteria under IFRS 9 and are managed under a "hold to collect and to sell" business model.
(3) Certain securities have been reclassified from AFS to equity securities designated at FVOCI.
(4) Certain asset-backed securities and asset-backed loans have been reclassified from either AFS or loans to securities or loans mandatorily measured at FVTPL.
(5) Certain debt securities have been reclassified from AFS to securities measured at amortized cost as they met the "solely payment of principal and interest" criteria under IFRS 9 and are held within a business model whose objective is to hold assets to collect the contractual cash flows. The fair value of these securities that were still held at October 31, 2018 was $3,970 million. The change in fair value of these securities that would have been recognized in OCI during the year was a loss of $35 million had these securities continued to be measured at fair value through OCI. In addition, certain HTM securities that are managed under a "hold to collect" business model were reclassified to securities measured at amortized cost.
(6) Includes $1,450 million of certain securities purchased under resale agreements that are measured at FVTPL using the FVO under IAS 39 and as mandatorily measured at FVTPL under IFRS 9.
(7) Comprises measurement adjustments of $69 million related to ECL and $69 million related to the application of the effective interest rate method recognized upon transition to IFRS 9.
(8) Includes FVO deposits of $5,947 million under both IAS 39 and IFRS 9.

The most significant impact was in respect of the transition from an incurred loss model under IAS 39 to an ECL model under IFRS 9 for the determination of allowances for credit losses. For our business and government portfolios, the individually assessed allowances for impaired instruments recognized under IAS 39 have generally been replaced by stage 3 allowances under IFRS 9, while the collective allowances for performing financial instruments have generally been replaced by either stage 1 or stage 2 allowances under IFRS 9. For our retail portfolios, the portion of our collective allowances that relate to impaired financial instruments under IAS 39 have generally been replaced by stage 3 allowances under IFRS 9, while the performing portion of our collective allowances have generally been replaced by either stage 1 or stage 2 allowances under IFRS 9.

The following table reconciles the closing allowance for credit losses in accordance with IAS 39 as at October 31, 2017, to the opening ECL allowance determined in accordance with IFRS 9 as at November 1, 2017:

$ millions, as at	October 31, 2017							November 1, 2017
	IAS 39				IFRS 9			
	Individual allowance	Collective allowance	Total	Remeasurements	Stage 1	Stage 2	Stage 3	Total (1)
Loans								
Residential mortgages	$ 2	$ 201	$ 203	$ 19	$ 28	$ 43	$ 151	$ 222
Personal	7	488	495	(19)	164	202	110	476
Credit card	–	386	386	128	101	413	–	514
Business and government	183	470	653	(65)	234	150	204	588
	$ 192	$ 1,545	$ 1,737	$ 63	$ 527	$ 808	$ 465	$ 1,800
Comprises:								
Loans	$ 192	$ 1,426	$ 1,618	$ 69	$ 474	$ 748	$ 465	$ 1,687
Undrawn credit facilities and other off-balance sheet exposures (2)	–	119	119	(6)	53	60	–	113
Securities								
Debt securities measured at FVOCI (3)	n/a	n/a	n/a	$ 49	$ 14	$ 35	$ –	$ 49

(1) In addition, ECL allowances for other financial assets classified as amortized cost were immaterial as at November 1, 2017.
(2) Included in other liabilities on the consolidated balance sheet.
(3) The ECL allowances for debt securities measured at FVOCI are recognized in AOCI and do not affect the carrying value on our consolidated balance sheet, as these securities are measured at fair value.
n/a Not applicable under IAS 39.

Note 2 Fair value measurement

This note presents the fair values of financial instruments and explains how we determine those values. Note 1, "Basis of preparation and summary of significant accounting policies" sets out the accounting treatment for each measurement category of financial instruments.

Fair value is defined as the price that would be received to sell an asset, or paid to transfer a liability, between market participants in an orderly transaction in the principal market at the measurement date under current market conditions (i.e., the exit price). The determination of fair value requires judgment and is based on market information, where available and appropriate. Fair value measurements are categorized into three levels within a fair value hierarchy (Level 1, 2 or 3) based on the valuation inputs used in measuring the fair value, as outlined below.

- Level 1 – Unadjusted quoted market prices in active markets for identical assets or liabilities we can access at the measurement date. Bid prices, ask prices or prices within the bid and ask, which are the most representative of the fair value, are used as appropriate to measure fair value. Fair value is best evidenced by an independent quoted market price for the same instrument in an active market. An active market is one where transactions are occurring with sufficient frequency and volume to provide quoted prices on an ongoing basis.
- Level 2 – Quoted prices for identical assets or liabilities in markets that are inactive or observable market quotes for similar instruments, or use of valuation techniques where all significant inputs are observable. Inactive markets may be characterized by a significant decline in the volume and level of observed trading activity or through large or erratic bid/offer spreads. In instances where traded markets do not exist or are not considered sufficiently active, we measure fair value using valuation models.
- Level 3 – Non-observable or indicative prices or use of valuation techniques where one or more significant inputs are non-observable.

For a significant portion of our financial instruments, quoted market prices are not available because of the lack of traded markets, and even where such markets do exist, they may not be considered sufficiently active to be used as a final determinant of fair value. When quoted market prices in active markets are not available, we would consider using valuation models. The valuation model and technique we select maximizes the use of observable market inputs to the extent possible and appropriate in order to estimate the price at which an orderly transaction would take place at the measurement date. In an inactive market, we consider all reasonably available information, including any available pricing for similar instruments, recent arm's-length market transactions, any relevant observable market inputs, indicative dealer or broker quotations, and our own internal model-based estimates.

Valuation adjustments are an integral component of our fair valuation process. We apply judgment in establishing valuation adjustments that take into account various factors that may have an impact on the valuation. Such factors include, but are not limited to, the bid-offer spread, illiquidity due to lack of market depth, parameter uncertainty and other market risk, model risk and credit risk.

Generally, the unit of account for a financial instrument is the individual instrument, and valuation adjustments are applied at an individual instrument level, consistent with that unit of account. In cases where we manage a group of financial assets and liabilities that consist of substantially similar and offsetting risk exposures, the fair value of the group of financial assets and liabilities is measured on the basis of the net open risks.

We apply judgment in determining the most appropriate inputs and the weighting we ascribe to each such input as well as in our selection of valuation methodologies. Regardless of the valuation technique we use, we incorporate assumptions that we believe market participants would make for credit, funding, and liquidity considerations. When the fair value of a financial instrument at inception is determined using a valuation technique that incorporates significant non-observable market inputs, no inception profit or loss (the difference between the determined fair value and the transaction price) is recognized at the time the asset or liability is first recorded. Any gains or losses at inception are deferred and recognized only in future periods over the term of the instruments or when market quotes or data become observable.

We have an ongoing process for evaluating and enhancing our valuation techniques and models. Where enhancements are made, they are applied prospectively, so that fair values reported in prior periods are not recalculated on the new basis. Valuation models used, including analytics for the construction of yield curves and volatility surfaces, are vetted and approved, consistent with our model risk policy.

To ensure that valuations are appropriate, we have established internal guidance on fair value measurement, which is reviewed periodically in recognition of the dynamic nature of markets and the constantly evolving pricing practices in the market. A number of policies and controls are put in place to ensure that the internal guidance on fair value measurement is being applied consistently and appropriately, including independent validation of valuation inputs to external sources such as exchange quotes, broker quotes or other management-approved independent pricing sources. Key model inputs, such as yield curves and volatilities, are independently verified. The results from the independent price validation and any valuation adjustments are reviewed by the Independent Price Verification Committee on a monthly basis. This includes, but is not limited to, reviewing fair value adjustments and methodologies, independent price verification results, limits and valuation uncertainty.

Due to the judgment used in applying a wide variety of acceptable valuation techniques and models, as well as the use of estimates inherent in this process, estimates of fair value for the same or similar assets may differ among financial institutions. The calculation of fair value is based on market conditions as at each consolidated balance sheet date, and may not be reflective of ultimate realizable value.

Methods and assumptions

Financial instruments with fair value equal to carrying value

For financial instruments that are not carried on the consolidated balance sheet at fair value and where we consider the carrying value to be a reasonable approximation of fair value due to their short-term nature and generally negligible credit risk, the fair values disclosed for these financial instruments are assumed to equal their carrying values. These financial instruments are: cash and non-interest-bearing deposits with banks; short-term interest-bearing deposits with banks; cash collateral on securities borrowed; securities purchased under resale agreements; customers' liability under acceptances; cash collateral on securities lent; obligations related to securities sold under repurchase agreements; acceptances; deposits with demand features; and certain other financial assets and liabilities.

Securities

The fair value of debt or equity securities and obligations related to securities sold short is based on quoted bid or ask market prices where available in an active market.

Securities for which quotes in an active market are not available are valued using all reasonably available market information as described below.

The fair value of government issued or guaranteed securities that are not traded in an active market is calculated by applying valuation techniques such as discounted cash flow models using implied yields derived from the prices of actively traded government securities and most recently observable spread differentials.

The fair value of corporate debt securities is determined using the most recently executed transaction prices, and where appropriate, adjusted to the price of these securities obtained from independent dealers, brokers, and third-party multi-contributor consensus pricing sources. When observable price quotations are not available, fair value is determined based on discounted cash flow models using observable discounting curves such as benchmark and government yield curves and spread differentials observed through independent dealers, brokers, and third-party multi-contributor consensus pricing sources.

Asset-backed securities (ABS) and mortgage-backed securities (MBS) not issued or guaranteed by a government are valued using discounted cash flow models making maximum use of market observable inputs, such as broker quotes on identical or similar securities and other pricing information obtained from third-party pricing sources adjusted for the characteristics and the performance of the underlying collateral. Other key inputs used include prepayment and liquidation rates, credit spreads, and discount rates commensurate with the risks involved. These assumptions factor information that is derived from actual transactions, underlying reference asset performance, external market research, and market indices, where appropriate.

Privately issued debt and equity securities, which include certain Community Reinvestment Act equity investments and Federal Home Loan Bank (FHLB) stock, are valued using recent market transactions, where available. Otherwise, fair values are derived from valuation models using a market or income approach. These models consider various factors, including projected cash flows, earnings, revenue or other third-party evidence as available. The fair value of limited partnership investments is based upon net asset values published by third-party fund managers and is adjusted for more recent information, where available and appropriate. The carrying value of Community Reinvestment Act equity investments and FHLB stock approximates fair value.

Loans

The fair value of variable-rate loans and loans for which interest rates are repriced or reset frequently is assumed to be equal to their carrying value. The fair value for fixed-rate loans is estimated using a discounted cash flow calculation that uses market interest rates.

The ultimate fair value of loans disclosed is net of the associated allowance for credit losses. The fair value of loans is not adjusted for the value of any credit derivatives used to manage the credit risk associated with them. The fair value of these credit derivatives is disclosed separately.

Other assets and other liabilities

Other assets and other liabilities mainly comprise accrued interest receivable or payable, brokers' client accounts receivable or payable, precious metals and accounts receivable or payable.

The fair values of other assets and other liabilities are primarily assumed to be at cost or amortized cost as we consider the carrying value to be a reasonable approximation of fair value, except for the fair value of precious metals, which is quoted in an active market. Other assets also include investment in bank-owned life insurance carried at the cash surrender value, which is assumed to be a reasonable approximation of fair value.

Deposits

The fair values of floating-rate deposits and demand deposits are assumed to be equal to their amortized cost. The fair value of fixed-rate deposits is determined by discounting the contractual cash flows using either current market interest rates with similar remaining terms or rates estimated using internal models and broker quotes. The fair value of deposit notes issued to CIBC Capital Trust is determined by reference to the quoted market prices of CIBC Tier 1 Notes issued by CIBC Capital Trust. The fair value of deposit liabilities with embedded optionality includes the fair value of those options. The fair value of equity- and commodity-linked notes includes the fair value of embedded equity and commodity derivatives.

Certain deposits designated at FVTPL are structured notes that have coupons or repayment terms linked to the performance of commodities, debt or equity securities. Fair value of these structured notes is estimated using internally vetted valuation models for the debt and embedded derivative portions of the notes by incorporating market observable prices of the referenced securities or comparable securities, and other inputs such as interest rate yield curves, market volatility levels, foreign exchange rates and changes in our own credit risk, where appropriate. Where observable prices or inputs are not available, management judgment is required to determine fair values by assessing other relevant sources of information such as historical data, proxy information from similar transactions, and through extrapolation and interpolation techniques. Appropriate market risk valuation adjustments for such inputs are assessed in all such instances.

The fair value of secured borrowings, which comprises liabilities issued by or as a result of activities associated with the securitization of residential mortgages, the Covered Bond Programme, and consolidated securitization vehicles, is based on identical or proxy market observable quoted bond prices or determined by discounting the contractual cash flows using maximum market observable inputs, such as market interest rates, or credit spreads implied by debt instruments of similar credit quality, as appropriate.

Subordinated indebtedness

The fair value of subordinated indebtedness is determined by reference to market prices for the same or similar debt instruments.

Derivative instruments

The fair value of exchange-traded derivatives such as options and futures is based on quoted market prices. OTC derivatives primarily consist of interest rate swaps, foreign exchange forwards, equity and commodity derivatives, interest rate and currency derivatives, and credit derivatives. For such instruments, where quoted market prices or third-party consensus pricing information are not available, valuation techniques are employed to estimate fair value on the basis of pricing models. Such vetted pricing models incorporate current market measures for interest rates, foreign exchange rates, equity and commodity prices and indices, credit spreads, corresponding market volatility levels, and other market-based pricing factors.

In order to reflect the observed market practice of pricing collateralized and uncollateralized derivatives, our valuation approach uses overnight indexed swap (OIS) curves as the discount rate for valuing collateralized derivatives and uses an estimated market cost of funds curve as the discount rate for valuing uncollateralized derivatives. The impact of valuing uncollateralized derivatives based on an estimated market cost of funds curve reduces the fair value of uncollateralized derivative assets incremental to the reduction in fair value for credit risk already reflected through the credit valuation adjustment (CVA). In contrast, the use of a market cost of funds curve reduces the fair value of uncollateralized derivative liabilities in a manner that generally includes adjustments for our own credit. As market practices continue to evolve in regard to derivative valuation, further adjustments may be required in the future.

In determining the fair value of complex and customized derivatives, such as equity, credit, and commodity derivatives written in reference to indices or baskets of reference, we consider all reasonably available information including any relevant observable market inputs, third-party consensus pricing inputs, indicative dealer and broker quotations, and our own internal model-based estimates, which are vetted and pre-approved in accordance with our model risk policy, and are regularly and periodically calibrated. The model calculates fair value based on inputs specific to the type of contract, which may include stock prices, correlation for multiple assets, interest rates, foreign exchange rates, yield curves, and volatility surfaces. Where observable prices or inputs are not available, management judgment is required to determine fair values by assessing other relevant sources of information such as historical data, proxy information from similar transactions, and through extrapolation and interpolation techniques. Appropriate parameter uncertainty and market risk valuation adjustments for such inputs and other model risk valuation adjustments are assessed in all such instances.

In addition to reflecting estimated market funding costs in our valuation of uncollateralized derivative receivables, we also consider whether a CVA is required to recognize the risk that any given derivative counterparty may not ultimately be able to fulfill its obligations. The CVA is driven off market-observed credit spreads or proxy credit spreads and our assessment of the net counterparty credit risk exposure. In assessing this exposure, we also take into account credit mitigants such as collateral, master netting arrangements, and settlements through clearing houses. As noted above, the fair value of uncollateralized derivative liabilities based on market cost of funding generally includes adjustments for our own credit.

Mortgage commitments

The fair value of mortgage commitments designated at FVTPL is for fixed-rate residential mortgage commitments and is based on changes in market interest rates for the loans between the commitment and the consolidated balance sheet dates. The valuation model takes into account the expected probability that outstanding commitments will be exercised as well as the length of time the commitment is offered.

Fair value of financial instruments

$ millions, as at October 31		Carrying value: Amortized cost	Carrying value: Mandatorily measured at FVTPL	Carrying value: Designated at FVTPL	Carrying value: Fair value through OCI	Carrying value: Total	Fair value	Fair value over (under) carrying value
2019	**Financial assets**							
	Cash and deposits with banks	**$ 16,720**	**$ 639**	**$ –**	**$ –**	**$ 17,359**	**$ 17,359**	**$ –**
	Securities	**20,115**	**53,984**	**413**	**46,798**	**121,310**	**121,453**	**143**
	Cash collateral on securities borrowed	**3,664**	**–**	**–**	**–**	**3,664**	**3,664**	**–**
	Securities purchased under resale agreements	**50,913**	**5,198**	**–**	**–**	**56,111**	**56,111**	**–**
	Loans							
	Residential mortgages	**208,381**	**60**	**–**	**–**	**208,441**	**208,693**	**252**
	Personal	**43,098**	**–**	**–**	**–**	**43,098**	**43,120**	**22**
	Credit card	**12,335**	**–**	**–**	**–**	**12,335**	**12,335**	**–**
	Business and government	**103,885**	**21,182**	**–**	**–**	**125,067**	**125,160**	**93**
	Derivative instruments	**–**	**23,895**	**–**	**–**	**23,895**	**23,895**	**–**
	Customers' liability under acceptances	**9,167**	**–**	**–**	**–**	**9,167**	**9,167**	**–**
	Other assets	**13,829**	**–**	**–**	**–**	**13,829**	**13,829**	**–**
	Financial liabilities							
	Deposits							
	Personal	**$ 176,340**	**$ –**	**$ 1,751**	**$ –**	**$ 178,091**	**$ 178,046**	**$ (45)**
	Business and government	**248,367**	**–**	**9,135**	**–**	**257,502**	**257,872**	**370**
	Bank	**11,224**	**–**	**–**	**–**	**11,224**	**11,224**	**–**
	Secured borrowings	**38,680**	**–**	**215**	**–**	**38,895**	**39,223**	**328**
	Derivative instruments	**–**	**25,113**	**–**	**–**	**25,113**	**25,113**	**–**
	Acceptances	**9,188**	**–**	**–**	**–**	**9,188**	**9,188**	**–**
	Obligations related to securities sold short	**–**	**15,635**	**–**	**–**	**15,635**	**15,635**	**–**
	Cash collateral on securities lent	**1,822**	**–**	**–**	**–**	**1,822**	**1,822**	**–**
	Obligations related to securities sold under repurchase agreements	**51,801**	**–**	**–**	**–**	**51,801**	**51,801**	**–**
	Other liabilities	**14,066**	**114**	**12**	**–**	**14,192**	**14,192**	**–**
	Subordinated indebtedness	**4,684**	**–**	**–**	**–**	**4,684**	**4,925**	**241**

$ millions, as at October 31		Carrying value: Amortized cost	Carrying value: Mandatorily measured at FVTPL	Carrying value: Designated at FVTPL	Carrying value: Fair value through OCI	Carrying value: Total	Fair value	Fair value over (under) carrying value
2018	**Financial assets**							
	Cash and deposits with banks	$ 17,637	$ 54	$ –	$ –	$ 17,691	$ 17,691	$ –
	Securities	12,876	52,394	184	36,210	101,664	101,507	(157)
	Cash collateral on securities borrowed	5,488	–	–	–	5,488	5,488	–
	Securities purchased under resale agreements	40,128	3,322	–	–	43,450	43,450	–
	Loans							
	Residential mortgages	207,523	12	–	–	207,535	205,868	(1,667)
	Personal	42,577	–	–	–	42,577	42,559	(18)
	Credit card	12,255	–	–	–	12,255	12,255	–
	Business and government	92,605	16,424	–	–	109,029	108,917	(112)
	Derivative instruments	–	21,431	–	–	21,431	21,431	–
	Customers' liability under acceptances	10,265	–	–	–	10,265	10,265	–
	Other assets	10,230	–	–	–	10,230	10,230	–
	Financial liabilities							
	Deposits							
	Personal	$ 163,113	$ –	$ 766	$ –	$ 163,879	$ 163,642	$ (237)
	Business and government	233,174	–	6,975	–	240,149	240,374	225
	Bank	14,380	–	–	–	14,380	14,380	–
	Secured borrowings	42,481	–	126	–	42,607	42,868	261
	Derivative instruments	–	20,973	–	–	20,973	20,973	–
	Acceptances	10,296	–	–	–	10,296	10,296	–
	Obligations related to securities sold short	–	13,782	–	–	13,782	13,782	–
	Cash collateral on securities lent	2,731	–	–	–	2,731	2,731	–
	Obligations related to securities sold under repurchase agreements	30,840	–	–	–	30,840	30,840	–
	Other liabilities	13,030	95	17	–	13,142	13,142	–
	Subordinated indebtedness	4,080	–	–	–	4,080	4,340	260

Fair value of derivative instruments

$ millions, as at October 31				2019			2018
		Positive	**Negative**	**Net**	Positive	Negative	Net
Held for trading							
Interest rate derivatives							
Over-the-counter	– Forward rate agreements	**$ 67**	**$ 241**	**$ (174)**	$ 113	$ 8	$ 105
	– Swap contracts	**8,528**	**7,697**	**831**	4,603	5,901	(1,298)
	– Purchased options	**92**	**–**	**92**	92	–	92
	– Written options	**–**	**128**	**(128)**	–	100	(100)
		8,687	**8,066**	**621**	4,808	6,009	(1,201)
Exchange-traded	– Purchased options	**4**	**–**	**4**	1	–	1
		4	**–**	**4**	1	–	1
Total interest rate derivatives		**8,691**	**8,066**	**625**	4,809	6,009	(1,200)
Foreign exchange derivatives							
Over-the-counter	– Forward contracts	**5,152**	**5,711**	**(559)**	2,916	2,655	261
	– Swap contracts	**2,971**	**3,330**	**(359)**	4,825	4,979	(154)
	– Purchased options	**214**	**–**	**214**	240	–	240
	– Written options	**–**	**196**	**(196)**	–	233	(233)
		8,337	**9,237**	**(900)**	7,981	7,867	114
Total foreign exchange derivatives		**8,337**	**9,237**	**(900)**	7,981	7,867	114
Credit derivatives							
Over-the-counter	– Credit default swap contracts – protection purchased	**105**	**21**	**84**	115	13	102
	– Credit default swap contracts – protection sold	**–**	**107**	**(107)**	3	131	(128)
Total credit derivatives		**105**	**128**	**(23)**	118	144	(26)
Equity derivatives							
Over-the-counter		**1,262**	**2,561**	**(1,299)**	1,951	2,340	(389)
Exchange-traded		**2,384**	**1,825**	**559**	1,659	1,490	169
Total equity derivatives		**3,646**	**4,386**	**(740)**	3,610	3,830	(220)
Precious metal derivatives							
Over-the-counter		**287**	**167**	**120**	63	29	34
Exchange-traded		**69**	**45**	**24**	143	229	(86)
Total precious metal derivatives		**356**	**212**	**144**	206	258	(52)
Other commodity derivatives							
Over-the-counter		**1,289**	**1,517**	**(228)**	2,527	838	1,689
Exchange-traded		**314**	**253**	**61**	67	258	(191)
Total other commodity derivatives		**1,603**	**1,770**	**(167)**	2,594	1,096	1,498
Total held for trading		**22,738**	**23,799**	**(1,061)**	19,318	19,204	114
Held for ALM							
Interest rate derivatives							
Over-the-counter	– Forward rate agreements	**2**	**1**	**1**	–	1	(1)
	– Swap contracts	**439**	**256**	**183**	773	243	530
	– Purchased options	**14**	**–**	**14**	11	–	11
	– Written options	**–**	**–**	**–**	–	8	(8)
Total interest rate derivatives		**455**	**257**	**198**	784	252	532
Foreign exchange derivatives							
Over-the-counter	– Forward contracts	**31**	**28**	**3**	117	7	110
	– Swap contracts	**571**	**1,026**	**(455)**	1,205	1,461	(256)
Total foreign exchange derivatives		**602**	**1,054**	**(452)**	1,322	1,468	(146)
Credit derivatives							
Over-the-counter	– Credit default swap contracts – protection purchased	**–**	**3**	**(3)**	–	3	(3)
Total credit derivatives		**–**	**3**	**(3)**	–	3	(3)
Equity derivatives							
Over-the-counter		**100**	**–**	**100**	7	46	(39)
Total equity derivatives		**100**	**–**	**100**	7	46	(39)
Total held for ALM		**1,157**	**1,314**	**(157)**	2,113	1,769	344
Total fair value		**23,895**	**25,113**	**(1,218)**	21,431	20,973	458
Less: effect of netting		**(14,572)**	**(14,572)**	**–**	(11,789)	(11,789)	–
		$ 9,323	**$ 10,541**	**$ (1,218)**	$ 9,642	$ 9,184	$ 458

Assets and liabilities not carried on the consolidated balance sheet at fair value

The table below presents the fair values by level within the fair value hierarchy for those assets and liabilities in which fair value is not assumed to equal the carrying value:

	Level 1		Level 2		Level 3			
	Quoted market price		Valuation technique – observable market inputs		Valuation technique – non-observable market inputs			
$ millions, as at October 31	**2019**	2018	**2019**	2018	**2019**	2018	**Total 2019**	Total 2018
Financial assets								
Amortized cost securities	**$ –**	$ –	**$ 20,242**	$ 12,283	**$ 524**	$ 436	**$ 20,766**	$ 12,719
Loans								
Residential mortgages	**–**	–	**–**	–	**208,633**	205,856	**208,633**	205,856
Personal	**–**	–	**–**	–	**43,120**	42,559	**43,120**	42,559
Credit card	**–**	–	**–**	–	**12,335**	12,255	**12,335**	12,255
Business and government	**–**	–	**–**	–	**103,978**	92,493	**103,978**	92,493
Investment in equity-accounted associates (1)	**9**	–	**–**	–	**76**	101	**85**	101
Financial liabilities								
Deposits								
Personal	**$ –**	$ –	**$ 53,994**	$ 48,116	**$ 1,635**	$ 1,989	**$ 55,629**	$ 50,105
Business and government	**–**	–	**123,144**	120,612	**2,508**	1,489	**125,652**	122,101
Bank	**–**	–	**6,113**	10,003	**–**	–	**6,113**	10,003
Secured borrowings	**–**	–	**36,049**	38,612	**2,959**	4,130	**39,008**	42,742
Subordinated indebtedness	**–**	–	**4,925**	4,340	**–**	–	**4,925**	4,340

(1) See Note 25 for details of our equity-accounted associates.

Financial instruments carried on the consolidated balance sheet at fair value

The table below presents the fair values of financial instruments by level within the fair value hierarchy:

	Level 1		Level 2		Level 3			
	Quoted market price		Valuation technique – observable market inputs		Valuation technique – non-observable market inputs			
$ millions, as at October 31	**2019**	2018	**2019**	2018	**2019**	2018	**Total 2019**	Total 2018
Financial assets								
Deposits with banks	**$ –**	$ –	**$ 639**	$ 54	**$ –**	$ –	**$ 639**	$ 54
Securities mandatorily measured and designated at FVTPL								
Government issued or guaranteed	**2,372**	4,264	**19,306** (1)	16,328 (1)	**–**	–	**21,678**	20,592
Corporate equity	**25,852**	25,140	**684**	208	**7**	6	**26,543**	25,354
Corporate debt	**–**	–	**3,760**	3,675	**23**	26	**3,783**	3,701
Mortgage- and asset-backed	**–**	–	**2,220** (2)	2,612 (2)	**173**	319	**2,393**	2,931
	28,224	29,404	**25,970**	22,823	**203**	351	**54,397**	52,578
Loans mandatorily measured at FVTPL								
Business and government	**–**	–	**20,351**	15,942	**831**	482	**21,182**	16,424
Residential mortgages	**–**	–	**60**	12	**–**	–	**60**	12
	–	–	**20,411**	15,954	**831**	482	**21,242**	16,436
Debt securities measured at FVOCI								
Government issued or guaranteed	**2,369**	2,844	**35,460**	24,763	**–**	–	**37,829**	27,607
Corporate debt	**–**	–	**5,621**	4,543	**–**	–	**5,621**	4,543
Mortgage- and asset-backed	**–**	–	**2,746**	3,498	**–**	–	**2,746**	3,498
	2,369	2,844	**43,827**	32,804	**–**	–	**46,196**	35,648
Equity securities designated at FVOCI								
Corporate equity	**45**	42	**266**	235	**291**	285	**602**	562
	45	42	**266**	235	**291**	285	**602**	562
Securities purchased under resale agreements measured at FVTPL	**–**	–	**5,198**	3,322	**–**	–	**5,198**	3,322
Derivative instruments								
Interest rate	**4**	–	**9,086**	5,593	**56**	–	**9,146**	5,593
Foreign exchange	**–**	–	**8,939**	9,303	**–**	–	**8,939**	9,303
Credit	**–**	–	**1**	3	**104**	115	**105**	118
Equity	**2,383**	1,727	**1,111**	1,783	**252**	107	**3,746**	3,617
Precious metal	**–**	–	**356**	206	**–**	–	**356**	206
Other commodity	**383**	143	**1,220**	2,451	**–**	–	**1,603**	2,594
	2,770	1,870	**20,713**	19,339	**412**	222	**23,895**	21,431
Total financial assets	**$ 33,408**	$ 34,160	**$ 117,024**	$ 94,531	**$ 1,737**	$ 1,340	**$ 152,169**	$ 130,031
Financial liabilities								
Deposits and other liabilities (3)	**$ –**	$ –	**$ (10,626)**	$ (7,556)	**$ (601)**	$ (423)	**$ (11,227)**	$ (7,979)
Obligations related to securities sold short	**(7,258)**	(4,443)	**(8,377)**	(9,339)	**–**	–	**(15,635)**	(13,782)
	(7,258)	(4,443)	**(19,003)**	(16,895)	**(601)**	(423)	**(26,862)**	(21,761)
Derivative instruments								
Interest rate	**–**	–	**(8,322)**	(6,152)	**(1)**	(109)	**(8,323)**	(6,261)
Foreign exchange	**–**	–	**(10,291)**	(9,335)	**–**	–	**(10,291)**	(9,335)
Credit	**–**	–	**(19)**	(16)	**(112)**	(131)	**(131)**	(147)
Equity	**(1,824)**	(1,489)	**(2,407)**	(2,268)	**(155)**	(119)	**(4,386)**	(3,876)
Precious metal	**–**	–	**(212)**	(258)	**–**	–	**(212)**	(258)
Other commodity	**(300)**	(487)	**(1,470)**	(609)	**–**	–	**(1,770)**	(1,096)
	(2,124)	(1,976)	**(22,721)**	(18,638)	**(268)**	(359)	**(25,113)**	(20,973)
Total financial liabilities	**$ (9,382)**	$ (6,419)	**$ (41,724)**	$ (35,533)	**$ (869)**	$ (782)	**$ (51,975)**	$ (42,734)

(1) Includes $56 million related to securities designated at FVTPL (2018: $52 million).
(2) Includes $357 million related to asset-backed securities designated at FVTPL (2018: $132 million).
(3) Comprises deposits designated at FVTPL of $10,458 million (2018: $7,517 million), net bifurcated embedded derivative liabilities of $643 million (2018: $350 million), other liabilities designated at FVTPL of $12 million (2018: $17 million), and other financial liabilities measured at fair value of $114 million (2018: $95 million).

Transfers between levels in the fair value hierarchy are deemed to have occurred at the beginning of the year in which the transfer occurred. Transfers between levels can occur as a result of additional or new information regarding valuation inputs and changes in their observability. During the year, we transferred $25 million of securities mandatorily measured at FVTPL (2018: $211 million) and $431 million of securities sold short (2018: $854 million) from Level 1 to Level 2, and $379 million of securities sold short (2018: nil) from Level 2 to Level 1 due to changes in the observability of the inputs used to value these securities. In addition, transfers between Level 2 and Level 3 were made during 2019 and 2018, primarily due to changes in the observability of certain market volatility inputs that were used in measuring the fair value of our embedded derivatives.

The following table presents the changes in fair value of financial assets and liabilities in Level 3. These instruments are measured at fair value utilizing non-observable market inputs. We often hedge positions with offsetting positions that may be classified in a different level. As a result, the gains and losses for assets and liabilities in the Level 3 category presented in the table below do not reflect the effect of offsetting gains and losses on the related hedging instruments that are classified in Level 1 and Level 2.

				Net gains (losses) included in income (1)							
$ millions, for the year ended October 31	IAS 39 Opening balance	Reclassification upon adoption of IFRS 9 (2)	IFRS 9 Opening balance	Realized (3)	Unrealized (3)(4)	Net unrealized gains (losses) included in OCI (5)	Transfer in to Level 3	Transfer out of Level 3	Purchases/ Issuances	Sales/ Settlements	Closing balance
2019											
Securities mandatorily measured at FVTPL											
Corporate equity	**n/a**	**n/a**	**$ 6**	**$ –**	**$ 1**	**$ –**	**$ –**	**$ –**	**$ –**	**$ –**	**$ 7**
Corporate debt	**n/a**	**n/a**	**26**	**–**	**(3)**	**–**	**–**	**–**	**–**	**–**	**23**
Mortgage- and asset-backed	**n/a**	**n/a**	**319**	**–**	**1**	**–**	**–**	**–**	**74**	**(221)**	**173**
Securities designated at FVTPL											
Asset-backed	**n/a**	**n/a**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Loans mandatorily measured at FVTPL											
Business and government	**n/a**	**n/a**	**482**	**–**	**–**	**(1)**	**–**	**–**	**856**	**(506)**	**831**
Debt securities measured at FVOCI											
Government issued or guaranteed	**n/a**	**n/a**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Corporate debt	**n/a**	**n/a**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Mortgage- and asset-backed	**n/a**	**n/a**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Equity securities designated at FVOCI											
Corporate equity	**n/a**	**n/a**	**285**	**–**	**–**	**2**	**–**	**–**	**74**	**(70)**	**291**
Derivative instruments											
Interest rate	**n/a**	**n/a**	**–**	**–**	**59**	**–**	**–**	**–**	**2**	**(5)**	**56**
Credit	**n/a**	**n/a**	**115**	**(9)**	**(2)**	**–**	**–**	**–**	**–**	**–**	**104**
Equity	**n/a**	**n/a**	**107**	**–**	**15**	**–**	**–**	**(24)**	**202**	**(48)**	**252**
Total assets	**n/a**	**n/a**	**$ 1,340**	**$ (9)**	**$ 71**	**$ 1**	**$ –**	**$ (24)**	**$ 1,208**	**$ (850)**	**$ 1,737**
Deposits and other liabilities (6)	**n/a**	**n/a**	**$ (423)**	**$ –**	**$ (113)**	**$ –**	**$ (100)**	**$ 117**	**$ (288)**	**$ 206**	**$ (601)**
Derivative instruments											
Interest rate	**n/a**	**n/a**	**(109)**	**–**	**132**	**–**	**–**	**–**	**–**	**(24)**	**(1)**
Credit	**n/a**	**n/a**	**(131)**	**9**	**3**	**–**	**–**	**–**	**–**	**7**	**(112)**
Equity	**n/a**	**n/a**	**(119)**	**–**	**(89)**	**–**	**–**	**77**	**(70)**	**46**	**(155)**
Total liabilities	**n/a**	**n/a**	**$ (782)**	**$ 9**	**$ (67)**	**$ –**	**$ (100)**	**$ 194**	**$ (358)**	**$ 235**	**$ (869)**
2018											
Securities mandatorily measured at FVTPL											
Corporate equity	$ 32	$ 10	$ 42	$ 2	$ (3)	$ –	$ –	$ –	$ –	$ (35)	$ 6
Corporate debt	–	–	–	–	–	–	–	–	26	–	26
Mortgage- and asset-backed	3	707	710	3	9	–	12	–	95	(510)	319
Securities designated at FVTPL											
Asset-backed	94	(94)	–	–	–	–	–	–	–	–	–
Loans mandatorily measured at FVTPL											
Business and government	103	363	466	–	(5)	(5)	–	(2)	795	(767)	482
Debt securities measured at FVOCI											
Government issued or guaranteed	–	–	–	–	–	–	479	–	–	(479)	–
Corporate debt	4	–	4	(5)	1	–	–	–	26	(26)	–
Mortgage- and asset-backed	1,674	(1,674)	–	–	–	–	–	–	–	–	–
Equity securities designated at FVOCI											
Corporate equity	289	(10)	279	(3)	(2)	5	–	–	219	(213)	285
Derivative instruments											
Interest rate	28	–	28	–	(20)	–	–	–	–	(8)	–
Credit	130	–	130	(17)	2	–	–	–	–	–	115
Equity	38	–	38	–	(27)	–	12	(1)	109	(24)	107
Total assets	$ 2,395	$ (698)	$ 1,697	$ (20)	$ (45)	$ –	$ 503	$ (3)	$ 1,270	$ (2,062)	$ 1,340
Deposits and other liabilities (6)	$ (369)	$ –	$ (369)	$ –	$ 117	$ –	$ (126)	$ 81	$ (226)	$ 100	$ (423)
Derivative instruments											
Interest rate	(20)	–	(20)	–	(79)	–	–	–	–	(10)	(109)
Credit	(148)	–	(148)	17	(2)	–	–	–	–	2	(131)
Equity	(77)	–	(77)	–	40	–	(71)	46	(147)	90	(119)
Total liabilities	$ (614)	$ –	$ (614)	$ 17	$ 76	$ –	$ (197)	$ 127	$ (373)	$ 182	$ (782)

(1) Cumulative AOCI gains or losses related to equity securities designated at FVOCI are reclassified from AOCI to retained earnings at the time of disposal or derecognition.
(2) Certain reclassifications have been made upon adoption of IFRS 9. See Note 1 for more details about our transition to IFRS 9 on November 1, 2017.
(3) Includes foreign currency gains and losses related to debt securities measured at FVOCI.
(4) Comprises unrealized gains and losses relating to these assets and liabilities held at the end of the reporting year.
(5) Foreign exchange translation on loans mandatorily measured at FVTPL held by foreign operations and denominated in the same currency as the foreign operations is included in OCI.
(6) Includes deposits designated at FVTPL of $135 million (2018: $112 million) and net bifurcated embedded derivative liabilities of $466 million (2018: $311 million).
n/a Not applicable.

Quantitative information about significant non-observable inputs

Valuation techniques using one or more non-observable inputs are used for a number of financial instruments. The following table discloses the valuation techniques and quantitative information about the significant non-observable inputs used in Level 3 financial instruments:

				Range of inputs	
$ millions, as at October 31	**2019**	Valuation techniques	Key non-observable inputs	Low	High
Securities mandatorily measured at FVTPL					
Corporate equity	**$ 7**	Valuation multiple	Earnings multiple	15.1	15.1
Corporate debt	**23**	Discounted cash flow	Discount rate	7.5 %	7.5 %
Mortgage- and asset-backed	**173**	Discounted cash flow	Credit spread	0.9 %	2.3 %
		Market proxy or direct broker quote	Market proxy or direct broker quote	0.0 %	0.5 %
Equity securities designated at FVOCI					
Corporate equity					
Limited partnerships	**225**	Adjusted net asset value (1)	Net asset value	n/a	n/a
Private companies	**66**	Adjusted net asset value (1)	Net asset value	n/a	n/a
		Valuation multiple	Revenue multiple	2.6	2.6
Loans mandatorily measured at FVTPL					
Business and government	**831**	Discounted cash flow	Credit spread	0.6 %	1.6 %
Derivative instruments					
Interest rate	**56**	Proprietary model (2)	n/a	n/a	n/a
		Option model	Market volatility	49.7 %	69.4 %
Credit	**104**	Market proxy or direct broker quote	Market proxy or direct broker quote	0.0 %	20.5 %
Equity	**252**	Option model	Market volatility	14.0 %	14.0 %
			Market correlation	23.3 %	88.8 %
Total assets	**$ 1,737**				
Deposits and other liabilities	**$ (601)**	Option model	Market volatility	4.8 %	58.7 %
			Market correlation	(64.0) %	100.0 %
Derivative instruments					
Interest rate	**(1)**	Proprietary model (2)	n/a	n/a	n/a
		Option model	Market volatility	49.7 %	69.4 %
Credit	**(112)**	Market proxy or direct broker quote	Market proxy or direct broker quote	0.0 %	20.5 %
Equity	**(155)**	Option model	Market correlation	7.1 %	98.0 %
Total liabilities	**$ (869)**				

(1) Adjusted net asset value is determined using reported net asset values obtained from the fund manager or general partner of the limited partnership or the limited liability company and may be adjusted for current market levels where appropriate.
(2) Using valuation techniques that we consider to be non-observable.
n/a Not applicable.

Sensitivity of Level 3 financial assets and liabilities

The following section describes the significant non-observable inputs identified in the table above, the interrelationships between those inputs, where applicable, and the change in fair value if changing one or more of the non-observable inputs within a reasonably possible range would impact the fair value significantly.

The fair value of our investments in private companies is based on recent transactions, if available. Otherwise, the fair value is derived from applying applicable valuation multiples to financial indicators such as revenue or earnings. Earnings multiples or revenue multiples represent the ratios of earnings or revenue to enterprise value and are often used as non-observable inputs in the fair value measurement of our investments in private companies. We apply professional judgment in our selection of the multiple from comparable listed companies, which is then further adjusted for company-specific factors. The fair value of private companies is sensitive to changes in the multiple we apply. An increase or a decrease in earnings multiples or revenue multiples generally results in an increase or a decrease, respectively, in the fair value of our investments in private companies. By adjusting the multiple upward and downward within a reasonably possible range, the aggregate fair value of our investments in private companies would increase by $48 million or decrease by $2 million (2018: increase by $11 million or decrease by $8 million).

The fair value of our limited partnerships is determined based on the net asset value provided by the fund managers, adjusted as appropriate. The fair value of limited partnerships is sensitive to changes in the net asset value, and by adjusting the net asset value within a reasonably possible range, the aggregate fair value of our limited partnerships would increase or decrease by $34 million (2018: $23 million).

While our standalone derivatives are recorded as derivative assets or derivative liabilities, our derivatives embedded in our structured note deposit liabilities or deposit liabilities designated at FVTPL are recorded within deposits and other liabilities. The determination of the fair value of certain Level 3 embedded derivatives and certain standalone derivatives requires significant assumptions and judgment to be applied to both the inputs and the valuation techniques employed. These derivatives are sensitive to long-dated market volatility and correlation inputs, which we consider to be non-observable. Market volatility is a measure of the anticipated future variability of a market price and is an important input for pricing options, which are inherent in many of our Level 3 derivatives. A higher market volatility generally results in a higher option price, with all else held constant, due to the higher probability of obtaining a greater return from the option, and results in an increase in the fair value of our Level 3 derivatives. Correlation inputs are used to value those derivatives where the payout is dependent upon more than one market price. For example, the payout of an equity basket option is based upon the performance of a basket of stocks, and the interrelationships between the price movements of those stocks. A positive correlation implies that two inputs tend to change the fair value in the same direction, while a negative correlation implies that two inputs tend to change the fair value in the opposite direction. Changes in market correlation could result in an increase or a decrease in the fair value of our Level 3 derivatives and embedded derivatives. By adjusting the non-observable inputs by reasonably alternative amounts, the fair value of our net Level 3 standalone derivatives and embedded derivatives would increase by $45 million or decrease by $33 million (2018: increase by $67 million or decrease by $68 million).

Financial instruments designated at FVTPL

Financial assets designated at FVTPL include certain debt securities that were designated at FVTPL on the basis of being managed together with derivatives to eliminate or significantly reduce financial risks.

Deposits and other liabilities designated at FVTPL include:

- Certain business and government deposit liabilities and certain secured borrowings that are economically hedged with derivatives and other financial instruments, and certain financial liabilities that have one or more embedded derivatives that significantly modify the cash flows of the host liability but are not bifurcated from the host instrument; and
- Our mortgage commitments to retail clients to provide mortgages at fixed rates that are economically hedged with derivatives and other financial instruments.

The carrying value of our securities designated at FVTPL represents our maximum exposure to credit risk related to these assets designated at FVTPL. The change in fair value attributable to change in credit risk of these assets designated at FVTPL during the year is insignificant (2018: insignificant). The fair value of a liability designated at FVTPL reflects the credit risk relating to that liability. For those liabilities designated at FVTPL for which we believe changes in our credit risk would impact the fair value from the note holders' perspective, the related fair value changes were recognized in OCI. Changes in fair value attributable to changes in our own credit are measured as the difference between: (i) the period-over-period change in the present value of the expected cash flows using a discount curve adjusted for our own credit; and (ii) the period-over-period change in the present value of the same expected cash flows using a discount curve based on the benchmark curve adjusted for our own credit as implied at inception of the liability designated at FVTPL. The pre-tax impact of changes in CIBC's own credit risk on our liabilities designated at FVTPL was gains of $39 million for the year and gains of $21 million cumulatively (2018: losses of $4 million for the year and losses of $18 million cumulatively). A net loss of $32 million, net of hedges, was realized for assets designated at FVTPL and liabilities designated at FVTPL, which is included in the consolidated statement of income under Gains (losses) from financial instruments measured/designated at FVTPL, net (2018: a net gain of $37 million).

The estimated contractual amount payable at maturity of deposits designated at FVTPL, which is based on the par value and the intrinsic value of the applicable embedded derivatives, is $283 million higher (2018: $391 million higher) than its fair value.

Note 3 | Significant transactions

Sale of FirstCaribbean International Bank Limited

On November 8, 2019, we announced that we had entered into a definitive agreement to sell our controlling interest in FirstCaribbean International Bank Limited (CIBC FirstCaribbean) to GNB Financial Group Limited (GNB). Under the terms of the agreement, GNB will acquire 66.73% of CIBC FirstCaribbean's outstanding shares from CIBC for total consideration of approximately US$797 million, subject to closing adjustments to reflect certain changes in CIBC FirstCaribbean's book value prior to closing. The total consideration is comprised of approximately US$200 million in cash and secured financing provided by CIBC for the remainder. CIBC will also provide secured financing to facilitate the purchase of any shares tendered by the minority shareholders of CIBC FirstCaribbean under the take-over bid required by local securities laws. We expect to retain a minority interest in CIBC FirstCaribbean of approximately 24.9% after closing, which will be accounted for as an investment in associate using the equity method. This transaction is subject to regulatory approvals and is expected to close in 2020.

Cumulative foreign exchange translation gains, net of designated hedges, related to our investment in CIBC FirstCaribbean of approximately $280 million after-tax were included in AOCI as at October 31, 2019. Our cumulative foreign exchange translation gains relating to CIBC FirstCaribbean will be reclassified into income upon closing, and remain subject to change from movements in foreign exchange rates until closing.

Due to the valuation implied from the expected sale of our controlling interest in CIBC FirstCaribbean, we recognized a goodwill impairment charge of $135 million in the fourth quarter of 2019 (see Note 8 for additional details).

2019

Acquisition of Cleary Gull

On September 9, 2019, we completed the acquisition of substantially all of the assets and operations of Cleary Gull Inc. (Cleary Gull), a Milwaukee-based boutique investment banking firm specializing in middle-market mergers and acquisitions, private capital placement and debt advisory across the United States. Goodwill and intangible assets of $16 million were recognized as a result of the acquisition. The results of the acquired business have been consolidated from the date of close and are included in our Capital Markets strategic business unit.

Acquisition of Lowenhaupt Global Advisors

On September 1, 2019, we completed the acquisition of substantially all of the assets and operations of Lowenhaupt Global Advisors, LLC (LGA), a wealth advisory firm in St. Louis and New York that provides independent advice on family wealth transfer, taxation, investment portfolio allocation and business structuring. Goodwill and intangible assets of $14 million were recognized as a result of the acquisition. The results of the acquired business have been consolidated from the date of close and are included in our U.S. Commercial Banking and Wealth Management strategic business unit.

Finalization of arrangement with Air Canada

Following the close of Air Canada's acquisition of the Aeroplan loyalty business from Aimia Inc. on January 10, 2019, we will be offering credit cards under Air Canada's new loyalty program, which is expected to launch in 2020. This program will allow CIBC's Aeroplan cardholders to transfer their Aeroplan Miles to Air Canada's new loyalty program.

To secure our participation in Air Canada's new loyalty program for a period of 10 years, we paid Air Canada $200 million plus applicable sales tax, which we recognized as an expense in the first quarter of 2019. In addition, we made a payment of $92 million plus applicable sales tax in the first quarter of 2019 as a prepayment to be applied towards future monthly payments in respect of Aeroplan Miles over a 10-year period.

2018

Acquisition of Wellington Financial

On January 5, 2018, CIBC acquired both the loan assets of Wellington Financial and its management team for a combination of cash, common shares, and exchangeable shares. The acquisition supports the launch of CIBC Innovation Banking, a full service business that delivers strategic advice and funding to North American technology and innovation clients at each stage of their business cycle, and further deepens CIBC's capabilities and complements CIBC Bank USA's existing commercial banking team. Goodwill of $62 million was recognized as a result of the acquisition.

The exchangeable shares issued as part of the consideration for the acquisition are economically equivalent to CIBC common shares, and are subject to various vesting and performance conditions. A portion of the exchangeable shares are treated as equity-settled share-based compensation awards, and are amortized into income over the relevant vesting periods.

The results of the acquired business have been consolidated from the date of close and are included in our Canadian Commercial Banking and Wealth Management SBU.

2017 (finalized in 2018)

Acquisition of PrivateBancorp, Inc.

On June 23, 2017, we completed the acquisition of PrivateBancorp, Inc. (PrivateBancorp) and its subsidiary, The PrivateBank and Trust Company (The PrivateBank, subsequently rebranded as CIBC Bank USA) for total consideration of US$5.0 billion (C$6.6 billion). This acquisition expands our U.S. presence which diversifies earnings and strengthens our platform for long-term growth. The acquisition also creates a platform for CIBC to deliver high-quality middle market commercial and private banking capabilities, which advances our client-focused strategy.

We acquired 100% of the outstanding share capital of PrivateBancorp for a final transaction value of US$61.00 per PrivateBancorp share. During the first quarter of 2018, we finalized the purchase price allocation, and recognized an increase in goodwill of $29 million primarily due to additional information arising from the settlement of the dispute with former PrivateBancorp shareholders who validly exercised their dissent and appraisal rights under Delaware law.

The following summarizes the total purchase consideration of $6.6 billion as of the acquisition date, including the impact of final settlement of obligation to dissenting shareholders in the first quarter of 2018:

$ millions, as at June 23, 2017	
Issuance of CIBC common shares [1]	$ 3,443
Cash [2]	2,770
Estimated obligation payable to dissenting shareholders [3]	327
Issuance of replacement equity-settled awards [4]	72
Total purchase consideration estimated in 2017	$ 6,612
Adjustment to purchase consideration in 2018 [3]	$ 29
Total final purchase consideration	$ 6,641

(1) 32,137,402 CIBC common shares were issued at a price of US$80.95 per share to satisfy the equity component of the merger consideration of 0.4176 of a CIBC common share per PrivateBancorp share.
(2) US$2.1 billion in cash was transferred to satisfy the cash component of the merger consideration of US$27.20 per PrivateBancorp share.
(3) Former PrivateBancorp shareholders who validly exercised their dissent and appraisal rights under Delaware law did not receive the merger consideration and instead filed petitions against PrivateBancorp seeking a payment equal to the "fair value" of their PrivateBancorp shares as determined by a Delaware court following an appraisal proceeding. In such a proceeding, a Delaware court may require a purchaser to pay to the dissenting shareholders an amount more or less than, or the same as, the merger consideration. As at June 23, 2017, CIBC estimated the fair value of the obligation payable to dissenting shareholders using the final transaction value of US$61.00 per PrivateBancorp share. In November 2017, CIBC and the petitioners entered into an agreement to settle the dispute, subject to the court's entry of an order dismissing the consolidated petition. This matter was settled in November 2017 through a combination of $162 million cash and $194 million CIBC common shares, and resulted in an increase in goodwill of $29 million.
(4) Equity-settled share-based awards issued to employees of PrivateBancorp and The PrivateBank consisted of 190,789 replacement restricted shares and 988,544 replacement stock options with a fair value of US$54 million relating to the portion of these awards attributable to pre-acquisition service. The fair values of the restricted shares and the stock options were estimated based on the final transaction value of US$61.00 per PrivateBancorp share.

The following summarizes the fair values of identifiable assets acquired and liabilities assumed at the acquisition date that were reflected in 2017, updated for the impact of final settlement of obligation to dissenting shareholders in the first quarter of 2018:

$ millions, as at June 23, 2017	
Fair values of assets acquired	
Cash and non-interest-bearing deposits with banks	$ 280
Interest-bearing deposits with banks	441
AFS and HTM securities	5,577
Loans [1]	20,642
Other assets	33
Intangible assets [2]	370
Total fair value of identifiable assets acquired	27,343
Fair values of liabilities assumed	
Deposits	24,059
Other liabilities	496
Total fair value of identifiable liabilities assumed	24,555
Fair value of identifiable net assets acquired	2,788
Goodwill	3,853
Total purchase consideration	$ 6,641

(1) The fair value for loans reflects estimates of incurred and expected future credit losses at the acquisition date and interest rate premiums or discounts relative to prevailing market rates. The gross principal amount is $20.9 billion.
(2) Intangible assets include core deposits, customer relationships, and software. Core deposit and customer relationship intangibles arising from the acquisition are amortized on a straight-line basis over estimated useful lives, which range from 3-10 years.

The goodwill recognized of $3.9 billion primarily reflects the expected growth of our combined U.S. Commercial Banking and Wealth Management businesses, the ability to cross sell products between SBUs, and expected synergies from the integration of certain technology and operational platforms. Goodwill is not expected to be deductible for tax purposes.

All results of operations are included in our U.S. Commercial Banking and Wealth Management SBU. In 2017, our acquisition of PrivateBancorp increased our consolidated revenue and net income by $448 million and $96 million, respectively. If our acquisition of PrivateBancorp had occurred on November 1, 2016 it would have increased our 2017 consolidated revenue and net income by $1,228 million and $304 million, respectively. These amounts exclude transaction and integration costs, which are primarily recognized in non-interest expenses and included in Corporate and Other.

Acquisition of Geneva Advisors

On August 31, 2017, we completed the acquisition of Geneva Advisors, LLC (Geneva Advisors), an independent private wealth management firm, for total estimated consideration of US$179 million (C$224 million). This acquisition expands CIBC's private wealth management client base and investment management capabilities in the U.S. The purchase price consisted of $39 million of cash consideration and 1,204,344 CIBC common shares valued at $126 million, plus estimated contingent consideration of $59 million to be paid over the next three years subject to future performance conditions being met. Contingent consideration of up to US$65 million may ultimately be payable dependent upon the level of achievement of future performance conditions.

The following summarizes the fair values of identifiable assets acquired and liabilities assumed at the acquisition date:

$ millions, as at August 31, 2017	
Cash	$ 12
Other assets	2
Intangible assets [1]	102
Other liabilities	(12)
Fair value of identifiable net assets acquired	104
Goodwill [2]	120
Total purchase consideration	$ 224

(1) Intangible assets include customer relationships and contract-based intangibles. The customer relationship intangible asset arising from the acquisition is amortized on a straight-line basis over an estimated useful life of 7 years. Contract-based intangibles arising from the acquisition are amortized on a straight-line basis over estimated useful lives, which range from 5 to 9 years.
(2) Goodwill is expected to be deductible for tax purposes.

During the first quarter of 2018, we finalized the purchase price allocation. No adjustments were recorded as a result of the finalization.

All results of operations are included in our U.S. Commercial Banking and Wealth Management strategic business unit. Transaction and integration costs are included in Corporate and Other.

Note 4 | Securities

Securities

$ millions, as at October 31	**2019**	2018
Debt securities measured at FVOCI	**$ 46,196**	$ 35,648
Equity securities designated at FVOCI	**602**	562
Securities measured at amortized cost [1]	**20,115**	12,876
Securities mandatorily measured and designated at FVTPL	**54,397**	52,578
	$ 121,310	$ 101,664

(1) During the year, $110 million of amortized cost debt securities were disposed of shortly before their maturity resulting in a realized loss of less than $1 million (October 31, 2018: nil).

$ millions, as at October 31	Residual term to contractual maturity: Within 1 year		1 to 5 years		5 to 10 years		Over 10 years		No specific maturity		2019 Total		2018 Total	
	Carrying value	Yield (1)	Carrying value	Yield (1)	Carrying value	Yield (1)	Carrying value	Yield (1)	Carrying value	Yield (1)	Carrying value	Yield (1)	Carrying value	Yield (1)
Debt securities measured at FVOCI														
Securities issued or guaranteed by:														
Canadian federal government	**$ 2,452**	**1.5 %**	**$ 8,165**	**1.8 %**	**$ 234**	**2.1 %**	**$ –**	**– %**	**$ –**	**– %**	**$ 10,851**	**1.7 %**	$ 6,620	2.1 %
Other Canadian governments	**1,051**	**1.7**	**7,995**	**1.8**	**3,225**	**2.1**	**–**	**–**	**–**	**–**	**12,271**	**1.9**	9,249	2.7
U.S. Treasury and agencies	**4,128**	**1.9**	**5,209**	**2.1**	**34**	**1.6**	**–**	**–**	**–**	**–**	**9,371**	**2.0**	7,742	1.8
Other foreign governments	**2,227**	**2.2**	**2,840**	**2.4**	**129**	**5.2**	**140**	**5.6**	**–**	**–**	**5,336**	**2.5**	3,996	2.3
Mortgage-backed securities (2)	**–**	**–**	**396**	**1.9**	**248**	**2.4**	**2,055**	**2.5**	**–**	**–**	**2,699**	**2.4**	3,430	2.5
Asset-backed securities	**–**	**–**	**–**	**–**	**–**	**–**	**47**	**2.4**	**–**	**–**	**47**	**2.4**	68	2.5
Corporate debt	**1,007**	**1.8**	**4,609**	**2.5**	**5**	**2.4**	**–**	**–**	**–**	**–**	**5,621**	**2.4**	4,543	2.3
	$ 10,865		**$ 29,214**		**$ 3,875**		**$ 2,242**		**$ –**		**$ 46,196**		$ 35,648	
Equity securities designated at FVOCI														
Corporate public equity	**$ –**	**–**	**$ –**	**–**	**$ –**	**–**	**$ –**	**–**	**$ 46**	**n/m**	**$ 46**	**n/m**	$ 43	n/m
Corporate private equity	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**556**	**n/m**	**556**	**n/m**	519	n/m
	$ –		**$ –**		**$ –**		**$ –**		**$ 602**		**$ 602**		$ 562	
Securities measured at amortized cost														
Securities issued or guaranteed by:														
Canadian federal government	**$ –**		**$ 546**		**$ 36**		**$ –**		**$ –**		**$ 582**		$ 180	
Other Canadian governments	**–**		**2,180**		**4,514**		**54**		**–**		**6,748**		4,872	
U.S. Treasury and agencies	**781**		**5,146**		**–**		**–**		**–**		**5,927**		2,329	
Other foreign governments	**234**		**42**		**–**		**384**		**–**		**660**		693	
Mortgage-backed securities (3)	**231**		**962**		**987**		**1,436**		**–**		**3,616**		3,727	
Asset-backed securities	**5**		**153**		**305**		**–**		**–**		**463**		344	
Corporate debt	**280**		**1,764**		**75**		**–**		**–**		**2,119**		731	
	$ 1,531		**$ 10,793**		**$ 5,917**		**$ 1,874**		**$ –**		**$ 20,115**		$ 12,876	
Securities mandatorily measured and designated at FVTPL														
Securities issued or guaranteed by:														
Canadian federal government	**$ 1,999**		**$ 2,463**		**$ 1,274**		**$ 1,467**		**$ –**		**$ 7,203**		$ 10,708	
Other Canadian governments	**1,683**		**1,347**		**1,049**		**4,183**		**–**		**8,262**		8,055	
U.S. Treasury and agencies	**121**		**2,737**		**1,943**		**273**		**–**		**5,074**		905	
Other foreign governments	**238**		**703**		**164**		**34**		**–**		**1,139**		924	
Mortgage-backed securities (4)	**95**		**968**		**112**		**–**		**–**		**1,175**		1,774	
Asset-backed securities	**155**		**451**		**228**		**384**		**–**		**1,218**		1,157	
Corporate debt	**789**		**2,245**		**571**		**178**		**–**		**3,783**		3,701	
	$ 5,080		**$ 10,914**		**$ 5,341**		**$ 6,519**		**$ –**		**$ 27,854**		$ 27,224	
Corporate public equity	**–**		**–**		**–**		**–**		**26,523**		**26,523**		25,348 (5)	
Corporate private equity	**–**		**–**		**–**		**–**		**20**		**20**		6 (5)	
	$ –		**$ –**		**$ –**		**$ –**		**$ 26,543**		**$ 26,543**		$ 25,354	
Total securities (6)	**$ 17,476**		**$ 50,921**		**$ 15,133**		**$ 10,635**		**$ 27,145**		**$ 121,310**		$ 101,664	

(1) Represents the weighted-average yield, which is determined by applying the weighted average of the yields of individual fixed income securities.
(2) Includes securities backed by mortgages insured by the Canada Mortgage and Housing Corporation (CMHC), with amortized cost of $232 million (2018: $517 million) and fair value of $232 million (2018: $518 million); securities issued by Federal National Mortgage Association (Fannie Mae), with amortized cost of $1,127 million (2018: $1,267 million) and fair value of $1,136 million (2018: $1,238 million); securities issued by Federal Home Loan Mortgage Corporation (Freddie Mac), with amortized cost of $487 million (2018: $689 million) and fair value of $492 million (2018: $673 million); and securities issued by Government National Mortgage Association, a U.S. government corporation (Ginnie Mae), with amortized cost of $841 million (2018: $1,003 million) and fair value of $839 million (2018: $1,001 million).
(3) Includes securities backed by mortgage insured by the Canada Mortgage and Housing Corporation (CMHC) with amortized cost of $858 million (2018: $806 million) and fair value of $859 million (2018: $807 million); securities issued by Fannie Mae, with amortized cost of $1,037 million (2018: $1,275 million) and fair value of $1,048 million (2018: $1,226 million); securities issued by Freddie Mac, with amortized cost of $1,610 million (2018: $1,527 million) and fair value of $1,651 million (2018: $1,461 million); and securities issued by Ginnie Mae, with amortized cost of $98 million (2018: $119 million) and fair value of $99 million (2018: $113 million).
(4) Includes securities backed by mortgages insured by the CMHC of $1,135 million (2018: $1,701 million).
(5) Certain information has been reclassified to conform to the presentation adopted in the current year.
(6) Includes securities denominated in U.S. dollars with carrying value of $54.4 billion (2018: $40.3 billion) and securities denominated in other foreign currencies with carrying value of $1,813 million (2018: $1,799 million).
n/m Not meaningful.

Fair value of debt securities measured and equity securities designated at FVOCI

$ millions, as at October 31	2019				2018			
	Amortized cost (1)	**Gross unrealized gains**	**Gross unrealized losses**	**Fair value**	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Securities issued or guaranteed by:								
Canadian federal government	**$ 10,842**	**$ 12**	**$ (3)**	**$ 10,851**	$ 6,608	$ 15	$ (3)	$ 6,620
Other Canadian governments	**12,252**	**22**	**(3)**	**12,271**	9,220	31	(2)	9,249
U.S. Treasury and agencies	**9,353**	**25**	**(7)**	**9,371**	7,824	7	(89)	7,742
Other foreign governments	**5,318**	**25**	**(7)**	**5,336**	3,997	16	(17)	3,996
Mortgage-backed securities	**2,688**	**15**	**(4)**	**2,699**	3,476	5	(51)	3,430
Asset-backed securities	**47**	**–**	**–**	**47**	68	–	–	68
Corporate debt	**5,608**	**16**	**(3)**	**5,621**	4,567	2	(26)	4,543
	46,108	**115**	**(27)**	**46,196**	35,760	76	(188)	35,648
Corporate public equity (2)	**40**	**15**	**(9)**	**46**	34	14	(5)	43
Corporate private equity	**493**	**85**	**(22)**	**556**	434	100	(15)	519
	533	**100**	**(31)**	**602**	468	114	(20)	562
	$ 46,641	**$ 215**	**$ (58)**	**$ 46,798**	$ 36,228	$ 190	$ (208)	$ 36,210

(1) Net of allowance for credit losses for debt securities measured at FVOCI of $23 million (2018: $23 million).
(2) Includes restricted stock.

Fair value of equity securities designated at FVOCI that were disposed of during the year was $20 million (2018: $35 million). Net realized cumulative after-tax gains of $18 million for the year (2018: $38 million) resulting from dispositions of equity securities designated at FVOCI and return on capital distributions from limited partnerships designated at FVOCI were reclassified from AOCI to retained earnings.

Dividend income recognized for the year ended October 31, 2019 on equity securities designated at FVOCI that were still held as at October 31, 2019 was $9 million (2018: $5 million). No dividend income was recognized on equity securities designated at FVOCI that were disposed of during the year (2018: nil).

The table below presents profit or loss recognized on FVOCI securities (2017: AFS securities):

$ millions, for the year ended October 31	**2019**	2018	2017
Realized gains	**$ 40**	$ 56	$ 178
Realized losses	**(2)**	(13)	(25)
Provision for credit losses on debt securities	**(3)**	(78)	n/a
Impairment write-downs			
Equity securities	**n/a**	n/a	(10)
	$ 35	$ (35)	$ 143

n/a Not applicable.

Allowance for credit losses

The following table provides a reconciliation of the opening balance to the closing balance of the ECL allowance under IFRS 9 for debt securities measured at FVOCI:

		Stage 1	**Stage 2**	**Stage 3**	
$ millions, as at or for the year ended October 31		**Collective provision 12-month ECL performing**	**Collective provision lifetime ECL performing**	**Collective and individual provision lifetime ECL credit-impaired**	**Total**
2019	**Debt securities measured at FVOCI**				
	Balance at beginning of year	**$ 15**	**$ 3**	**$ 5**	**$ 23**
	Provision for (reversal of) credit losses (1)	**–**	**–**	**4**	**4**
	Write-offs	**–**	**–**	**(4)**	**(4)**
	Other	**(1)**	**–**	**1**	**–**
	Balance at end of year	**$ 14**	**$ 3**	**$ 6**	**$ 23**
2018	**Debt securities measured at FVOCI**				
	Balance at beginning of year	$ 14	$ 35	$ –	$ 49
	Provision for (reversal of) credit losses (1)	1	(32)	109	78
	Write-offs	–	–	(5)	(5)
	Other	–	–	(99) (2)	(99)
	Balance at end of year	$ 15	$ 3	$ 5	$ 23

(1) Included in the gains (losses) from debt securities measured at FVOCI and amortized cost, net on our consolidated statement of income.
(2) Includes ECL of $99 million relating to Barbados debt securities that were derecognized in the fourth quarter of 2018 as a result of a debt restructuring agreement completed with the Government of Barbados.

Barbados debt restructuring

As a result of a comprehensive debt restructuring agreement completed with the Government of Barbados in the fourth quarter of 2018, which impacts Barbados dollar-denominated debt instruments and excludes U.S. dollar-denominated debt, we derecognized debt securities measured at FVOCI with a par value of $467 million and expected credit losses of $99 million, and derecognized loans measured at amortized cost with a par value of $116 million and expected credit losses of $48 million. In exchange for the securities and loans that were derecognized, we recognized longer-dated securities with a par value of $522 million as originated credit-impaired amortized cost securities at a carrying value equal to the estimated fair value of $375 million with no initial allowance for expected credit losses as risk of future losses was reflected in the acquisition date discount, and recognized shorter-dated securities with a par value of $61 million as stage 1 amortized cost securities with expected credit losses of $1 million.

Note 5 Loans[1][2]

$ millions, as at October 31	2019					2018				
	Gross amount	**Stage 3 allowance**	**Stages 1 and 2 allowance**	**Total allowance** [3]	**Net total**	Gross amount	Stage 3 allowance	Stages 1 and 2 allowance	Total allowance	Net total
Residential mortgages [4]	**$ 208,652**	**$ 140**	**$ 71**	**$ 211**	**$ 208,441**	$ 207,749	$ 143	$ 71	$ 214	$ 207,535
Personal	**43,651**	**128**	**425**	**553**	**43,098**	43,058	109	372	481	42,577
Credit card	**12,755**	**–**	**420**	**420**	**12,335**	12,673	–	418	418	12,255
Business and government [4]	**125,798**	**376**	**355**	**731**	**125,067**	109,555	230	296	526	109,029
	$ 390,856	**$ 644**	**$ 1,271**	**$ 1,915**	**$ 388,941**	$ 373,035	$ 482	$ 1,157	$ 1,639	$ 371,396

(1) Loans are net of unearned income of $469 million (2018: $421 million).
(2) Includes gross loans of $69.5 billion (2018: $61.0 billion) denominated in U.S. dollars and $6.7 billion (2018: $4.8 billion) denominated in other foreign currencies.
(3) Includes ECL allowances for customers' liability under acceptances.
(4) Includes $60 million of residential mortgages (2018: $12 million) and $21,182 million of business and government loans (2018: $16,424 million) that are measured at FVTPL.

Allowance for credit losses

The following table provides a reconciliation of the opening balance to the closing balance of the ECL allowance under IFRS 9:

$ millions, as at or for the year ended October 31				2019
	Stage 1	Stage 2	Stage 3	
	Collective provision 12-month ECL performing	Collective provision lifetime ECL performing	Collective and individual provision lifetime ECL credit-impaired (1)	Total
Residential mortgages				
Balance at beginning of year	$ 27	$ 44	$ 143	$ 214
Originations net of repayments and other derecognitions	4	(11)	(23)	(30)
Changes in model	(2)	(6)	(5)	(13)
Net remeasurement (2)	(41)	32	94	85
Transfers (2)				
– to 12-month ECL	42	(30)	(12)	–
– to lifetime ECL performing	(3)	22	(19)	–
– to lifetime ECL credit-impaired	–	(7)	7	–
Provision for (reversal of) credit losses (3)	–	–	42	42
Write-offs (4)	–	–	(29)	(29)
Recoveries	–	–	2	2
Interest income on impaired loans	–	–	(17)	(17)
Foreign exchange and other	1	(1)	(1)	(1)
Balance at end of year	$ 28	$ 43	$ 140	$ 211
Personal				
Balance at beginning of year	$ 190	$ 199	$ 109	$ 498
Originations net of repayments and other derecognitions	45	(50)	–	(5)
Changes in model	(14)	30	–	16
Net remeasurement (2)	(194)	283	309	398
Transfers (2)				
– to 12-month ECL	183	(179)	(4)	–
– to lifetime ECL performing	(37)	51	(14)	–
– to lifetime ECL credit-impaired	–	(63)	63	–
Provision for (reversal of) credit losses (3)	(17)	72	354	409
Write-offs (4)	–	–	(395)	(395)
Recoveries	–	–	62	62
Interest income on impaired loans	–	–	(5)	(5)
Foreign exchange and other	1	–	3	4
Balance at end of year	$ 174	$ 271	$ 128	$ 573
Credit card				
Balance at beginning of year	$ 102	$ 370	$ –	$ 472
Originations net of repayments and other derecognitions	–	(50)	–	(50)
Changes in model	36	(48)	–	(12)
Net remeasurement (2)	(190)	477	184	471
Transfers (2)				
– to 12-month ECL	229	(229)	–	–
– to lifetime ECL performing	(33)	33	–	–
– to lifetime ECL credit-impaired	–	(215)	215	–
Provision for (reversal of) credit losses (3)	42	(32)	399	409
Write-offs (4)	–	–	(516)	(516)
Recoveries	–	–	117	117
Interest income on impaired loans	–	–	–	–
Foreign exchange and other	1	2	–	3
Balance at end of year	$ 145	$ 340	$ –	$ 485
Business and government				
Balance at beginning of year	$ 180	$ 147	$ 230	$ 557
Originations net of repayments and other derecognitions	32	(19)	(21)	(8)
Changes in model	–	1	3	4
Net remeasurement (2)	(17)	97	350	430
Transfers (2)				
– to 12-month ECL	71	(64)	(7)	–
– to lifetime ECL performing	(21)	25	(4)	–
– to lifetime ECL credit-impaired	(2)	(29)	31	–
Provision for (reversal of) credit losses (3)	63	11	352	426
Write-offs (4)	–	–	(190)	(190)
Recoveries	–	–	13	13
Interest income on impaired loans	–	–	(18)	(18)
Foreign exchange and other	(4)	–	(9)	(13)
Balance at end of year	$ 239	$ 158	$ 378	$ 775
Total ECL allowance (5)	$ 586	$ 812	$ 646	$ 2,044
Comprises:				
Loans	$ 526	$ 745	$ 644	$ 1,915
Undrawn credit facilities and other off-balance sheet exposures (6)	60	67	2	129

(1) Includes the ECL allowance for purchased credit-impaired loans from the acquisition of The PrivateBank.
(2) Transfers represent the amount of the ECL allowance at the beginning of the quarter in which the loan migration occurred. Net remeasurement represents the current period change in ECL allowances for transfers, net write-offs, changes in forecasts of forward-looking information, parameter updates, and partial repayments in the period.
(3) Provision for (reversal of) credit losses for loans and undrawn credit facilities and other off-balance sheet exposures is presented as Provision for (reversal of) credit losses on our consolidated statement of income.
(4) We generally continue to pursue collection on the amounts that were written off. The degree of collection efforts varies from one jurisdiction to another, depending on the local regulations and original agreements with customers.
(5) See Note 4 for the ECL allowance on debt securities measured at FVOCI. The ECL allowances for other financial assets classified at amortized cost were immaterial as at October 31, 2019 and were excluded from the table above. Other financial assets classified at amortized cost are presented on our consolidated balance sheet net of ECL allowances.
(6) Included in Other liabilities on our consolidated balance sheet.

$ millions, as at or for the year ended October 31	Stage 1	Stage 2	Stage 3	2018
	Collective provision 12-month ECL performing	Collective provision lifetime ECL performing	Collective and individual provision lifetime ECL credit-impaired (1)	Total
Residential mortgages				
Balance at beginning of year	$ 28	$ 43	$ 151	$ 222
Originations net of repayments and other derecognitions	7	(6)	(13)	(12)
Changes in model	(2)	1	22	21
Net remeasurement (2)	(25)	13	60	48
Transfers (2)				
– to 12-month ECL	20	(16)	(4)	–
– to lifetime ECL performing	(1)	9	(8)	–
– to lifetime ECL credit-impaired	–	(2)	2	–
Provision for (reversal of) credit losses (3)	(1)	(1)	59	57
Write-offs (4)	–	–	(54)	(54)
Recoveries	–	–	–	–
Interest income on impaired loans	–	–	(10)	(10)
Foreign exchange and other	–	2	(3)	(1)
Balance at end of year	$ 27	$ 44	$ 143	$ 214
Personal				
Balance at beginning of year	$ 164	$ 202	$ 110	$ 476
Originations net of repayments and other derecognitions	34	(22)	(5)	7
Changes in model	(2)	–	–	(2)
Net remeasurement (2)	(116)	148	299	331
Transfers (2)				
– to 12-month ECL	151	(148)	(3)	–
– to lifetime ECL performing	(40)	49	(9)	–
– to lifetime ECL credit-impaired	–	(31)	31	–
Provision for (reversal of) credit losses (3)	27	(4)	313	336
Write-offs (4)	–	–	(368)	(368)
Recoveries	–	–	58	58
Interest income on impaired loans	–	–	(3)	(3)
Foreign exchange and other	(1)	1	(1)	(1)
Balance at end of year	$ 190	$ 199	$ 109	$ 498
Credit card				
Balance at beginning of year	$ 101	$ 413	$ –	$ 514
Originations net of repayments and other derecognitions	–	(24)	–	(24)
Changes in model	–	2	–	2
Net remeasurement (2)	(143)	370	145	372
Transfers (2)				
– to 12-month ECL	179	(179)	–	–
– to lifetime ECL performing	(35)	35	–	–
– to lifetime ECL credit-impaired	–	(247)	247	–
Provision for (reversal of) credit losses (3)	1	(43)	392	350
Write-offs (4)	–	–	(512)	(512)
Recoveries	–	–	120	120
Interest income on impaired loans	–	–	–	–
Foreign exchange and other	–	–	–	–
Balance at end of year	$ 102	$ 370	$ –	$ 472
Business and government				
Balance at beginning of year	$ 234	$ 150	$ 204	$ 588
Originations net of repayments and other derecognitions	19	(10)	(15)	(6)
Changes in model	(11)	(7)	1	(17)
Net remeasurement (2)	(109)	72	187	150
Transfers (2)				
– to 12-month ECL	66	(60)	(6)	–
– to lifetime ECL performing	(21)	25	(4)	–
– to lifetime ECL credit-impaired	(1)	(24)	25	–
Provision for (reversal of) credit losses (3)	(57)	(4)	188	127
Write-offs (4)	–	–	(116)	(116)
Recoveries	–	–	12	12
Interest income on impaired loans	–	–	(10)	(10)
Foreign exchange and other	3	1	(48) (5)	(44)
Balance at end of year	$ 180	$ 147	$ 230	$ 557
Total ECL allowance (6)	$ 499	$ 760	$ 482	$ 1,741
Comprises:				
Loans	$ 450	$ 707	$ 482	$ 1,639
Undrawn credit facilities and other off-balance sheet exposures (7)	49	53	–	102

(1) Includes the ECL allowance for purchased credit-impaired loans from the acquisition of The PrivateBank.
(2) Transfers represent the amount of the ECL allowance at the beginning of the quarter in which the loan migration occurred. Net remeasurement represents the current period change in ECL allowances for transfers, net write-offs, changes in forecasts of forward-looking information, parameter updates, and partial repayments in the period.
(3) Provision for (reversal of) credit losses for loans and undrawn credit facilities and other off-balance sheet exposures is presented as Provision for (reversal of) credit losses on our consolidated statement of income.
(4) We generally continue to pursue collection on the amounts that were written off. The degree of collection efforts varies from one jurisdiction to another, depending on the local regulations and original agreements with customers.
(5) Includes ECL of $48 million relating to Barbados loans that were derecognized in the fourth quarter of 2018 as a result of a debt restructuring agreement completed with the Government of Barbados.
(6) See Note 4 for the ECL allowance on debt securities measured at FVOCI. The ECL allowances for other financial assets classified at amortized cost were immaterial as at October 31, 2018 and were excluded from the table above. Other financial assets classified at amortized cost are presented on our consolidated balance sheet net of ECL allowances.
(7) Included in Other liabilities on our consolidated balance sheet.

Inputs, assumptions and model techniques

Our ECL allowances are estimated using complex models that incorporate inputs, assumptions and model techniques that involve a high degree of management judgment. In particular, the following ECL elements are subject to a high level of judgment that can have a significant impact on the level of ECL allowances provided:

- Determining when a significant increase in credit risk of a loan has occurred;
- Measuring both 12-month and lifetime credit losses; and

- Forecasting forward-looking information for multiple scenarios and determining the probability weighting of the scenarios.

In addition, the interrelationship between these elements is also subject to a high degree of judgment which can also have a significant impact on the level of ECL recognized.

Determining when a significant increase in credit risk has occurred

The determination of whether a loan has experienced a significant increase in credit risk has a significant impact on the level of ECL allowance as loans that are in stage 1 are measured at 12-month ECL, while loans in stage 2 are measured at lifetime ECL. Migration of loans between stage 1 and stage 2 can cause significant volatility in the amount of the recognized ECL allowances and the provision for credit losses in a particular period.

For the majority of our retail loan portfolios, we determine a significant increase in credit risk based on relative changes in the loan's lifetime PD since its initial recognition. The PDs used for this purpose are the expected value of our upside, downside and base case lifetime PDs. Significant judgment is involved in determining the upside, downside and base case lifetime PDs through the incorporation of forward-looking information into long run PDs, in determining the probability weightings of the scenarios, and in determining the relative change in PDs that are indicative of a significant increase in credit risk for our various retail products. Increases in the expected PDs or decreases in the thresholds for changes in PDs that are indicative of a significant increase in credit risk can cause significant migration of loans from stage 1 to stage 2, which in turn can cause a significant increase in the amount of ECL allowances recognized. In contrast, decreases in the expected PDs or increases in the thresholds for changes in PDs that are indicative of a significant increase in credit risk can cause significant migration of loans from stage 2 to stage 1.

For the majority of our business and government loan portfolios, we determine a significant increase in credit risk based on relative changes in internal risk ratings since initial recognition. Significant judgment is involved in the determination of the internal risk ratings. Deterioration or improvement in the risk ratings or adjustments to the risk rating downgrade thresholds used to determine a significant increase in credit risk can cause significant migration of loans and securities between stage 1 and stage 2, which in turn can have a significant impact on the amount of ECL allowances recognized.

While potentially significant to the level of ECL allowances recognized, the thresholds for changes in PDs that are indicative of a significant increase in credit risk for our retail portfolios and the risk rating downgrade thresholds used to determine a significant increase in credit risk for our business and government loan portfolios are not expected to change frequently.

All loans on which repayment of principal or payment of interest is contractually 30 days in arrears and all business and government loans that have migrated to the watch list are automatically migrated to stage 2 from stage 1.

As at October 31, 2019, if the ECL for the stage 2 performing loans were measured using stage 1 ECL as opposed to lifetime ECL, the expected credit losses would be $305 million lower than the total recognized IFRS 9 ECL on performing loans (2018: $273 million).

Measuring both 12-month and lifetime expected credit losses

Our ECL models leverage the PD, LGD, and EAD parameters, as well as the portfolio segmentation used to calculate Basel expected loss regulatory adjustments for the portion of our retail and business and government portfolios under the advanced internal ratings-based (AIRB) approach. Adjustments are made to the Basel parameters to meet IFRS 9 requirements, including the conversion of through-the-cycle and downturn parameters used in the Basel regulatory calculations to point-in-time parameters used under IFRS 9 that consider forward-looking information. For standardized business and government portfolios, available long-run PDs, LGDs and EADs are also converted to point-in-time parameters through the incorporation of forward-looking information for the purpose of measuring ECL under IFRS 9.

Significant judgment is involved in determining which forward-looking information variables are relevant for particular portfolios and in determining the extent by which through-the-cycle parameters should be adjusted for forward-looking information to determine point-in-time parameters. While changes in the set of forward-looking information variables used to convert through-the-cycle PDs, LGDs and EADs into point-in-time parameters can either increase or decrease ECL allowances in a particular period, changes to the mapping of forward-looking information variables to particular portfolios are expected to be infrequent. However, changes in the particular forward-looking information parameters used to quantify point-in-time parameters will be frequent as our forecasts are updated on a quarterly basis. Increases in the level of pessimism in the forward-looking information variables will cause increases in expected credit losses, while increases in the level of optimism in the forward-looking information variables will cause decreases in expected credit losses. These increases and decreases could be significant in any particular period and will start to occur in the period where our outlook of the future changes.

With respect to the lifetime of a financial instrument, the maximum period considered when measuring ECL is the maximum contractual period over which we are exposed to credit risk. For revolving facilities, such as credit cards, the lifetime of a credit card account is the expected behavioural life. Significant judgment is involved in the estimate of the expected behavioural life. Increases in the expected behavioural life will increase the amount of ECL allowances, in particular for revolving loans in stage 2.

Forecasting forward-looking information for multiple scenarios and determining the probability weighting of the scenarios

As indicated above, forward-looking information is incorporated into both our assessment of whether the financial asset has experienced a significant increase in credit risk since its initial recognition and in our estimate of ECL. From analysis of historical data, our risk management function has identified and reflected in our ECL allowance those relevant forward-looking information variables that contribute to credit risk and losses within our retail and business and government loan portfolios. Within our retail loan portfolio, key forward-looking information variables include unemployment rates, housing prices and gross domestic product (GDP) growth. In many cases these variables are forecasted at the provincial level. Housing prices are also forecasted at the municipal level in some cases. Within our business and government loan portfolio, key drivers that impact the credit performance of the entire portfolio include S&P 500 growth rates, business credit growth rates, unemployment rates and credit spreads, while forward-looking information variables such as commodity prices and mining activity are significant for certain portfolios.

Our forecasting process leverages the process used prior to the adoption of IFRS 9. For the majority of our loan portfolios, our forecast of forward-looking information variables is established from a "base case" or most likely scenario that is used internally by management for planning and forecasting purposes. For most of the forward-looking information variables related to our Canadian businesses, we have forecast scenarios by province. In forming the "base case" scenario, we consider the forecasts of monetary authorities such as the Organisation for Economic Co-operation and Development (OECD), the International Monetary Fund (IMF), and the Bank of Canada, as well as private sector economists. We then derive reasonably possible "upside case" and "downside case" scenarios using external forecasts that are above and below our "base case" and the application of management judgment. A probability weighting is assigned to our "base case", "upside case" and "downside case" scenarios based on management judgment.

The following table provides the base case, upside case and downside case scenario forecasts for select forward-looking information variables used to estimate our ECLs. The base case, upside case and downside case amounts shown represent the average value of the forecasts over the respective projection horizons.

	Base case		**Upside case**		**Downside case**	
As at October 31, 2019	**Average value over the next 12 months**	**Average value over the remaining forecast period**	**Average value over the next 12 months**	**Average value over the remaining forecast period**	**Average value over the next 12 months**	**Average value over the remaining forecast period**
Canadian GDP year-over-year growth (1)	**1.5 %**	**1.8 %**	**2.3 %**	**2.5 %**	**0.6 %**	**0.8 %**
Canadian unemployment rate (1)	**6.1 %**	**5.9 %**	**5.5 %**	**5.5 %**	**6.4 %**	**6.5 %**
Canadian Housing Price Index growth (1)	**1.6 %**	**2.2 %**	**4.8 %**	**4.0 %**	**(2.2)%**	**(0.8)%**
S&P 500 Index growth rate	**5.0 %**	**4.7 %**	**8.2 %**	**6.6 %**	**(3.7)%**	**(10.3)%**
West Texas Intermediate Oil Price (US$)	**$ 60**	**$ 60**	**$ 67**	**$ 74**	**$ 47**	**$ 43**

	Base case		Upside case	Downside case
As at October 31, 2018	Average value over the next 12 months	Average value over the remaining forecast period	Average value over the forecast period	Average value over the forecast period
Canadian GDP year-over-year growth (1)	1.9 %	1.4 %	2.3 %	1.2 %
Canadian unemployment rate (1)	5.8 %	6.0 %	5.3 %	6.4 %
Canadian Housing Price Index growth (1)	2.2 %	2.3 %	6.4 %	(1.2)%
S&P 500 Index growth rate	4.6 %	(1.4)%	11.3 %	(10.8)%
West Texas Intermediate Oil Price (US$)	$ 67	$ 65	$ 78	$ 52

(1) Federal-level forward-looking forecasts are presented in the table above, which represent the aggregation of the provincial-level forecasts used to estimate our ECL. Housing Price Index growth rates are also forecasted at the municipal level in some cases. As a result, the forecasts for individual provinces or municipalities reflected in our ECLs will differ from the federal forecasts presented above.

The forecasting process is overseen by a governance committee consisting of internal stakeholders from across our bank including Risk Management, Economics, Finance and the impacted SBUs and involves a significant amount of judgment both in determining the forward-looking information forecasts for our various scenarios and in determining the probability weighting assigned to the scenarios. In general, a worsening of our outlook on forecasted forward-looking information for each scenario, an increase in the probability of the “downside case” scenario occurring, or a decrease in the probability of the “upside case” scenario occurring will increase the number of loans migrating from stage 1 to stage 2 and increase the estimated ECL allowance. In contrast, an improvement in our outlook on forecasted forward-looking information, an increase in the probability of the “upside case” scenario occurring, or a decrease in the probability of the “downside case” scenario occurring will have the opposite impact. It is not possible to meaningfully isolate the impact of changes in the various forward-looking information variables for a particular scenario because of both the interrelationship between the variables and the interrelationship between the level of pessimism inherent in a particular scenario and its probability of occurring.

As indicated above, forecasting forward-looking information for multiple scenarios and determining the probability weighting of the scenarios involves a high degree of management judgment. If we were to only use our base case scenario for the measurement of ECL for our performing loans, our ECL allowance would be $63 million lower than the recognized ECL as at October 31, 2019 (2018: $45 million). If we were to only use our downside case scenario for the measurement of ECL for our performing loans, our ECL allowance would be $254 million higher than the recognized ECL as at October 31, 2019 (2018: $241 million). This sensitivity is isolated to the measurement of ECL and therefore did not consider changes in the migration of exposures between stage 1 and stage 2 from the determination of the significant increase in credit risk that would have resulted in a 100% base case scenario or a 100% downside scenario.

Management overlays to ECL allowance estimates are adjustments which we use in circumstances where we judge that our existing inputs, assumptions and model techniques do not capture all relevant risk factors. The emergence of new macroeconomic, microeconomic or political events, along with expected changes to parameters, models or data that are not incorporated in our current parameters, internal risk rating migrations, or forward-looking information are examples of such circumstances. The use of management overlays requires the application of significant judgment that may impact the amount of ECL allowances recognized.

The following tables provide the gross carrying amount of loans, and the contractual amounts of undrawn credit facilities and other off-balance sheet exposures based on the application of our 12-month point in time PDs under IFRS 9 to our risk management PD bands for retail exposures, and based on our internal risk ratings for business and government exposures. Refer to "Credit risk" section of the MD&A for details on the CIBC risk categories.

Loans[1]

$ millions, as at October 31				**2019**				2018
	Stage 1	**Stage 2**	**Stage 3** [2][3][4]	**Total**	Stage 1	Stage 2	Stage 3 [2][3][4]	Total
Residential mortgages								
– Exceptionally low	**$ 142,260**	**$ –**	**$ –**	**$ 142,260**	$ 141,556	$ –	$ –	$ 141,556
– Very low	**37,140**	**–**	**–**	**37,140**	40,225	–	–	40,225
– Low	**17,315**	**1,010**	**–**	**18,325**	15,321	798	–	16,119
– Medium	**1,207**	**5,312**	**–**	**6,519**	859	4,905	–	5,764
– High	**11**	**1,162**	**–**	**1,173**	–	996	–	996
– Default	**–**	**–**	**597**	**597**	–	–	510	510
– Not rated	**2,251**	**233**	**154**	**2,638**	2,163	249	167	2,579
Gross residential mortgages [5][6]	**200,184**	**7,717**	**751**	**208,652**	200,124	6,948	677	207,749
ECL allowance	**28**	**43**	**140**	**211**	27	44	143	214
Net residential mortgages	**200,156**	**7,674**	**611**	**208,441**	200,097	6,904	534	207,535
Personal								
– Exceptionally low	**24,258**	**–**	**–**	**24,258**	23,808	–	–	23,808
– Very low	**4,321**	**1,353**	**–**	**5,674**	3,813	1,374	–	5,187
– Low	**4,955**	**1,582**	**–**	**6,537**	5,954	702	–	6,656
– Medium	**3,703**	**1,611**	**–**	**5,314**	4,428	1,151	–	5,579
– High	**302**	**613**	**–**	**915**	245	691	–	936
– Default	**–**	**–**	**164**	**164**	–	–	142	142
– Not rated	**720**	**29**	**40**	**789**	677	33	40	750
Gross personal [6]	**38,259**	**5,188**	**204**	**43,651**	38,925	3,951	182	43,058
ECL allowance	**160**	**265**	**128**	**553**	176	196	109	481
Net personal	**38,099**	**4,923**	**76**	**43,098**	38,749	3,755	73	42,577
Credit card								
– Exceptionally low	**3,015**	**–**	**–**	**3,015**	3,405	–	–	3,405
– Very low	**1,142**	**83**	**–**	**1,225**	1,747	50	–	1,797
– Low	**5,619**	**274**	**–**	**5,893**	3,809	710	–	4,519
– Medium	**1,344**	**565**	**–**	**1,909**	1,011	1,241	–	2,252
– High	**10**	**538**	**–**	**548**	10	528	–	538
– Default	**–**	**–**	**–**	**–**	–	–	–	–
– Not rated	**158**	**7**	**–**	**165**	162	–	–	162
Gross credit card	**11,288**	**1,467**	**–**	**12,755**	10,144	2,529	–	12,673
ECL allowance	**129**	**291**	**–**	**420**	88	330	–	418
Net credit card	**11,159**	**1,176**	**–**	**12,335**	10,056	2,199	–	12,255
Business and government [7]								
– Investment grade	**46,800**	**251**	**–**	**47,051**	42,993	221	–	43,214
– Non-investment grade	**80,780**	**3,443**	**–**	**84,223**	69,560	3,819	–	73,379
– Watchlist	**374**	**1,575**	**–**	**1,949**	279	1,201	–	1,480
– Default	**–**	**–**	**866**	**866**	–	–	504	504
– Not rated	**752**	**79**	**45**	**876**	1,040	86	117	1,243
Gross business and government [5][8]	**128,706**	**5,348**	**911**	**134,965**	113,872	5,327	621	119,820
ECL allowance	**209**	**146**	**376**	**731**	159	137	230	526
Net business and government	**128,497**	**5,202**	**535**	**134,234**	113,713	5,190	391	119,294
Total net amount of loans	**$ 377,911**	**$ 18,975**	**$ 1,222**	**$ 398,108**	$ 362,615	$ 18,048	$ 998	$ 381,661

(1) Other financial assets classified at amortized cost were excluded from the table above as their ECL allowances were immaterial as at October 31, 2019. In addition, the table excludes debt securities measured at FVOCI, for which ECL allowances of $23 million (2018: $23 million) were recognized in AOCI.
(2) Includes purchased credit-impaired loans from the acquisition of The PrivateBank.
(3) Excludes foreclosed assets of $25 million (2018: $14 million) which were included in Other assets on our consolidated balance sheet.
(4) As at October 31, 2019, 90% (2018: 89%) of stage 3 impaired loans were either fully or partially collateralized.
(5) Includes $60 million (2018: $12 million) of residential mortgages and $21,182 million (2018: $16,424 million) of business and government loans that are measured at FVTPL.
(6) The internal risk rating grades presented for residential mortgages and certain personal loans do not take into account loan guarantees or insurance issued by the Canadian government (federal or provincial), Canadian government agencies, or private insurers, as the significant increase in credit risk of these loans is based on relative changes in the loans' lifetime PD without considering collateral or other credit enhancements.
(7) Certain comparative information has been reclassified between internal risk rating categories.
(8) Includes customers' liability under acceptances of $9,167 million (2018: $10,265 million).

Undrawn credit facilities and other off-balance sheet exposures

$ millions, as at October 31				2019				2018
	Stage 1	**Stage 2**	**Stage 3**	**Total**	Stage 1	Stage 2	Stage 3	Total
Retail								
– Exceptionally low	**$ 106,696**	**$ 120**	**$ –**	**$ 106,816**	$ 100,772	$ –	$ –	$ 100,772
– Very low	**7,341**	**1,126**	**–**	**8,467**	10,217	1,014	–	11,231
– Low	**10,974**	**1,357**	**–**	**12,331**	7,873	1,612	–	9,485
– Medium	**1,737**	**752**	**–**	**2,489**	1,729	1,188	–	2,917
– High	**255**	**495**	**–**	**750**	234	417	–	651
– Default	**–**	**–**	**19**	**19**	–	–	13	13
– Not rated	**397**	**32**	**–**	**429**	348	33	–	381
Gross retail	**127,400**	**3,882**	**19**	**131,301**	121,173	4,264	13	125,450
ECL allowance	**30**	**55**	**–**	**85**	28	43	–	71
Net retail	**127,370**	**3,827**	**19**	**131,216**	121,145	4,221	13	125,379
Business and government (1)								
– Investment grade	**78,906**	**296**	**–**	**79,202**	78,678	390	–	79,068
– Non-investment grade	**52,379**	**1,282**	**–**	**53,661**	41,780	1,198	–	42,978
– Watchlist	**65**	**575**	**–**	**640**	81	404	–	485
– Default	**–**	**–**	**69**	**69**	–	–	7	7
– Not rated	**688**	**60**	**–**	**748**	670	49	–	719
Gross business and government	**132,038**	**2,213**	**69**	**134,320**	121,209	2,041	7	123,257
ECL allowance	**30**	**12**	**2**	**44**	21	10	–	31
Net business and government	**132,008**	**2,201**	**67**	**134,276**	121,188	2,031	7	123,226
Total net undrawn credit facilities and other off-balance sheet exposures	**$ 259,378**	**$ 6,028**	**$ 86**	**$ 265,492**	$ 242,333	$ 6,252	$ 20	$ 248,605

(1) Certain comparative information has been reclassified between internal risk rating categories.

Purchased credit-impaired loans

Purchased credit-impaired loans resulting from the acquisition of The PrivateBank include business and government and consumer loans with outstanding unpaid principal balances of $8 million, $20 million and $134 million; and fair values of $6 million, $14 million, and $105 million, respectively, as at October 31, 2019, October 31, 2018, and June 23, 2017 (the acquisition date).

Loans contractually past due but not impaired

This comprises loans where repayment of principal or payment of interest is contractually in arrears. The following table provides an aging analysis of the contractually past due loans:

$ millions, as at October 31	**Less than 31 days**	**31 to 90 days**	**Over 90 days**	**2019 Total**	2018 Total
Residential mortgages	**$ 2,608**	**$ 862**	**$ –**	**$ 3,470**	$ 3,354
Personal	**763**	**185**	**–**	**948**	937
Credit card	**559**	**180**	**99**	**838**	822
Business and government	**555**	**177**	**–**	**732**	683
	$ 4,485	**$ 1,404**	**$ 99**	**$ 5,988**	$ 5,796

During the year, gross interest income that would have been recorded if impaired loans were treated as current was $99 million (2018: $81 million), of which $46 million (2018: $27 million) was in Canada and $53 million (2018: $54 million) was outside Canada. During the year, interest recognized on impaired loans was $40 million (2018: $23 million), and interest recognized on loans before being classified as impaired was $58 million (2018: $59 million), of which $43 million (2018: $41 million) was in Canada and $15 million (2018: $18 million) was outside Canada.

Net interest income after provision for credit losses

$ millions, for the year ended October 31	**2019**	2018	2017
Interest income	**$ 20,697**	$ 17,505	$ 13,593
Interest expense	**10,146**	7,440	4,616
Net interest income	**10,551**	10,065	8,977
Provision for credit losses	**1,286**	870	829
Net interest income after provision for credit losses	**$ 9,265**	$ 9,195	$ 8,148

Modified financial assets

From time to time, we may modify the contractual terms of loans classified as stage 2 and stage 3 for which the borrower has experienced financial difficulties, through the granting of a concession in the form of below-market rates or terms that we would not otherwise have considered. Changes to the present value of the estimated future cash payments through the expected life of the modified loan discounted at the loan's original effective interest rate are recognized through changes in the ECL allowance and provision for credit losses. During the year ended October 31, 2019, loans classified as stage 2 with an amortized cost of $223 million (2018: $133 million) and loans classified as stage 3 with an amortized cost of $123 million (2018: $119 million), in each case before the time of modification, were modified through the granting of a financial concession in response to the borrower having experienced financial difficulties. In addition, the gross carrying amount of previously modified stage 2 or stage 3 loans that have returned to stage 1 during the year ended October 31, 2019 was $15 million (2018: $42 million).

Note 6 | Structured entities and derecognition of financial assets

Structured entities

SEs are entities that have been 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 to administrative tasks only and the relevant activities are directed by means of contractual arrangements. SEs are entities that are created to accomplish a narrow and well-defined objective. CIBC is involved with various types of SEs for which the business activities include securitization of financial assets, asset-backed financings, and asset management.

We consolidate an SE when the substance of the relationship indicates that we control the SE.

Consolidated structured entities

We consolidate the following SEs:

Multi-seller conduit

We sponsor a consolidated multi-seller conduit in Canada that purchases financial assets from clients and finances the purchases by issuing ABS. The sellers to the conduit continue to service the assets and are exposed to credit losses realized on these assets through the provision of over-collateralization. We hold all of the outstanding ABS.

Credit card securitization trusts

We sell an ownership interest in a revolving pool of credit card receivables generated under certain credit card accounts to Cards II Trust (Cards II), which purchases a proportionate share of credit card receivables on certain credit card accounts within designated portfolios, with the proceeds received from the issuance of notes.

Our credit card securitizations are revolving securitizations, with credit card receivable balances fluctuating from month to month as credit card clients repay their balances and new receivables are generated.

The notes are presented as Secured borrowings within Deposits on the consolidated balance sheet.

As at October 31, 2019, $2.9 billion of credit card receivable assets with a fair value of $2.9 billion (2018: $4.1 billion with a fair value of $4.1 billion) supported associated funding liabilities of $2.9 billion with a fair value of $2.9 billion (2018: $4.1 billion with a fair value of $4.1 billion).

Covered bond guarantor

We have two covered bond programs, structured and legislative. Covered bonds are full recourse on-balance sheet obligations that are also fully collateralized by assets over which bondholders enjoy a priority claim in the event of CIBC's insolvency. Under the structured program, we transfer a pool of CMHC insured mortgages to the CIBC Covered Bond Guarantor Limited Partnership that warehouses these mortgages and serves as a guarantor to bondholders for payment of interest and principal. Under the legislative program, we transfer a pool of conventional uninsured mortgages to the CIBC Covered Bond (Legislative) Guarantor Limited Partnership that warehouses these mortgages and serves as a guarantor to bondholders for payment of interest and principal.

For both covered bond programs, the assets are owned by the guarantor and not CIBC. As at October 31, 2019, our structured program had outstanding covered bond liabilities of nil with a fair value of nil (2018: $0.3 billion with a fair value of $0.3 billion) and our legislative program had outstanding covered bond liabilities of $18.9 billion with a fair value of $19.0 billion (2018: $19.5 billion with a fair value of $19.6 billion). The covered bond liabilities are supported by a contractually determined portion of the assets transferred to the guarantor and certain contractual arrangements designed to protect the bondholders from adverse events, including foreign currency fluctuations.

CIBC-managed investment funds

We establish and manage investment funds such as mutual funds and pooled funds. We act as an investment manager and earn market-based management fees, and for certain pooled funds, performance fees which are generally based on the performance of the funds. Seed capital is provided from time to time to CIBC-managed investment funds for initial launch. We consolidate those investment funds in which we have power to direct the relevant activities of the funds and in which our seed capital, or our units held, are significant relative to the total variability of returns of the funds such that we are deemed to be a principal rather than an agent. As at October 31, 2019, the total assets and non-controlling interests in consolidated CIBC-managed investment funds were $23 million and $15 million, respectively (2018: $64 million and $31 million, respectively). Non-controlling interests in consolidated CIBC-managed investment funds are included in Other liabilities as the investment fund units are mandatorily redeemable at the option of the investor.

Community-based tax-advantaged investments

We sponsor certain SEs that invest in community development projects in the U.S. through the issuance of below-market loans that generate a return primarily through the realization of tax credits. As at October 31, 2019, the program had outstanding loans of $55 million (2018: $59 million).

Non-consolidated structured entities

The following SEs are not consolidated by CIBC:

Single-seller and multi-seller conduits

We manage and administer a single-seller conduit and several CIBC-sponsored multi-seller conduits in Canada. The multi-seller conduits acquire direct or indirect ownership or security interests in pools of financial assets from our clients and finance the acquisitions by issuing asset-backed commercial paper (ABCP) to investors. The single-seller conduit acquires financial assets and finances these acquisitions through a credit facility provided by a syndicate of financial institutions. The sellers to the conduits may continue to service the assets and may be exposed to credit losses realized on these assets, typically through the provision of over-collateralization or another form of retained interest. The conduits may obtain credit enhancement from third-party providers. As at October 31, 2019, the total assets in the single-seller conduit and multi-seller conduits amounted to $0.5 billion and $7.1 billion, respectively (2018: $0.5 billion and $7.1 billion, respectively).

We generally provide the multi-seller conduits with commercial paper backstop liquidity facilities, securities distribution, and provide both the single and multi-seller conduits with accounting, cash management, and operations services. The liquidity facilities for the managed and administered multi-seller conduits require us to provide funding, subject to the satisfaction of certain conditions with respect to the conduits, for ABCP not placed with external investors. We also may purchase ABCP issued by the multi-seller conduits for market-making purposes.

We are required to maintain certain short-term and/or long-term debt ratings with respect to the liquidity facilities that we provide to the sponsored multi-seller conduits. If we are downgraded below the level specified under the terms of those facilities, we must provide alternative satisfactory liquidity arrangements, such as procuring an alternative liquidity provider that meets the minimum rating requirements.

We may also act as the counterparty to derivative contracts entered into by a multi-seller conduit in order to convert the yield of the underlying assets to match the needs of the multi-seller conduit's investors or to mitigate the interest rate, basis, and currency risk within the conduit.

All fees earned in respect of activities with the conduits are on a market basis.

Third-party structured vehicles – continuing

We have investments in and provide loans, liquidity and credit facilities to third-party SEs. We also have investments in limited partnerships in which we generally are a passive investor of the limited partnerships as a limited partner, and in some cases, we are the co-general partner and have significant influence over the limited partnerships. Similar to other limited partners, we are obligated to provide funding up to our commitment level to these limited partnerships.

Pass-through investment structures

We have exposure to units of third-party or CIBC-managed investment funds. We enter into equity derivative transactions with third-party investment funds to pass-through the return of these referenced funds. These transactions provide the investors of the third-party managed investment funds with the desired exposure to the referenced funds in a tax efficient manner.

CIBC Capital Trust

We have issued senior deposit notes to CIBC Capital Trust, which funds the purchase of these notes through the issuance of CIBC Tier 1 Notes (Notes) that match the term of the senior deposit notes. The Notes are eligible for Tier 1 regulatory capital treatment and are subject to the phase-out rules for capital instruments that will be viewed as non-qualifying capital instruments. See Note 16 for additional details.

CIBC-managed investment funds

As indicated above, we establish investment funds, including mutual funds and pooled funds, to provide clients with investment opportunities and we may receive management fees and performance fees. We may hold insignificant amounts of fund units in these CIBC-managed funds. We do not consolidate these funds if we do not have significant variability of returns from our interests in these funds such that we are deemed to be an agent through our capacity as the investment manager, rather than a principal. We do not guarantee the performance of CIBC-managed investment funds. As at October 31, 2019, the total AUM in the non-consolidated CIBC-managed investment funds amounted to $122.7 billion (2018: $114.4 billion).

CIBC structured collateralized debt obligation vehicles

We hold exposures to structured CDO vehicles through investments in, or written credit derivatives referencing, these structured vehicles. We may also provide liquidity facilities or other credit facilities. The structured vehicles are funded through the issuance of senior and subordinated tranches. We may hold a portion of those senior and/or subordinated tranches.

We previously curtailed our business activity in structuring CDO vehicles within our structured credit run-off portfolio. Our exposures to CDO vehicles mainly arose through our previous involvement in acting as structuring and placement agent for the CDO vehicles. As at October 31, 2019, the assets in the CIBC structured CDO vehicles have a total principal amount of $232 million (2018: $334 million).

Third-party structured vehicles – structured credit run-off

Similar to our structured activities, we also curtailed our business activities in third-party structured vehicles, within our structured credit run-off portfolio. These positions were initially traded as intermediation, correlation and flow trading, which earned us a spread on matching positions.

Community Reinvestment Act investments

We hold debt and equity investments in limited liability entities to further our U.S. Community Reinvestment Act initiatives with a carrying value of $279 million (2018: $241 million). These entities invest in qualifying community development projects, including affordable housing projects, that generate a return primarily by the realization of tax credits. Similar to other limited investors in these entities, we are obligated to provide funding up to our commitment level to these limited liability entities. As at October 31, 2019, the total assets of these limited liability entities were $4.8 billion (2018: $4.6 billion).

Our on-balance sheet amounts and maximum exposure to loss related to SEs that are not consolidated are set out in the table below. The maximum exposure comprises the carrying value of unhedged investments, the notional amounts for liquidity and credit facilities, and the notional amounts less accumulated fair value losses for unhedged written credit derivatives on SE reference assets. The impact of CVA is not considered in the table below.

$ millions, as at October 31, 2019	Single-seller and multi-seller conduits	Third-party structured vehicles – continuing	Structured vehicles run-off [(1)]	Other [(2)]
On-balance sheet assets at carrying value [(3)]				
Securities	**$ 26**	**$ 1,930**	**$ 3**	**$ 320**
Loans	**87**	**1,415**	**–**	**–**
Investments in equity-accounted associates and joint ventures	**–**	**–**	**–**	**12**
	$ 113	**$ 3,345**	**$ 3**	**$ 332**
October 31, 2018	$ 102	$ 3,347	$ 3	$ 303
On-balance sheet liabilities at carrying value [(3)]				
Deposits	**$ –**	**$ –**	**$ –**	**$ 302**
Derivatives [(4)]	**–**	**–**	**112**	**–**
	$ –	**$ –**	**$ 112**	**$ 302**
October 31, 2018	$ –	$ –	$ 131	$ 1,600
Maximum exposure to loss, net of hedges				
Investments and loans	**$ 113**	**$ 3,345**	**$ 3**	**$ 332**
Notional of written derivatives, less fair value losses	**–**	**–**	**27**	**–**
Liquidity, credit facilities and commitments	**7,137** [(5)]	**2,358**	**13**	**127**
Less: hedges of investments, loans and written derivatives exposure	**–**	**–**	**(30)**	**(41)**
	$ 7,250	**$ 5,703**	**$ 13**	**$ 418**
October 31, 2018	$ 7,238	$ 5,003	$ 13	$ 368

(1) Includes CIBC structured CDO vehicles and third-party structured vehicles.
(2) Includes pass-through investment structures, CIBC Capital Trust, and CIBC-managed investment funds and Community Reinvestment Act-related investment vehicles.
(3) Excludes SEs established by CMHC, Fannie Mae, Freddie Mac, Ginnie Mae, FHLB, Federal Farm Credit Bank, and Student Loan Marketing Association.
(4) Comprises written credit default swaps (CDS) and total return swaps (TRS) under which we assume exposures. Excludes foreign exchange derivatives, interest rate derivatives and other derivatives provided as part of normal client facilitation.
(5) Excludes an additional $1.6 billion (2018: $1.7 billion) relating to our backstop liquidity facilities provided to the multi-seller conduits as part of their commitment to fund purchases of additional assets. Also excludes $26 million (2018: $9 million) of our direct investments in the multi-seller conduits which we consider investment exposure.

We also hold investments in a variety of third-party investment funds, which include, but are not limited to, exchange-traded funds, mutual funds, and investment trusts. We buy and sell units of these investment funds as part of trading activities or client facilitation businesses that are managed as part of larger portfolios. We generally are a passive investor and are not the investment manager in any of these investment funds. We are not the sponsor of any third-party investment funds, nor do we have the power over key decision-making activities of the funds. Our maximum exposure to loss from our investments is limited to the carrying amounts of our investments and any unutilized commitment we have provided to these funds. In addition, we issue certain structured notes and enter into equity derivatives that are referenced to the return of certain investment funds. Accordingly, we do not include our interests in these third-party investment funds in the table above.

Derecognition of financial assets

We enter into transactions in the normal course of business in which we transfer recognized financial assets directly to third parties, but retain substantially all of the risks and rewards of those assets. The risks include credit, interest rate, foreign exchange, pre-payment and other price risks whereas the rewards include income streams associated with the assets. Due to the retention of risks, the transferred financial assets are not derecognized and such transfers are accounted for as secured borrowing transactions.

The majority of our financial assets transferred to non-consolidated entities that do not qualify for derecognition are: (i) residential mortgage loans under securitization transactions; (ii) securities held by counterparties as collateral under repurchase agreements; and (iii) securities lent under securities lending agreements.

Residential mortgage securitizations

We securitize fully insured fixed- and variable-rate residential mortgage pools through the creation of National Housing Act (NHA) MBS under the NHA MBS Program, sponsored by CMHC. Under the Canada Mortgage Bond Program, sponsored by CMHC, we sell MBS to a government-sponsored securitization trust that issues securities to investors. We do not consolidate the securitization trust. We may act as a counterparty in interest rate swap agreements where we pay the trust the interest due to investors and receive the interest on the MBS. We have also sold MBS directly to CMHC under the Government of Canada's Insured Mortgage Purchase Program as well as other third-party investors.

The sale of mortgage pools that comprise the NHA MBS does not qualify for derecognition as we retain the pre-payment, credit, and interest rate risks associated with the mortgages, which represent substantially all the risks and rewards. As a result, the mortgages remain on our consolidated balance sheet and are carried at amortized cost. We also recognize the cash proceeds from the securitization as Deposits – Secured borrowings.

Securities held by counterparties as collateral under repurchase agreements

We enter into arrangements whereby we sell securities but enter into simultaneous arrangements to repurchase the securities at a fixed price on a future date thereby retaining substantially all the risks and rewards. As a result, the securities remain on our consolidated balance sheet.

Securities lent for cash collateral or for securities collateral

We enter into arrangements whereby we lend securities but with arrangements to receive the securities at a future date, thereby retaining substantially all the risks and rewards. As a result, the securities remain on our consolidated balance sheet.

The following table provides the carrying amount and fair value of transferred financial assets that did not qualify for derecognition and the associated financial liabilities:

$ millions, as at October 31	**2019**		2018	
	Carrying amount	**Fair value**	Carrying amount	Fair value
Residential mortgage securitizations (1)	**$ 16,245**	**$ 16,264**	$ 18,433	$ 18,286
Securities held by counterparties as collateral under repurchase agreements (2)	**15,663**	**15,663**	10,482	10,482
Securities lent for cash collateral (2)	**45**	**45**	15	15
Securities lent for securities collateral (2)	**21,789**	**21,789**	21,277	21,277
	$ 53,742	**$ 53,761**	$ 50,207	$ 50,060
Associated liabilities (3)	**$ 54,591**	**$ 54,734**	$ 50,448	$ 50,564

(1) Consists mainly of Canadian residential mortgage loans transferred to Canada Housing Trust. Certain cash in transit balances related to the securitization process amounting to $738 million (2018: $705 million) have been applied to reduce these balances.
(2) Does not include over-collateralization of assets pledged. Repurchase and securities lending arrangements are conducted with both CIBC-owned and third-party assets on a pooled basis. The carrying amounts represent an estimated allocation related to the transfer of our own financial assets.
(3) Includes the obligation to return off-balance sheet securities collateral on securities lent.

Note 7 | Land, buildings and equipment

	$ millions, as at or for the year ended October 31	Land and buildings (1)	Computer equipment	Office furniture, equipment and other (2)	Leasehold improvements	Total
2019	**Cost**					
	Balance at beginning of year	**$ 1,384**	**$ 1,164**	**$ 937**	**$ 1,134**	**$ 4,619**
	Additions (3)	**22**	**118**	**82**	**70**	**292**
	Disposals (4)	**(23)**	**(239)**	**(6)**	**(1)**	**(269)**
	Adjustments (5)	**–**	**–**	**–**	**1**	**1**
	Balance at end of year	**$ 1,383**	**$ 1,043**	**$ 1,013**	**$ 1,204**	**$ 4,643**
2018	Balance at end of year	$ 1,384	$ 1,164	$ 937	$ 1,134	$ 4,619
2019	**Accumulated depreciation**					
	Balance at beginning of year	**$ 644**	**$ 953**	**$ 477**	**$ 750**	**$ 2,824**
	Depreciation (4)	**38**	**105**	**48**	**72**	**263**
	Disposals (4)	**(13)**	**(239)**	**(4)**	**(1)**	**(257)**
	Adjustments (5)	**–**	**–**	**–**	**–**	**–**
	Balance at end of year	**$ 669**	**$ 819**	**$ 521**	**$ 821**	**$ 2,830**
2018	Balance at end of year	$ 644	$ 953	$ 477	$ 750	$ 2,824
	Net book value					
	As at October 31, 2019	**$ 714**	**$ 224**	**$ 492**	**$ 383**	**$ 1,813**
	As at October 31, 2018	$ 740	$ 211	$ 460	$ 384	$ 1,795

(1) Includes land and building underlying a finance lease arrangement. See below for further details.
(2) Includes $173 million (2018: $152 million) of work-in-progress not subject to depreciation.
(3) Includes acquisitions through business combinations of $1 million (2018: nil).
(4) Includes write-offs of fully depreciated assets.
(5) Includes foreign currency translation adjustments.

Net additions and disposals during the year were: Canadian Personal and Small Business Banking net additions of $3 million (2018: net additions of $45 million); Canadian Commercial Banking and Wealth Management net additions of $3 million (2018: net additions of $6 million); U.S. Commercial Banking and Wealth Management net additions of $27 million (2018: net additions of $28 million); Capital Markets net additions of $1 million (2018: net additions of $1 million); and Corporate and Other net disposals of $11 million (2018: net additions of $138 million).

Finance lease property

Included in land and buildings above is a finance lease property, a portion of which is rented out and considered an investment property. The carrying value of the finance lease property is as follows:

$ millions, for the year ended October 31	**2019**	2018
Balance at beginning of year	**$ 363**	$ 379
Depreciation	**(24)**	(23)
Foreign currency adjustments	**–**	7
Balance at end of year	**$ 339**	$ 363

Rental income of $98 million (2018: $97 million; 2017: $99 million) was generated from the investment property. Interest expense of $24 million (2018: $25 million; 2017: $28 million) and non-interest expenses of $44 million (2018: $49 million; 2017: $40 million) were incurred in respect of the finance lease property. Our commitment related to the finance lease is disclosed in Note 21.

Note 8 | Goodwill, software and other intangible assets

Goodwill

The carrying amount of goodwill is reviewed for impairment annually as at August 1 and whenever there are events or changes in circumstances which indicate that the carrying amount may not be recoverable. Goodwill is allocated to CGUs for the purposes of impairment testing based on the lowest level for which identifiable cash inflows are largely independent of cash inflows from other assets or groups of assets. The goodwill impairment test is performed by comparing the recoverable amount of the CGU to which goodwill has been allocated with the carrying amount of the CGU including goodwill, with any deficiency recognized as impairment to goodwill. The recoverable amount of a CGU is defined as the higher of its estimated fair value less cost to sell and value in use.

We have three significant CGUs to which goodwill has been allocated. The changes in the carrying amount of goodwill are allocated to each CGU as follows:

		CGUs				
$ millions, as at or for the year ended October 31		CIBC FirstCaribbean	Canadian Wealth Management	U.S. Commercial Banking and Wealth Management	Other	Total
2019	**Balance at beginning of year**	**$ 413**	**$ 884**	**$ 4,078**	**$ 189**	**$ 5,564**
	Acquisitions	**–**	**–**	**4**	**14**	**18**
	Impairment	**(135)**	**–**	**–**	**–**	**(135)**
	Foreign currency translation adjustments	**–**	**–**	**2**	**–**	**2**
	Balance at end of year	**$ 278**	**$ 884**	**$ 4,084**	**$ 203**	**$ 5,449**
2018	Balance at beginning of year (1)	$ 405	$ 884	$ 3,952	$ 126	$ 5,367
	Acquisitions	–	–	29 (2)	62	91
	Impairment	–	–	–	–	–
	Foreign currency translation adjustments	8	–	97	1	106
	Balance at end of year	$ 413	$ 884	$ 4,078	$ 189	$ 5,564

(1) Net of cumulative impairment charges for CIBC FirstCaribbean goodwill of $623 million, and nil for other CGUs.
(2) Additional goodwill recognized from our acquisition of The PrivateBank. See Note 3 for additional details.

Impairment testing of goodwill and key assumptions

CIBC FirstCaribbean

CIBC acquired a controlling interest in CIBC FirstCaribbean in December 2006 and now holds 91.7% of its shares. CIBC FirstCaribbean is a major Caribbean bank offering a full range of financial services in corporate and investment banking, retail and business banking, and wealth management. CIBC FirstCaribbean, which has assets of approximately US$12 billion, operates in the Caribbean and is traded on the stock exchanges of Barbados and Trinidad. The results of CIBC FirstCaribbean are included in Corporate and Other.

In the fourth quarter of 2019, we performed our annual impairment test and determined that the estimated recoverable amount of the CIBC FirstCaribbean CGU was less than its carrying amount as a result of our assessment of the valuation implied by the expected sale of

CIBC's controlling interest in CIBC FirstCaribbean. As a result, we recognized a goodwill impairment charge in other non-interest expense of $135 million. This charge is reflected in Corporate and Other. Estimation of the recoverable amount is an area of significant judgment. Reductions in the estimated recoverable amount could arise from various factors, including closing adjustments related to the planned sale of CIBC's controlling interest in CIBC FirstCaribbean and other changes in market conditions.

See Note 3 for additional details on the expected sale of our controlling interest in CIBC FirstCaribbean.

Canadian Wealth Management

The recoverable amount of the Canadian Wealth Management CGU is based on a fair value less cost to sell calculation. The fair value is estimated using an earnings-based approach whereby the forecasted earnings are based on the Wealth Management internal plan which was approved by management and covers a three-year period. The calculation incorporates the forecasted earnings multiplied by an earnings multiple derived from observable price-to-earnings multiples of comparable wealth management institutions. The price-to-earnings multiples of those comparable wealth management institutions ranged from 8.0 to 10.9 as at August 1, 2019 (August 1, 2018: 9.2 to 19.2).

We have determined that the estimated recoverable amount of the Wealth Management CGU was well in excess of its carrying amount as at August 1, 2019. As a result, no impairment charge was recognized during 2019.

If alternative reasonably possible changes in key assumptions were applied, the result of the impairment test would not differ.

U.S. Commercial Banking and Wealth Management

During 2017, we completed the acquisitions of The PrivateBank and Geneva Advisors. In addition, during 2019, we completed the acquisition of LGA. The goodwill arising from these acquisitions has been allocated to the U.S. Commercial Banking and Wealth Management CGU.

The recoverable amount of U.S. Commercial Banking and Wealth Management is based on a value in use calculation that is estimated using a five-year cash flow projection approved by management, and an estimate of the capital required to be maintained to support ongoing operations.

We have determined that for the impairment testing performed as at August 1, 2019, the estimated recoverable amount of the CIBC U.S. Commercial Banking and Wealth Management CGU was in excess of its carrying amount. As a result, no impairment charge was recognized during 2019.

A terminal growth rate of 3.5% as at August 1, 2019 (August 1, 2018: 3.5%) was applied to the years after the five-year forecast. All of the forecasted cash flows were discounted at an after-tax rate of 9.0% as at August 1, 2019 (10.2% pre-tax) which we believe to be a risk-adjusted discount rate appropriate to U.S. Commercial Banking and Wealth Management (we used an after-tax rate of 10.0% as at August 1, 2018). The determination of a discount rate and a terminal growth rate require the exercise of judgment. The discount rate was determined based on the following primary factors: (i) the risk-free rate; (ii) an equity risk premium; and (iii) beta adjustment to the equity risk premium based on a review of betas of comparable publicly traded financial institutions in the region. The terminal growth rate was based on management's expectations of real growth and forecast inflation rates.

See Note 3 for additional details on our acquisitions of The PrivateBank, Geneva Advisors and LGA.

Other

The goodwill relating to the Other CGUs is comprised of amounts which individually are not considered to be significant. We have determined that for the impairment testing performed as at August 1, 2019, the estimated recoverable amount of these CGUs was in excess of their carrying amounts.

Allocation to strategic business units

Goodwill of $5,449 million (2018: $5,564 million) is allocated to the SBUs as follows: Canadian Commercial Banking and Wealth Management of $954 million (2018: $954 million), Corporate and Other of $327 million (2018: $462 million), U.S. Commercial Banking and Wealth Management of $4,084 million (2018: $4,078 million), Capital Markets of $77 million (2018: $63 million), and Canadian Personal and Small Business Banking of $7 million (2018: $7 million).

Software and other intangible assets

The carrying amount of indefinite-lived intangible assets is provided in the following table:

$ millions, as at or for the year ended October 31		Contract based (1)	Brand name (2)	Total
2019	**Balance at beginning of year**	**$ 116**	**$ 26**	**$ 142**
	Foreign currency translation adjustments	**–**	**–**	**–**
	Balance at end of year	**$ 116**	**$ 26**	**$ 142**
2018	Balance at beginning of year	$ 116	$ 25	$ 141
	Foreign currency translation adjustments	–	1	1
	Balance at end of year	$ 116	$ 26	$ 142

(1) Represents management contracts purchased as part of past acquisitions.
(2) Acquired as part of the CIBC FirstCaribbean acquisition.

The components of finite-lived software and other intangible assets are as follows:

$ millions, as at or for the year ended October 31		Software (1)	Core deposit intangibles (2)	Contract based (3)	Customer relationships (4)	Total
2019	**Gross carrying amount**					
	Balance at beginning of year	**$ 2,986**	**$ 611**	**$ 34**	**$ 314**	**$ 3,945**
	Acquisition through business combinations	–	–	**3**	**9**	**12**
	Additions	**452**	**–**	**–**	**–**	**452**
	Disposals (5)	**(386)**	**–**	**–**	**–**	**(386)**
	Adjustments (6)	**–**	**–**	**1**	**(1)**	**–**
	Balance at end of year	**$ 3,052**	**$ 611**	**$ 38**	**$ 322**	**$ 4,023**
2018	Balance at end of year	$ 2,986	$ 611	$ 34	$ 314	$ 3,945
2019	**Accumulated amortization**					
	Balance at beginning of year	**$ 1,685**	**$ 320**	**$ 6**	**$ 131**	**$ 2,142**
	Amortization and impairment (5)	**331**	**69**	**5**	**35**	**440**
	Disposals (5)	**(385)**	**–**	**–**	**–**	**(385)**
	Adjustments (6)	**–**	**–**	**–**	**(1)**	**(1)**
	Balance at end of year	**$ 1,631**	**$ 389**	**$ 11**	**$ 165**	**$ 2,196**
2018	Balance at end of year	$ 1,685	$ 320	$ 6	$ 131	$ 2,142
	Net book value					
	As at October 31, 2019	**$ 1,421**	**$ 222**	**$ 27**	**$ 157**	**$ 1,827**
	As at October 31, 2018	$ 1,301	$ 291	$ 28	$ 183	$ 1,803

(1) Includes $515 million (2018: $467 million) of work-in-progress not subject to amortization.
(2) Acquired as part of the acquisitions of CIBC FirstCaribbean and The PrivateBank.
(3) Represents a combination of management contracts purchased as part of past acquisitions including The PrivateBank and Geneva Advisors in 2017, as well as LGA and Cleary Gull in 2019.
(4) Represents customer relationships associated with past acquisitions including The PrivateBank and Geneva Advisors in 2017, and LGA in 2019.
(5) Includes write-offs of fully amortized assets.
(6) Includes foreign currency translation adjustments.

Net additions and disposals of gross carrying amount during the year were: Canadian Personal and Small Business Banking net disposals of $12 million (2018: net additions of nil); Canadian Commercial Banking and Wealth Management net disposals of nil (2018: net disposals of nil); U.S. Commercial Banking and Wealth Management net additions of $10 million (2018: net additions of $12 million); Capital Markets net disposals of $1 million (2018: net additions of nil); and Corporate and Other net additions of $81 million (2018: net additions of $351 million).

Note 9 Other assets

$ millions, as at October 31	2019	2018
Accrued interest receivable	$ 1,414	$ 1,292
Defined benefit asset (Note 18)	175	362
Precious metals (1)	1,815	251
Brokers' client accounts	5,471	2,997
Current tax receivable	3,542	3,175
Other prepayments	745	685
Derivative collateral receivable	6,185	5,071
Accounts receivable	759	868
Other	717	582
	$ 20,823	$ 15,283

(1) Includes gold and silver bullion that are measured at fair value using unadjusted market prices quoted in active markets.

Note 10 Deposits(1)(2)

$ millions, as at October 31	Payable on demand (3)	Payable after notice (4)	Payable on a fixed date (5)(6)	2019 Total	2018 Total
Personal	$ 12,182	$ 108,485	$ 57,424	$ 178,091	$ 163,879
Business and government (7)	62,706	60,379	134,417	257,502	240,149
Bank	5,120	191	5,913	11,224	14,380
Secured borrowings (8)	–	–	38,895	38,895	42,607
	$ 80,008	$ 169,055	$ 236,649	$ 485,712	$ 461,015
Comprises:					
Held at amortized cost				$ 475,254	$ 453,498
Designated at fair value				10,458	7,517
				$ 485,712	$ 461,015
Total deposits include (9):					
Non-interest-bearing deposits					
Canada				$ 51,880	$ 49,858
U.S.				7,876	7,737
Other international				4,647	4,378
Interest-bearing deposits					
Canada				344,756	321,188
U.S.				56,844	57,522
Other international				19,709	20,332
				$ 485,712	$ 461,015

(1) Includes deposits of $152.8 billion (2018: $155.5 billion) denominated in U.S. dollars and deposits of $30.0 billion (2018: $24.3 billion) denominated in other foreign currencies.
(2) Net of purchased notes of $2,930 million (2018: $2,689 million).
(3) Includes all deposits for which we do not have the right to require notice of withdrawal. These deposits are generally chequing accounts.
(4) Includes all deposits for which we can legally require notice of withdrawal. These deposits are generally savings accounts.
(5) Includes all deposits that mature on a specified date. These deposits are generally term deposits, guaranteed investment certificates, and similar instruments.
(6) Includes $8,985 million (2018: $190 million) of deposits which are subject to the bank recapitalization (bail-in) conversion regulations issued by the Department of Finance (Canada). These regulations provide certain statutory powers to the Canada Deposit Insurance Corporation (CDIC), including the ability to convert specified eligible shares and liabilities of CIBC into common shares in the event that CIBC is determined to be non-viable.
(7) Includes $302 million (2018: $1,600 million) of Notes issued to CIBC Capital Trust.
(8) Comprises liabilities issued by or as a result of activities associated with the securitization of residential mortgages, covered bond programme, and consolidated securitization vehicles.
(9) Classification is based on geographical location of the CIBC office.

Note 11 Other liabilities

$ millions, as at October 31	2019	2018
Accrued interest payable	$ 1,438	$ 1,300
Defined benefit liability (Note 18)	737	645
Gold and silver certificates	114	95
Brokers' client accounts	4,940	3,829
Derivative collateral payable	3,823	4,118
Negotiable instruments	991	930
Accrued employee compensation and benefits	2,281	2,303
Accounts payable and accrued expenses	2,062	2,138
Other (1)	2,645	2,865
	$ 19,031	$ 18,223

(1) Certain prior period amounts have been revised from those previously presented.

Note 12 | Derivative instruments

As described in Note 1, in the normal course of business, we use various derivative instruments for both trading and ALM purposes. These derivatives limit, modify or give rise to varying degrees and types of risk.

$ millions, as at October 31		**2019**		2018
	Assets	**Liabilities**	Assets	Liabilities
Trading (Note 2)	**$ 22,738**	**$ 23,799**	$ 19,318	$ 19,204
ALM (Note 2) (1)	**1,157**	**1,314**	2,113	1,769
	$ 23,895	**$ 25,113**	$ 21,431	$ 20,973

(1) Comprised of derivatives that qualify for hedge accounting under IAS 39 and derivatives used for economic hedges.

Derivatives used by CIBC

The majority of our derivative contracts are OTC transactions, which consist of: (i) contracts that are bilaterally negotiated and settled between CIBC and the counterparty to the contract; and (ii) contracts that are bilaterally negotiated and then cleared through a central counterparty (CCP). Bilaterally negotiated and settled contracts are usually traded under a standardized International Swaps and Derivatives Association (ISDA) agreement with collateral posting arrangements between CIBC and its counterparties. Terms are negotiated directly with counterparties and the contracts have industry-standard settlement mechanisms prescribed by ISDA. Centrally cleared contracts are generally bilaterally negotiated and then novated to, and cleared through, a CCP. The industry promotes the use of CCPs to clear OTC trades. The central clearing of derivative contracts generally facilitates the reduction of credit exposures due to the ability to net settle offsetting positions. Consequently, derivative contracts cleared through CCPs generally attract less capital relative to those settled with non-CCPs.

The remainder of our derivative contracts are exchange-traded derivatives, which are standardized in terms of their amounts and settlement dates, and are bought and sold on organized and regulated exchanges. These exchange-traded derivative contracts consist primarily of options and futures.

Interest rate derivatives

Forward rate agreements are OTC contracts that effectively fix a future interest rate for a period of time. A typical forward rate agreement provides that at a pre-determined future date, a cash settlement will be made between the counterparties based upon the difference between a contracted rate and a market rate to be determined in the future, calculated on a specified notional principal amount. No exchange of principal amount takes place. Certain forward rate agreements are bilaterally transacted and then novated and settled through a clearing house which acts as a CCP.

Interest rate swaps are OTC contracts in which two counterparties agree to exchange cash flows over a period of time based on rates applied to a specified notional principal amount. A typical interest rate swap would require one counterparty to pay a fixed market interest rate in exchange for a variable market interest rate determined from time to time, with both calculated on a specified notional principal amount. No exchange of principal amount takes place. Certain interest rate swaps are bilaterally transacted and then novated and settled through a clearing house which acts as a CCP.

Interest rate options are contracts in which one party (the purchaser of an option) acquires from another party (the writer of an option), in exchange for a premium, the right, but not the obligation, to either buy or sell, on a specified future date or within a specified time, a specified financial instrument at a contracted price. The underlying financial instrument has a market price which varies in response to changes in interest rates. Options are transacted in both OTC and exchange-traded markets.

Interest rate futures are standardized contracts transacted on an exchange. They are based upon an agreement to buy or sell a specified quantity of a financial instrument on a specified future date, at a contracted price. These contracts differ from forward rate agreements in that they are in standard amounts with standard settlement dates and are transacted through an exchange.

Foreign exchange derivatives

Foreign exchange forwards are OTC contracts in which one counterparty contracts with another to exchange a specified amount of one currency for a specified amount of a second currency, at a future date or range of dates.

Foreign exchange futures contracts are similar in mechanics to foreign exchange forward contracts except that they are in standard currency amounts with standard settlement dates and are transacted through an exchange.

Foreign exchange swap contracts comprise foreign exchange swaps and cross-currency interest rate swaps. Foreign exchange swaps are transactions in which a currency is simultaneously purchased in the spot market and sold for a different currency in the forward market, or vice versa. Cross-currency interest rate swaps are transactions in which counterparties exchange principal and interest flows in different currencies over a period of time. These contracts are used to manage both currency and interest rate exposures.

Credit derivatives

Credit derivatives are OTC contracts designed to transfer the credit risk in an underlying financial instrument (usually termed as a reference asset) from one counterparty to another. The most common credit derivatives are CDS and certain TRS.

CDS contracts provide protection against the decline in value of a reference asset as a result of specified credit events such as default or bankruptcy. These derivatives are similar in structure to an option whereby the purchaser pays a premium to the seller of the CDS contract in return for payment contingent on the occurrence of a credit event. The protection purchaser has recourse to the protection seller for the difference between the face value of the CDS contract and the fair value of the reference asset at the time of settlement. Neither the purchaser nor the seller under the CDS contract has recourse to the entity that issued the reference asset. Certain CDS contracts are cleared through a CCP.

In credit derivative TRS contracts, one counterparty agrees to pay or receive cash amounts based on the returns of a reference asset, including interest earned on these assets in exchange for amounts that are based on prevailing market funding rates. These cash settlements are made regardless of whether there is a credit event. Upon the occurrence of a credit event, the parties may either exchange cash payments according to the value of the defaulted assets or exchange cash based on the notional amount for physical delivery of the defaulted assets.

Equity derivatives

Equity swaps are OTC contracts in which one counterparty agrees to pay, or receive from the other, cash amounts based on changes in the value of a stock index, a basket of stocks or a single stock in exchange for amounts that are based either on prevailing market funding rates or changes in the value of a different stock index, basket of stocks or a single stock. These contracts generally include payments in respect of dividends.

Equity options give the purchaser of the option, for a premium, the right, but not the obligation, to buy from or sell to the writer of an option, an underlying stock index, basket of stocks, or a single stock at a contracted price. Options are transacted in both OTC and exchange markets.

Equity index futures are standardized contracts transacted on an exchange. They are based on an agreement to pay or receive a cash amount based on the difference between the contracted price level of an underlying stock index and its corresponding market price level at a specified future date. There is generally no actual delivery of stocks that comprise the underlying index. These contracts are in standard amounts with standard settlement dates.

Precious metal and other commodity derivatives

We also transact in other derivative products, including commodity forwards, futures, swaps and options, such as precious metal and energy-related products in both OTC and exchange markets.

Notional amounts

The notional amounts are not recorded as assets or liabilities, as 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. In most cases, notional amounts do not represent the potential gain or loss associated with market or credit risk of such instruments.

The following table presents the notional amounts of derivative instruments:

$ millions, as at October 31						2019		2018
	Residual term to contractual maturity							
	Less than 1 year	1 to 5 years	Over 5 years	Total notional amounts	Trading	ALM	Trading	ALM (1)
Interest rate derivatives								
Over-the-counter								
Forward rate agreements	$ 10,565	$ 506	$ –	$ 11,071	$ 8,591	$ 2,480	$ 5,925	$ 464
Centrally cleared forward rate agreements	284,672	35,446	–	320,118	320,118	–	273,528	–
Swap contracts	69,635	169,947	76,013	315,595	275,418	40,177	242,620	52,077
Centrally cleared swap contracts	1,377,618	1,308,226	450,208	3,136,052	2,780,206	355,846	2,264,721	308,915
Purchased options	9,788	4,046	1,407	15,241	12,883	2,358	8,697	3,091
Written options	10,152	4,711	818	15,681	14,670	1,011	10,417	1,841
	1,762,430	1,522,882	528,446	3,813,758	3,411,886	401,872	2,805,908	366,388
Exchange-traded								
Futures contracts	113,047	25,633	213	138,893	136,627	2,266	99,156	2,148
Purchased options	14,613	3	–	14,616	14,616	–	7,273	–
Written options	5,755	3	–	5,758	5,758	–	2,500	–
	113,415	25,639	213	159,267	157,001	2,266	108,929	2,148
Total interest rate derivatives	1,895,845	1,548,521	528,659	3,973,025	3,568,887	404,138	2,914,837	368,536
Foreign exchange derivatives								
Over-the-counter								
Forward contracts	892,730	10,961	1,266	904,957	892,117	12,840	387,509	21,189
Swap contracts	338,753	72,274	32,745	443,772	398,262	45,510	299,073	59,209
Purchased options	17,823	1,408	54	19,285	19,285	–	20,562	2
Written options	22,243	1,684	20	23,947	23,947	–	22,513	30
	1,271,549	86,327	34,085	1,391,961	1,333,611	58,350	729,657	80,430
Exchange-traded								
Futures contracts	26	–	–	26	26	–	11	–
Total foreign exchange derivatives	1,271,575	86,327	34,085	1,391,987	1,333,637	58,350	729,668	80,430
Credit derivatives								
Over-the-counter								
Total return swap contracts – protection sold	–	–	–	–	–	–	–	–
Credit default swap contracts – protection purchased	65	600	377	1,042	940	102	634	125
Centrally cleared credit default swap contracts – protection purchased	–	835	296	1,131	973	158	443	158
Credit default swap contracts – protection sold	177	201	–	378	328	50	157	102
Centrally cleared credit default swap contracts – protection sold	–	33	148	181	181	–	211	–
Total credit derivatives	242	1,669	821	2,732	2,422	310	1,445	385
Equity derivatives								
Over-the-counter	59,325	18,350	428	78,103	74,756	3,347	100,762	1,484
Exchange-traded	71,094	18,272	163	89,529	89,529	–	82,038	–
Total equity derivatives	130,419	36,622	591	167,632	164,285	3,347	182,800	1,484
Precious metal derivatives								
Over-the-counter	9,445	369	–	9,814	9,814	–	4,899	–
Exchange-traded	3,214	21	–	3,235	3,235	–	1,091	–
Total precious metal derivatives	12,659	390	–	13,049	13,049	–	5,990	–
Other commodity derivatives								
Over-the-counter	18,229	16,061	2,529	36,819	36,819	–	33,261	–
Centrally cleared commodity derivatives	59	43	–	102	102	–	29	–
Exchange-traded	14,552	8,245	289	23,086	23,086	–	26,952	–
Total other commodity derivatives	32,840	24,349	2,818	60,007	60,007	–	60,242	–
Total notional amount of which:	$ 3,343,580	$ 1,697,878	$ 566,974	$ 5,608,432	$ 5,142,287	$ 466,145	$ 3,894,982	$ 450,835
Over-the-counter (2)	3,121,279	1,645,701	566,309	5,333,289	4,869,410	463,879	3,675,961	448,687
Exchange-traded	222,301	52,177	665	275,143	272,877	2,266	219,021	2,148

(1) Certain prior period amounts have been revised from those previously presented.

(2) For OTC derivatives that are not centrally cleared, $1,596.7 billion (2018: $1,064.5 billion) are with counterparties that have two-way collateral posting arrangements, $94.2 billion (2018: $33.8 billion) are with counterparties that have one-way collateral posting arrangements, and $184.8 billion (2018: $185.8 billion) are with counterparties that have no collateral posting arrangements. All counterparties with whom we have one-way collateral posting arrangements are sovereign entities.

Risk

In the following sections, we discuss the risks related to the use of derivatives and how we manage these risks.

Market risk

Derivatives are financial instruments where valuation is linked to changes in interest rates, foreign exchange rates, equity, commodity, credit prices or indices. Changes in value as a result of the aforementioned risk factors is referred to as market risk.

Market risk arising from derivative trading activities is managed in order to mitigate risk in line with CIBC's risk appetite. To manage market risk, we set market risk limits and may enter into hedging transactions.

Credit risk

Credit risk arises from the potential for a counterparty to default on its contractual obligations and the possibility that prevailing market conditions are such that a loss would occur in replacing the defaulted transaction.

We limit the credit risk of OTC derivatives through the use of ISDA master netting agreements, collateral, CCPs and other credit mitigation techniques. We clear eligible derivatives through CCPs in accordance with various global initiatives. Where feasible, we novate existing bilaterally negotiated and settled derivatives to a CCP in an effort to reduce CIBC's credit risk exposure. We establish counterparty credit limits and limits for CCP exposures based on a counterparty's creditworthiness and the type of trading relationship with each counterparty (underlying agreements, business volumes, product types, tenors, etc.).

We negotiate netting agreements to contain the build-up of credit exposure resulting from multiple transactions with more active counterparties. Such agreements provide for the simultaneous close-out and netting of all transactions with a counterparty, in the case of a counterparty default. A number of these agreements incorporate a Credit Support Annex, which is a bilateral security agreement that, among other things, provides for the exchange of collateral between parties in the event that one party's exposure to the other exceeds agreed upon thresholds.

Written OTC options, including CDS, generally have no credit risk for the writer if the counterparty has already performed in accordance with the terms of the contract through payment of the premium at inception. These written options will, however, have some credit risk to the extent of any unpaid premiums.

Credit risk on exchange-traded futures and options is limited, as these transactions are standardized contracts executed on established exchanges, whose CCPs assume the obligations of both counterparties. Similarly, swaps that are centrally cleared represent limited credit risk because these transactions are novated to the CCP, which assumes the obligations of the original bilateral counterparty. All exchange-traded and centrally cleared contracts are subject to initial margin and daily settlement of variation margins, designed to protect participants from losses incurred from a counterparty default.

A CVA is determined using the fair value based exposure we have on derivative contracts. We believe that we have made appropriate fair value adjustments to date. The establishment of fair value adjustments involves estimates that are based on accounting processes and judgments by management. We evaluate the adequacy of the fair value adjustments on an ongoing basis. Market and economic conditions relating to derivative counterparties may change in the future, which could result in significant future losses.

The following table summarizes our credit exposure arising from derivatives, which includes the current replacement cost, credit equivalent amount and risk-weighted amount. In 2019, we prospectively adopted the Standardized Approach for Counterparty Credit Risk (SA-CCR) for the determination of capital requirements relating to counterparty credit risk, which impacted the calculation of replacement cost, credit equivalent amount and risk-weighted assets, as summarized below.

The current replacement cost is the estimated cost to replace all contracts that have a positive market value, representing an unrealized gain to us. The replacement cost of an instrument is dependent upon its terms relative to prevailing market prices, and will fluctuate as market prices change and as the derivative approaches its scheduled maturity. Beginning in 2019, replacement cost also includes the impact of certain collateral amounts and the impact of master netting agreements. Prior to 2019, these amounts were previously excluded from this calculation.

Beginning in 2019, the credit equivalent amount is calculated as the sum of replacement cost and the potential future exposure, multiplied by an alpha of 1.4, and is reduced by CVA losses. Prior to 2019, the credit equivalent amount was the sum of the current replacement cost and the potential credit exposure, adjusted for master netting agreements and the impact of collateral. The potential credit exposure was an estimate of the amount by which the current replacement cost could increase over the remaining term of each transaction, based on a formula prescribed by OSFI. The credit equivalent amount was then multiplied by counterparty risk variables to arrive at the risk-weighted amount. The risk-weighted amount is used in determining the regulatory capital requirements for derivatives.

$ millions, as at October 31					2019 (1)					2018
	Current replacement cost			**Credit equivalent amount**	**Risk-weighted amount**	Current replacement cost			Credit equivalent amount	Risk-weighted amount
	Trading	**ALM**	**Total**			Trading	ALM	Total		
Interest rate derivatives										
Over-the-counter										
Forward rate agreements	**$ –**	**$ 13**	**$ 13**	**$ 69**	**$ 9**	$ 113	$ –	$ 113	$ 39	$ 2
Swap contracts	**2,503**	**155**	**2,658**	**7,140**	**2,507**	4,603	773	5,376	5,359	539
Purchased options	**17**	**–**	**17**	**87**	**67**	92	11	103	20	8
	2,520	**168**	**2,688**	**7,296**	**2,583**	4,808	784	5,592	5,418	549
Exchange-traded	**4**	**–**	**4**	**192**	**5**	1	–	1	170	5
	2,524	**168**	**2,692**	**7,488**	**2,588**	4,809	784	5,593	5,588	554
Foreign exchange derivatives										
Over-the-counter										
Forward contracts	**939**	**4**	**943**	**7,136**	**1,737**	2,916	117	3,033	3,793	1,017
Swap contracts	**735**	**4**	**739**	**3,546**	**687**	4,825	1,205	6,030	4,528	886
Purchased options	**84**	**–**	**84**	**471**	**143**	240	–	240	259	83
	1,758	**8**	**1,766**	**11,153**	**2,567**	7,981	1,322	9,303	8,580	1,986
Credit derivatives										
Over-the-counter										
Credit default swap contracts										
– protection purchased	**2**	**1**	**3**	**25**	**7**	115	–	115	46	9
– protection sold	**–**	**–**	**–**	**2**	**2**	3	–	3	3	–
	2	**1**	**3**	**27**	**9**	118	–	118	49	9
Equity derivatives										
Over-the-counter	**265**	**5**	**270**	**4,832**	**1,018**	1,951	7	1,958	2,259	535
Exchange-traded	**682**	**–**	**682**	**3,593**	**103**	1,659	–	1,659	4,131	116
	947	**5**	**952**	**8,425**	**1,121**	3,610	7	3,617	6,390	651
Precious metal derivatives										
Over-the-counter	**51**	**–**	**51**	**332**	**115**	63	–	63	62	23
Exchange-traded	**4**	**–**	**4**	**171**	**7**	143	–	143	17	1
	55	**–**	**55**	**503**	**122**	206	–	206	79	24
Other commodity derivatives										
Over-the-counter	**697**	**62**	**759**	**3,928**	**1,195**	2,527	–	2,527	4,046	1,523
Exchange-traded	**9**	**–**	**9**	**1,200**	**48**	67	–	67	1,480	59
	706	**62**	**768**	**5,128**	**1,243**	2,594	–	2,594	5,526	1,582
Non-trade exposure related to central counterparties					**245**					224
Common equity tier 1 (CET1) CVA charge					**6,990**					4,236
Total derivatives before netting	**5,992**	**244**	**6,236**	**32,724**	**14,885**	19,318	2,113	21,431	26,212	9,266
Less: effect of netting			**n/a**					(11,789)		
Total derivatives			**$ 6,236**	**$ 32,724**	**$ 14,885**			$ 9,642	$ 26,212	$ 9,266

(1) In 2019, we adopted SA-CCR for the determination of capital requirements relating to counterparty credit risk, which impacted the calculation of replacement cost, credit equivalent amount and risk-weighted assets. Comparative amounts presented have not been restated.
n/a Not applicable.

The following table presents the current replacement cost of derivatives by geographic region based on the location of the derivative counterparty:

$ millions, as at October 31				2019				2018 (1)
	Canada	**U.S.**	**Other countries**	**Total**	Canada	U.S.	Other countries	Total
Derivative instruments								
By counterparty type								
Financial institutions	**$ 534**	**$ 1,063**	**$ 549**	**$ 2,146**	$ 4,864	$ 5,206	$ 4,947	$ 15,017
Governments	**891**	**–**	**8**	**899**	3,361	–	9	3,370
Corporate	**951**	**1,017**	**1,223**	**3,191**	1,268	993	783	3,044
	2,376	**2,080**	**1,780**	**6,236**	9,493	6,199	5,739	21,431
Less: effect of netting	**n/a**	**n/a**	**n/a**	**n/a**	(5,673)	(3,252)	(2,864)	(11,789)
Total derivative instruments	**$ 2,376**	**$ 2,080**	**$ 1,780**	**$ 6,236**	$ 3,820	$ 2,947	$ 2,875	$ 9,642

(1) Prior period amounts have been restated to include exchange-traded derivatives to align to the current period presentation.
n/a Not applicable.

Note 13 | Designated accounting hedges

Hedge accounting

We apply hedge accounting as part of managing the market risk of certain non-trading portfolios arising from changes due to interest rates, foreign exchange rates, and equity market prices. Please see the shaded sections of "Non-trading activities" on page 66 of the MD&A for further information on our risk management strategy for these risks. See Note 12 for further information on the derivatives used by CIBC.

Interest rate risk

The majority of our derivative contracts used to hedge certain exposures to benchmark interest rate risk are interest rate swaps. For fair value hedges, we convert our fixed interest rate exposures from the hedged financial instruments to floating interest rate exposures. For cash flow hedges, we convert certain exposures to cash flow variability from our variable rate instruments to fixed interest rate exposures.

Foreign currency risk

For our fair value hedges, we mainly use various combinations of cross-currency interest rate swaps and interest rate swaps to hedge our exposures to foreign currency risk together with interest rate risk, converting our fixed foreign currency rate exposures to floating functional currency rate exposures.

For our cash flow hedges, the majority of our derivative contracts are used to hedge our exposures to cash flow variability arising from fluctuations in foreign exchange rates, and mainly consist of cross-currency interest rate swaps. We also use foreign exchange forwards and synthetic forwards created from interest rate swaps to hedge certain foreign currency contractual expenses.

For NIFO hedges, we use a combination of foreign denominated deposit liabilities and foreign exchange forwards to manage our foreign currency exposure of our NIFOs with a functional currency other than the Canadian dollar.

Equity price risk

We use cash-settled total return swaps in designated cash flow hedge relationships to hedge changes in CIBC's share price in respect of certain cash-settled share-based compensation awards. Note 17 provides details on our cash-settled share-based compensation plans.

For the hedge relationships above, hedge effectiveness is assessed at the inception of the hedge relationship and on an ongoing basis, primarily using the dollar offset method. The sources of hedge ineffectiveness are mainly attributed to the following:

- Utilization of hedging instruments that have a non-zero fair value at the inception of the hedge relationship;
- Differences in fixed rates, when contractual coupons of the fixed rate hedged items are designated;
- Differences in the discounting factors between the hedged item and the hedging instruments arising from different rate reset frequencies and timing of cash flows; and
- Differences in the discount curves to determine the basis adjustments of the hedged items and the fair value of the hedging derivatives, including from the application of OIS and CVA to the valuation of derivatives when they are applicable.

Designated hedging instruments

The following table provides a summary of financial instruments designated as hedging instruments:

$ millions, as at October 31		Notional amount of the hedging instrument [1]	Maturity range: Less than 1 year	Maturity range: 1-5 years	Maturity range: Over 5 years	Fair value of the hedging derivatives: Assets	Fair value of the hedging derivatives: Liabilities	Gains (losses) on changes in fair value used for calculating hedge ineffectiveness
2019	**Cash flow hedges**							
	Foreign exchange risk							
	Foreign exchange forwards	$ 17	$ 17	$ –	$ –	$ –	$ –	$ (7)
	Cross-currency interest rate swaps	6,619	859	5,760	–	104	177	(168)
	Interest rate risk							
	Interest rate swaps	18,180	3,122	15,058	–	4	–	193
	Equity share price risk							
	Equity swaps	1,203	1,030	173	–	93	–	(1)
		$ 26,019	$ 5,028	$ 20,991	$ –	$ 201	$ 177	$ 17
	NIFO hedges							
	Foreign exchange risk							
	Foreign exchange forwards	$ 598	$ 598	$ –	$ –	$ 7	$ 2	$ –
	Deposits [2]	17,616	17,616	–	–	n/a	n/a	6
		$ 18,214	$ 18,214	$ –	$ –	$ 7	$ 2	$ 6
	Fair value hedges							
	Interest rate risk							
	Interest rate swaps	$ 194,398	$ 63,723	$ 114,455	$ 16,220	$ 291	$ 219	$ (276)
	Foreign exchange / interest rate risk							
	Cross-currency interest rate swaps	34,627	7,226	20,597	6,804	339	682	41
	Interest rate swaps	16,477	2,937	10,158	3,382	155	–	142
		$ 245,502	$ 73,886	$ 145,210	$ 26,406	$ 785	$ 901	$ (93)
		$ 289,735	$ 97,128	$ 166,201	$ 26,406	$ 993	$ 1,080	$ (70)
2018	**Cash flow hedges**							
	Foreign exchange risk							
	Foreign exchange forwards	$ 138	$ 138	$ –	$ –	$ 2	$ –	$ (5)
	Cross-currency interest rate swaps	18,421	13,377	5,044	–	351	234	82
	Interest rate risk							
	Interest rate swaps	4,468	395	4,073	–	–	15	(57)
	Equity share price risk							
	Equity swaps	1,406	173	1,233	–	–	89	26
		$ 24,433	$ 14,083	$ 10,350	$ –	$ 353	$ 338	$ 46
	NIFO hedges							
	Foreign exchange risk							
	Foreign exchange forwards	$ 193	$ 193	$ –	$ –	$ 11	$ 6	$ (4)
	Deposits [2]	17,158	17,158	–	–	n/a	n/a	(388)
		$ 17,351	$ 17,351	$ –	$ –	$ 11	$ 6	$ (392)
	Fair value hedges							
	Interest rate risk							
	Interest rate swaps	$ 174,556	$ 50,347	$ 110,948	$ 13,261	$ 380	$ 164	$ (36)
	Foreign exchange / interest rate risk							
	Cross-currency interest rate swaps	36,308	15,528	19,267	1,513	799	795	(63)
	Interest rate swaps	17,310	3,850	12,817	643	23	–	(15)
		$ 228,174	$ 69,725	$ 143,032	$ 15,417	$ 1,202	$ 959	$ (114)
		$ 269,958	$ 101,159	$ 153,382	$ 15,417	$ 1,566	$ 1,303	$ (460)

(1) For some hedge relationships, we apply a combination of derivatives to hedge the underlying exposures, therefore, the notional amounts of the derivatives generally exceed the carrying amount of the hedged items.
(2) Notional amount represents the principal amount of deposits as at October 31, 2019 and October 31, 2018.
n/a Not applicable.

The following table provides the average rate or price of the hedging derivatives:

As at October 31			Average exchange rate (1)		Average fixed interest rate (1)	Average share price
2019	**Cash flow hedges**					
	Foreign exchange risk					
	Foreign exchange forwards	USD – CAD	**1.32**		**n/a**	**n/a**
	Cross-currency interest rate swaps	AUD – CAD	**0.99**		**n/a**	**n/a**
		EUR – CAD	**1.51**		**n/a**	**n/a**
		GBP – CAD	**1.66**		**n/a**	**n/a**
		USD – CAD	**1.32**		**n/a**	**n/a**
	Interest rate risk					
	Interest rate swaps		**n/a**	CAD	**2.10 %**	**n/a**
			n/a	USD	**1.62 %**	**n/a**
	Equity share price risk					
	Equity swaps		**n/a**		**n/a**	**$ 108.59**
	NIFO hedges					
	Foreign exchange risk					
	Foreign exchange forwards	AUD – CAD	**0.90**		**n/a**	**n/a**
		HKD – CAD	**0.17**		**n/a**	**n/a**
		USD – CAD	**1.31**		**n/a**	**n/a**
	Fair value hedges					
	Interest rate risk					
	Interest rate swaps		**n/a**	CAD	**1.93 %**	**n/a**
	Foreign exchange / interest rate risk					
	Cross-currency interest rate swaps	EUR – CAD	**1.30**		**0.12 %**	**n/a**
		GBP – CAD	**1.65**		**1.06 %**	**n/a**
		USD – CAD	**1.32**		**1.61 %**	**n/a**
	Interest rate swaps		**n/a**	EUR	**0.08 %**	**n/a**
			n/a	GBP	**0.71 %**	**n/a**
2018	**Cash flow hedges**					
	Foreign exchange risk					
	Foreign exchange forwards	USD – CAD	1.29		n/a	n/a
	Cross-currency interest rate swaps	EUR – CAD	1.51		n/a	n/a
		GBP – CAD	1.72		n/a	n/a
		USD – CAD	1.28		n/a	n/a
	Interest rate risk					
	Interest rate swaps		n/a	CAD	2.45 %	n/a
			n/a	USD	2.16 %	n/a
	Equity share price risk					
	Equity swaps		n/a		n/a	$ 109.52
	NIFO hedges					
	Foreign exchange risk					
	Foreign exchange forwards	AUD – CAD	0.93		n/a	n/a
		HKD – CAD	0.17		n/a	n/a
		JPY – CAD	0.01		n/a	n/a
	Fair value hedges					
	Interest rate risk					
	Interest rate swaps		n/a	CAD	1.84 %	n/a
	Foreign exchange / interest rate risk					
	Cross-currency interest rate swaps	EUR – CAD	1.49		0.10 %	n/a
		GBP – CAD	1.60		1.06 %	n/a
		USD – CAD	1.30		2.36 %	n/a
	Interest rate swaps		n/a	EUR	0.05 %	n/a
			n/a	GBP	0.78 %	n/a

(1) Includes average foreign exchange rates and interest rates relating to significant hedging relationships.
n/a Not applicable.

Designated hedged items

The following table provides information on designated hedged items:

$ millions, as at or for the year ended October 31		Carrying amount of the hedged item		Accumulated amount of fair value hedge adjustments on the hedged item		Gains (losses) on change in fair value used for calculating hedge ineffectiveness
		Assets	Liabilities	Assets	Liabilities	
2019	**Cash flow hedges** (1)					
	Foreign exchange risk					
	Forecasted expenses	**n/a**	**n/a**	**n/a**	**n/a**	**$ 7**
	Deposits	**$ –**	**$ 2,860**	**n/a**	**n/a**	**168**
	Interest rate risk	**–**	**–**	**n/a**	**n/a**	**–**
	Loans	**18,169**	**–**	**n/a**	**n/a**	**(193)**
	Equity share price risk	**–**	**–**	**n/a**	**n/a**	**–**
	Share-based payment	**–**	**1,169**	**n/a**	**n/a**	**1**
		$ 18,169	**$ 4,029**	**n/a**	**n/a**	**$ (17)**
	NIFO hedges	**$ 18,214**	**$ –**	**n/a**	**n/a**	**$ (6)**
	Fair value hedges (2)					
	Interest rate risk					
	Securities	**$ 25,763**	**$ –**	**$ 633**	**$ –**	**$ 1,013**
	Loans	**62,987**	**–**	**132**	**–**	**1,151**
	Deposits	**–**	**84,173**	**–**	**533**	**(1,750)**
	Subordinated indebtedness	**–**	**3,761**	**–**	**89**	**(137)**
	Foreign exchange / interest rate risk					
	Loans	**6**	**–**	**–**	**–**	**–**
	Deposits	**–**	**17,222**	**–**	**57**	**(180)**
		$ 88,756	**$ 105,156**	**$ 765**	**$ 679**	**$ 97**
2018	**Cash flow hedges** (1)					
	Foreign exchange risk					
	Forecasted expenses	n/a	n/a	n/a	n/a	$ 5
	Deposits	$ –	$ 13,456	n/a	n/a	(81)
	Interest rate risk					
	Loans	4,463	–	n/a	n/a	57
	Equity share price risk					
	Share-based payment	–	1,186	n/a	n/a	(27)
		$ 4,463	$ 14,642	n/a	n/a	$ (46)
	NIFO hedges	$ 17,351	$ –	n/a	n/a	$ 392
	Fair value hedges (2)					
	Interest rate risk					
	Securities	$ 17,046	$ –	$ (370)	$ –	$ (338)
	Loans	61,363	–	(1,036)	–	(626)
	Deposits	–	72,839	–	(1,205)	907
	Subordinated indebtedness	–	3,893	–	(48)	58
	Foreign exchange / interest rate risk					
	Loans	6	–	–	–	–
	Deposits	–	19,844	–	(112)	82
		$ 78,415	$ 96,576	$ (1,406)	$ (1,365)	$ 83

(1) As at October 31, 2019, the amount remaining in AOCI related to discontinued cash flow hedges was immaterial (2018: immaterial).
(2) As at October 31, 2019, the accumulated fair value hedge net liability adjustment remaining on the consolidated balance sheet related to discontinued fair value hedges was $112 million (2018: $153 million).
n/a Not applicable.

Hedge accounting gains (losses) on the consolidated statement of income and consolidated statement of comprehensive income

$ millions, for the year ended October 31		Beginning balance of AOCI – hedge reserve (after-tax)	Change in the value of the hedging instrument recognized in OCI (before-tax)	Amount reclassified from accumulated OCI to income (before-tax) (1)	Tax benefit (expense)	Ending balance of AOCI hedge reserve (after-tax)	Hedge ineffectiveness gains (losses) recognized in income
2019	**Cash flow hedges**						
	Foreign exchange risk	**$ 5**	**$ (1)**	**$ (8)**	**$ 2**	**$ (2)**	**$ –**
	Interest rate risk	**(45)**	**188**	**6**	**(51)**	**98**	**–**
	Equity share price risk	**22**	**(1)**	**(6)**	**2**	**17**	**–**
		$ (18)	**$ 186**	**$ (8)**	**$(47)**	**$ 113**	**$ –**
	NIFO hedges – foreign exchange risk						
	Hedges of net investment in foreign operations	**$ (1,129)**	**$ 6**	**$ –**	**$(16)**	**$(1,139)**	**$ –**
2018	**Cash flow hedges**						
	Foreign exchange risk	$ 5	$ 6	$ (6)	$ –	$ 5	$ –
	Interest rate risk	(3)	(56)	(2)	16	(45)	–
	Equity share price risk	31	17	(27)	1	22	(1)
		$ 33	$ (33)	$ (35)	$ 17	$ (18)	$ (1)
	NIFO hedges – foreign exchange risk						
	Hedges of net investment in foreign operations	$ (780)	$(392)	$ –	$ 43	$(1,129)	$ –

(1) During the year ended October 31, 2019, the amount reclassified from AOCI to net income for cash flow hedges of forecasted transactions that were no longer expected to occur was immaterial (2018: nil).

$ millions, for the year ended October 31		Gains (losses) on the hedging instruments	Gains (losses) on the hedged items attributable to hedged risk	Hedge ineffectiveness gains (losses) recognized in income
2019	**Fair value hedges**			
	Interest rate risk	**$ (276)**	**$ 277**	**$ 1**
	Foreign exchange / interest rate risk	**183**	**(180)**	**3**
		$ (93)	**$ 97**	**$ 4**
2018	**Fair value hedges**			
	Interest rate risk	$ (36)	$ 1	$ (35)
	Foreign exchange / interest rate risk	(78)	82	4
		$ (114)	$ 83	$ (31)

The following table presents hedge ineffectiveness gains (losses) recognized in the consolidated statement of income for 2017:

$ millions, for the year ended October 31	2017
Fair value hedges (1)	
Gains (losses) on hedging instruments	$ (24)
Gains (losses) on hedged items attributable to hedged risks	73
	$ 49
Cash flow hedges (2)(3)	$ –

(1) Recognized in Net interest income.
(2) Recognized in Non-interest income – Other and Non-interest expenses – Other.
(3) Includes NIFO hedges.

Portions of derivative gains (losses) that by designation were excluded from the assessment of hedge effectiveness for fair value, cash flow, and NIFO hedging activities are included in the consolidated statement of income, and are not significant for the year ended October 31, 2017.

Note 14 Subordinated indebtedness

The debt issues included in the table below are outstanding unsecured obligations of CIBC and its subsidiaries and are subordinated to the claims of depositors and other creditors as set out in their terms. Foreign currency denominated indebtedness funds foreign currency denominated assets (including our NIFOs). All redemptions are subject to regulatory approval.

Terms of subordinated indebtedness

$ millions, as at October 31					2019		2018	
		Earliest date redeemable						
Interest rate %	Contractual maturity date	At greater of Canada Yield Price (1) and par	At par	Denominated in foreign currency	**Par value**	**Carrying value (2)**	Par value	Carrying value (2)
5.75 (3)	July 11, 2024 (4)			TT$175 million	**$ 34**	**$ 34**	$ 34	$ 34
3.00 (5)(6)	October 28, 2024		October 28, 2019 (7)		**–**	**–**	1,000	986
3.42 (6)(8)	January 26, 2026		January 26, 2021		**1,000**	**991**	1,000	966
3.45 (6)(9)	April 4, 2028		April 4, 2023		**1,500**	**1,533**	1,500	1,479
8.70	May 25, 2029 (4)				**25**	**40**	25	38
2.95 (6)(10)	June 19, 2029		June 19, 2024		**1,500**	**1,494**	–	–
11.60	January 7, 2031	January 7, 1996			**200**	**200**	200	178
10.80	May 15, 2031	May 15, 2021			**150**	**149**	150	132
8.70	May 25, 2032 (4)				**25**	**42**	25	39
8.70	May 25, 2033 (4)				**25**	**44**	25	40
8.70	May 25, 2035 (4)				**25**	**46**	25	42
Floating (11)	July 31, 2084		July 27, 1990	US$65 million (12)	**85**	**85**	86	86
Floating (13)	August 31, 2085		August 20, 1991	US$17 million	**23**	**23**	23	23
					4,592	**4,681**	4,093	4,043
Subordinated indebtedness sold short (held) for trading purposes					**3**	**3**	37	37
					$ 4,595	**$ 4,684**	$ 4,130	$ 4,080

(1) Canada Yield Price: a price calculated at the time of redemption to provide a yield to maturity equal to the yield of a Government of Canada bond of appropriate maturity plus a pre-determined spread.
(2) Carrying values of fixed-rate subordinated indebtedness notes reflect the impact of interest rate hedges in an effective hedge relationship.
(3) Guaranteed Subordinated Term Notes in Trinidad and Tobago dollars issued on July 11, 2018 by FirstCaribbean International Bank (Trinidad & Tobago) Limited, a subsidiary of CIBC FirstCaribbean, and guaranteed on a subordinated basis by CIBC FirstCaribbean.
(4) Not redeemable prior to maturity date.
(5) Interest rate is fixed at the indicated rate until the earliest date redeemable at par by CIBC and, thereafter, at a rate of 1.19% above the three-month Canadian dollar bankers' acceptance rate.
(6) Debentures are also subject to a non-viability contingent capital (NVCC) provision, necessary for the Debentures to qualify as Tier 2 regulatory capital under Basel III. As such, the Debentures are automatically converted into common shares upon the occurrence of a Trigger Event as described in the capital adequacy guidelines. In such an event, the Debentures are convertible into a number of common shares, determined by dividing 150% of the par value plus accrued and unpaid interest by the average common share price (as defined in the relevant prospectus supplements) subject to a minimum price of $5.00 per share (subject to adjustment in certain events as defined in the relevant prospectus supplements).
(7) On October 28, 2019, we redeemed all $1.0 billion of our 3.00% Debentures due October 28, 2024. In accordance with their terms, the Debentures were redeemed at 100% of their principal amount, plus accrued and unpaid interest thereon.
(8) Interest rate is fixed at the indicated rate until the earliest date redeemable at par by CIBC and, thereafter, at a rate of 2.57% above the three-month Canadian dollar bankers' acceptance rate.
(9) Interest rate is fixed at the indicated rate until the earliest date redeemable at par by CIBC and, thereafter, at a rate of 1.00% above the three-month Canadian dollar bankers' acceptance rate.
(10) Interest rate is fixed at the indicated rate until the earliest date redeemable at par by CIBC and, thereafter, at a rate of 1.18% above the three-month Canadian dollar bankers' acceptance rate.
(11) Interest rate is based on the six-month US$ London Interbank Offered Rate (LIBOR) plus 0.25%.
(12) US$1 million (2018: nil) of this issue was repurchased and cancelled during the year.
(13) Interest rate is based on the six-month US$ LIBOR plus 0.125%.

Note 15 Common and preferred share capital

The following table presents the outstanding number of shares and dividends paid:

Outstanding shares and dividends paid

$ millions, except number of shares and per share amounts, as at or for the year ended October 31				2019				2018				2017
	Shares outstanding		**Dividends paid**		Shares outstanding		Dividends paid		Shares outstanding		Dividends paid	
	Number of shares	**Amount**	**Amount**	**$ per share**	Number of shares	Amount	Amount	$ per share	Number of shares	Amount	Amount	$ per share
Common shares	**445,325,744**	**$ 13,589**	**$ 2,488**	**$ 5.60**	442,823,361	$ 13,242	$ 2,356	$ 5.32	439,329,713	$ 12,550	$ 2,121	$ 5.08
Class A Preferred Shares												
Series 39	**16,000,000**	**400**	**16**	**0.96**	16,000,000	400	16	0.98	16,000,000	400	16	0.98
Series 41	**12,000,000**	**300**	**11**	**0.94**	12,000,000	300	11	0.94	12,000,000	300	11	0.94
Series 43	**12,000,000**	**300**	**11**	**0.90**	12,000,000	300	11	0.90	12,000,000	300	11	0.90
Series 45	**32,000,000**	**800**	**35**	**1.10**	32,000,000	800	35	1.10	32,000,000	800	14	0.46
Series 47	**18,000,000**	**450**	**20**	**1.13**	18,000,000	450	16	0.88	–	–	–	–
Series 49	**13,000,000**	**325**	**13**	**1.00**	–	–	–	–	–	–	–	–
Series 51	**10,000,000**	**250**	**5**	**0.53**	–	–	–	–	–	–	–	–
		$ 2,825	**$ 111**			$ 2,250	$ 89			$ 1,800	$ 52	
Treasury shares – common shares	**15,931**	**$ 2**			3,019	$ 1			(16,410)	$ (2)		
Treasury shares – preferred shares	**–**	**–**			–	–			(116,671)	(3)		

Common shares

CIBC's authorized capital consists of an unlimited number of common shares, without nominal or par value.

Common shares issued

$ millions, except number of shares, as at or for the year ended October 31	**2019**		2018		2017	
	Number of shares	**Amount**	Number of shares	Amount	Number of shares	Amount
Balance at beginning of year	**442,826,380**	**$ 13,243**	439,313,303	$ 12,548	397,070,280	$ 8,026
Issuance pursuant to:						
Acquisition of The PrivateBank	**–**	**–**	1,689,450	194	32,137,402	3,443
Acquisition of Geneva Advisors	**–**	**–**	–	–	1,204,344	126
Acquisition of Wellington Financial	**–**	**–**	378,848	47	–	–
Equity-settled share-based compensation plans	**511,567**	**52**	999,675	95	990,934	91
Shareholder investment plan (1)	**1,777,738**	**194**	2,880,782	337	6,870,584	749
Employee share purchase plan	**1,213,078**	**131**	1,044,893	123	1,071,051	117
	446,328,763	**$ 13,620**	446,306,951	$ 13,344	439,344,595	$ 12,552
Purchase of common shares for cancellation	**(1,000,000)**	**(30)**	(3,500,000)	(104)	–	–
Treasury shares	**12,912**	**1**	19,429	3	(31,292)	(4)
Balance at end of year (2)	**445,341,675**	**$ 13,591**	442,826,380	$ 13,243	439,313,303 (3)	$ 12,548

(1) Commencing with the dividends paid on April 27, 2018, the shares for the Dividend Reinvestment Option and the Stock Dividend Option of the Shareholder Investment Plan (the Plan) were issued from Treasury without discount. Prior to this, these shares were issued at a 2% discount from average market price. The participants in the Share Purchase Option of the Plan continue to receive shares issued from Treasury with no discount.
(2) Excludes nil restricted shares as at October 31, 2019 (2018: 60,764; 2017: 190,285).
(3) Excludes 2,010,890 common shares which were issued and outstanding but which had not been acquired by a third party as at October 31, 2017. These shares were issued as a component of our acquisition of The PrivateBank.

Common shares reserved for issue

As at October 31, 2019, 15,310,806 common shares (2018: 15,703,861) were reserved for future issue pursuant to stock option plans, 14,383,104 common shares (2018: 16,160,842) were reserved for future issue pursuant to the Shareholder Investment Plan, 9,772,134 common shares (2018: 3,043,087) were reserved for future issue pursuant to the employee share purchase plan and other activities, and 1,789,893,750 common shares (2018: 1,561,767,500) were reserved for future issue pursuant to instruments which include an NVCC provision requiring conversion into common shares upon the occurrence of a Trigger Event as described in the capital adequacy guidelines.

Normal course issuer bid

On May 31, 2019, we announced that the Toronto Stock Exchange (TSX) had accepted the notice of CIBC's intention to commence a normal course issuer bid. Purchases under this bid will terminate upon the earlier of: (i) CIBC purchasing up to a maximum of 9 million common shares; (ii) CIBC providing a notice of termination; or (iii) June 3, 2020. Our previous bid terminated on June 3, 2019. During the year, we purchased and cancelled 1,000,000 common shares under the current bid at an average price of $109.06 for a total amount of $109 million.

The following table shows common shares purchased and cancelled under previously expired NCIBs.

$ millions, except number of shares, as at or for the year ended October 31	**2019**		2018		2017	
TSX approval date	**Number of shares**	**Amount**	Number of shares	Amount	Number of shares	Amount
March 10, 2017 (1)	**–**	**$ –**	–	$ –	–	$ –
May 31, 2018 (2)	**–**	**–**	3,500,000	417	–	–
	–	**$ –**	3,500,000	$ 417	–	$ –

(1) No common shares were repurchased under this NCIB.
(2) Common shares were repurchased at an average price of $119.22 under this NCIB.

Preferred shares

CIBC is authorized to issue an unlimited number of Class A Preferred Shares and Class B Preferred Shares without nominal or par value, issuable in series, provided that, for each class of preferred shares, the maximum aggregate consideration for all outstanding shares, at any time does not exceed $10 billion. There are no Class B Preferred Shares currently outstanding.

Preferred share rights and privileges

Class A Preferred Shares

Each series of Class A Preferred Shares bears quarterly non-cumulative dividends. Non-cumulative Rate Reset Class A Preferred Shares Series 39, 41, 43, 45, 47, 49, and 51 (NVCC) are redeemable, subject to regulatory approval if required, for cash by CIBC on or after the specified redemption dates at the cash redemption prices indicated in the terms of the preferred shares.

Non-cumulative Rate Reset Class A Preferred Shares Series 39 (NVCC) (Series 39 shares) and Non-cumulative Floating Rate Class A Preferred Shares Series 40 (NVCC) (Series 40 shares)

On June 11, 2014, we issued 16 million Series 39 shares with a par value of $25.00 per share, for gross proceeds of $400 million. For the initial five-year period to the earliest redemption date of July 31, 2019, the Series 39 shares paid quarterly cash dividends, as declared, at a rate of 3.90%. The dividend was reset to 3.713%, payable quarterly as and when declared by the Board, effective for the five-year period commencing July 31, 2019. On July 31, 2024, and on July 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 2.32%.

Holders of the Series 39 shares had the right to convert their shares on a one-for-one basis into Series 40 shares, subject to certain conditions, on July 31, 2019. As the conditions for conversion were not met, no Series 40 shares were issued, and all of the Series 39 shares remain outstanding. Holders of the Series 39 shares will have the right to convert their shares on a one-for-one basis into Series 40 shares, subject to certain conditions, on July 31, 2024 and on July 31 every five years thereafter. Holders of the Series 40 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 2.32%. Holders of the then outstanding Series 40 shares may convert their shares on a one-for-one basis into Series 39 shares, subject to certain conditions, on July 31, 2029 and on July 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 39 shares at par on July 31, 2024, and on July 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 40 shares at par on July 31, 2029, and on July 31 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 41 (NVCC) (Series 41 shares)

On December 16, 2014, we issued 12 million Series 41 shares with a par value of $25.00 per share, for gross proceeds of $300 million. For the initial five-year period to the earliest redemption date of January 31, 2020, the Series 41 shares pay quarterly cash dividends, if declared, at a rate of 3.75%. On January 31, 2020, and on January 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 2.24%.

Holders of the Series 41 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 42 (NVCC) (Series 42 shares), subject to certain conditions, on January 31, 2020 and on January 31 every five years thereafter. Holders of the Series 42 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 2.24%. Holders of the Series 42 shares may convert their shares on a one-for-one basis into Series 41 shares, subject to certain conditions, on January 31, 2025 and on January 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 41 shares at par on January 31, 2020 and on January 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 42 shares at par on January 31, 2025 and on January 31 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 43 (NVCC) (Series 43 shares)

On March 11, 2015, we issued 12 million Series 43 shares with a par value of $25.00 per share, for gross proceeds of $300 million. For the initial five-year period to the earliest redemption date of July 31, 2020, the Series 43 shares pay quarterly cash dividends, if declared, at a rate of 3.60%. On July 31, 2020, and on July 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 2.79%.

Holders of the Series 43 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 44 (NVCC) (Series 44 shares), subject to certain conditions, on July 31, 2020 and on July 31 every five years thereafter. Holders of the Series 44 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 2.79%. Holders of the Series 44 shares may convert their shares on a one-for-one basis into Series 43 shares, subject to certain conditions, on July 31, 2025 and on July 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 43 shares at par on July 31, 2020 and on July 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 44 shares at par on July 31, 2025 and on July 31 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 45 (NVCC) (Series 45 shares)

On June 2, 2017, we issued 32 million Series 45 shares with a par value of $25.00 per share, for gross proceeds of $800 million. For the initial five-year period to the earliest redemption date of July 31, 2022, the Series 45 shares pay quarterly cash dividends, if declared, at a rate of 4.40%. On July 31, 2022, and on July 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 3.38%.

Holders of the Series 45 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 46 (NVCC) (Series 46 shares), subject to certain conditions, on July 31, 2022 and on July 31 every five years thereafter. Holders of the Series 46 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 3.38%. Holders of the Series 46 shares may convert their shares on a one-for-one basis into Series 45 shares, subject to certain conditions, on July 31, 2027 and on July 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 45 shares at par on July 31, 2022 and on July 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 46 shares at par on July 31, 2027 and on July 31 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 47 (NVCC) (Series 47 shares)

On January 18, 2018, we issued 18 million Non-cumulative Rate Reset Class A Preferred Shares Series 47 (NVCC) (Series 47 shares) with a par value of $25.00 per share, for gross proceeds of $450 million. For the initial five-year period to the earliest redemption date of January 31, 2023, the Series 47 shares pay quarterly cash dividends, if declared, at a rate of 4.50%. On January 31, 2023, and on January 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 2.45%.

Holders of the Series 47 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 48 (NVCC) (Series 48 shares), subject to certain conditions, on January 31, 2023 and on January 31 every five years thereafter. Holders of the Series 48 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 2.45%. Holders of the Series 48 shares may convert their shares on a one-for-one basis into Series 47 shares, subject to certain conditions, on January 31, 2028 and on January 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 47 shares at par on January 31, 2023 and on January 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 48 shares at par on January 31, 2028 and on January 31 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 49 (NVCC) (Series 49 shares)

On January 22, 2019, we issued 13 million Non-cumulative Rate Reset Class A Preferred Shares Series 49 (NVCC) (Series 49 shares) with a par value of $25.00 per share, for gross proceeds of $325 million. For the initial five-year period to the earliest redemption date of April 30, 2024, the Series 49 shares pay quarterly cash dividends, if declared, at a rate of 5.20%. On April 30, 2024, and on April 30 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 3.31%.

Holders of the Series 49 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 50 (NVCC) (Series 50 shares), subject to certain conditions, on April 30, 2024 and on April 30 every five years thereafter. Holders of the Series 50 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 3.31%. Holders of the Series 50 shares may convert their shares on a one-for-one basis into Series 49 shares, subject to certain conditions, on April 30, 2029 and on April 30 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 49 shares at par on April 30, 2024 and on April 30 every five years thereafter; we may redeem all or any part of the then outstanding Series 50 shares at par on April 30, 2029 and on April 30 every five years thereafter.

Non-cumulative Rate Reset Class A Preferred Shares Series 51 (NVCC) (Series 51 shares)

On June 4, 2019, we issued 10 million Non-cumulative Rate Reset Class A Preferred Shares Series 51 (NVCC) (Series 51 shares) with a par value of $25.00 per share, for gross proceeds of $250 million. For the initial five-year period to the earliest redemption date of July 31, 2024, the Series 51 shares pay quarterly cash dividends, if declared, at a rate of 5.15%. On July 31, 2024, and on July 31 every five years thereafter, the dividend rate will reset to be equal to the then current five-year Government of Canada bond yield plus 3.62%.

Holders of the Series 51 shares will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 52 (NVCC) (Series 52 shares), subject to certain conditions, on July 31, 2024 and on July 31 every five years thereafter. Holders of the Series 52 shares will be entitled to receive a quarterly floating rate dividend, if declared, equal to the three-month Government of Canada Treasury Bill yield plus 3.62%. Holders of the Series 52 shares may convert their shares on a one-for-one basis into Series 51 shares, subject to certain conditions, on July 31, 2029 and on July 31 every five years thereafter.

Subject to regulatory approval and certain provisions of the shares, we may redeem all or any part of the then outstanding Series 51 shares at par on July 31, 2024 and on July 31 every five years thereafter; we may redeem all or any part of the then outstanding Series 52 shares at par on July 31, 2029 and on July 31 every five years thereafter.

Series 39, Series 40, Series 41, Series 42, Series 43, Series 44, Series 45, Series 46, Series 47, Series 49, Series 48 and Series 51 shares are subject to an NVCC provision, necessary for the shares to qualify as regulatory capital under Basel III. As such, the shares are automatically converted into common shares upon the occurrence of a "Trigger Event". As described in the Capital Adequacy Guidelines, a Trigger Event occurs when OSFI determines the bank is or is about to become non-viable and, if after conversion of all contingent instruments and consideration of any other relevant factors or circumstances, it is reasonably likely that its viability will be restored or maintained; or if the bank has accepted or agreed to accept a capital injection or equivalent support from a federal or provincial government, without which OSFI would have determined the bank to be non-viable. Each such share is convertible into a number of common shares, determined by dividing the par value of $25.00 plus declared and unpaid dividends by the average common share price (as defined in the relevant prospectus supplement) subject to a minimum price of $5.00 per share (subject to adjustment in certain events as defined in the relevant prospectus supplement). We have recorded the Series 39, Series 41, Series 43, Series 45, Series 47, Series 49, and Series 51 shares as equity.

Terms of Class A Preferred Shares

Outstanding as at October 31, 2019	Quarterly dividends per share (1)	Earliest specified redemption date	Cash redemption price per share
Series 39	$ 0.232063	July 31, 2024	$ 25.00
Series 41	$ 0.234375	January 31, 2020	$ 25.00
Series 43	$ 0.225000	July 31, 2020	$ 25.00
Series 45	$ 0.275000	July 31, 2022	$ 25.00
Series 47	$ 0.281250	January 31 2023	$ 25.00
Series 49	$ 0.325000	April 30, 2024	$ 25.00
Series 51	$ 0.321875	July 31, 2024	$ 25.00

(1) Quarterly dividends may be adjusted depending on the timing of issuance or redemption.

Restrictions on the payment of dividends

Under Section 79 of the *Bank Act* (Canada), a bank, including CIBC, is prohibited from declaring or paying any dividends on its preferred or common shares if there are reasonable grounds for believing that the bank is, or the payment would cause it to be, in contravention of any capital adequacy or liquidity regulation or any direction to the bank made by OSFI.

In addition, our ability to pay common share dividends is also restricted by the terms of the outstanding preferred shares. These terms provide that we may not pay dividends on our common shares at any time without the approval of holders of the outstanding preferred shares, unless all dividends to preferred shareholders that are then payable have been declared and paid or set apart for payment.

We have agreed that if CIBC Capital Trust fails to pay any interest payments on its $300 million of CIBC Tier 1 Notes – Series B, due June 30, 2108, we will not declare dividends of any kind on any of our preferred or common shares for a specified period of time. For additional details see Note 16.

Currently, these limitations do not restrict the payment of dividends on our preferred or common shares.

Capital

Objectives, policy and procedures

Our objective is to employ a strong and efficient capital base. We manage capital in accordance with a capital policy approved by the Board. The policy includes specific guidelines that relate to capital strength, capital mix, dividends and return of capital, and the unconsolidated capital adequacy of regulated entities. Capital is monitored continuously for compliance.

Each year, a Capital Plan and three-year outlook are established as a part of the financial plan, and they encompass all material elements of capital: forecasts of sources and uses of capital including earnings, dividends, business growth, and corporate initiatives, as well as maturities, redemptions, and issuances of capital instruments. The Capital Plan is stress-tested to ensure that it is sufficiently robust under severe but plausible stress scenarios. The level of capital and capital ratios are monitored throughout the year including a comparison to the Capital Plan. There were no significant changes made to the objectives, policy, guidelines and procedures during the year.

Regulatory capital requirements under Basel III

Our regulatory capital requirements are determined in accordance with guidelines issued by OSFI, which are based on the risk-based capital standards developed by the Basel Committee on Banking Supervision (BCBS).

CIBC has been designated by OSFI as a D-SIB in Canada, and is subject to a CET1 surcharge equal to 1.0% of risk-weighted assets (RWA). In June 2018, OSFI publicly disclosed that it requires D-SIBs to hold a Domestic Stability Buffer, currently set at 2.0% of RWA. This results in current targets, including all buffer requirements, for CET1, Tier 1 and Total capital ratios of 10.0%, 11.5%, and 13.5%, respectively. These targets may be higher for certain institutions at OSFI's discretion.

Regulatory capital and ratios

Regulatory capital under Basel III consists of CET1, Tier 1 and Tier 2 capital.

CET1 capital includes common shares, retained earnings, AOCI (excluding AOCI relating to cash flow hedges and changes to FVO liabilities attributable to changes in own credit risk), and qualifying instruments issued by a consolidated banking subsidiary to third parties, less regulatory adjustments for items such as goodwill and other intangible assets (net of related deferred tax liabilities), certain deferred tax assets, net assets related to defined benefit pension plans as reported on our consolidated balance sheet (net of related deferred tax liabilities), and certain investments. Additional Tier 1 (AT1) capital primarily includes NVCC preferred shares, qualifying instruments issued by a consolidated subsidiary to third parties, and non-qualifying innovative Tier 1 notes subject to phase-out rules for capital instruments. Tier 2 capital includes NVCC subordinated indebtedness, non-qualifying subordinated indebtedness subject to phase-out rules for capital instruments, eligible collective allowance under the standardized approach, and qualifying instruments issued by a consolidated subsidiary to third parties.

Our capital ratios and leverage ratio are presented in the table below:

$ millions, as at October 31		2019	2018
CET1 capital		$ 27,707	$ 24,641
Tier 1 capital	A	30,851	27,908
Total capital		35,854	32,230
Total RWA [(1)]		239,863	n/a
CET1 capital RWA [(1)]		n/a	216,144
Tier 1 capital RWA [(1)]		n/a	216,303
Total capital RWA [(1)]		n/a	216,462
CET1 ratio		11.6 %	11.4 %
Tier 1 capital ratio		12.9 %	12.9 %
Total capital ratio		15.0 %	14.9 %
Leverage ratio exposure	B	$ 714,343	$ 653,946
Leverage ratio	A/B	4.3 %	4.3 %

(1) During 2018, before any capital floor requirement, there were three different levels of RWA for the calculation of CIBC's CET1, Tier 1 and Total capital ratios as CIBC elected in 2014 to phase in the CVA capital charge as permitted under OSFI's guideline. Beginning in the first quarter of 2019 the ratios are calculated by reference to the same level of RWA as the phase-in of the CVA capital charge has been completed.

n/a Not applicable.

During the years ended October 31, 2019 and 2018, we have complied with OSFI's regulatory capital requirements.

Note 16 | Capital Trust securities

On March 13, 2009, CIBC Capital Trust, a trust wholly owned by CIBC and established under the laws of the Province of Ontario, issued $1,300 million of CIBC Tier 1 Notes – Series A, due June 30, 2108, and $300 million of CIBC Tier 1 Notes – Series B, due June 30, 2108 (collectively, the Notes). CIBC Capital Trust is not consolidated by CIBC and the senior deposit notes issued by CIBC to CIBC Capital Trust are reported as Deposits – Business and government on the consolidated balance sheet.

The Notes are structured to achieve Tier 1 regulatory capital treatment and, as such, have features of equity capital, including the deferral of cash interest under certain circumstances (Deferral Events). In the case of a Deferral Event, holders of the Notes will be required to invest interest paid on the Notes in our perpetual preferred shares. Should CIBC Capital Trust fail to pay the semi-annual interest payments on the Notes in full, we will not declare dividends of any kind on any of our preferred or common shares for a specified period of time.

In addition, the Notes will be automatically exchanged for our perpetual preferred shares upon the occurrence of any one of the following events: (i) proceedings are commenced for our winding-up; (ii) OSFI takes control of us or our assets; (iii) we or OSFI are of the opinion that our Tier 1 capital ratio is less than 5% or our Total capital ratio is less than 8%; or (iv) OSFI directs us pursuant to the *Bank Act* (Canada) to increase our capital or provide additional liquidity and we elect such automatic exchange or we fail to comply with such direction. Upon such automatic exchange, holders of the Notes will cease to have any claim or entitlement to interest or principal against CIBC Capital Trust.

CIBC Tier 1 Notes – Series A pays interest, at a rate of 9.976%, semi-annually until June 30, 2019. On June 30, 2019, and on each five-year anniversary thereafter, the interest rate on the CIBC Tier 1 Notes – Series A will reset to the five-year Government of Canada bond yield at such time plus 10.425%. CIBC Tier 1 Notes – Series B pays interest, at a rate of 10.25%, semi-annually until June 30, 2039. On June 30, 2039, and on each five-year anniversary thereafter, the interest rate on the CIBC Tier 1 Notes – Series B will reset to the five-year Government of Canada bond yield at such time plus 9.878%.

Subject to the approval of OSFI, CIBC Capital Trust may, in whole or in part, on the redemption dates specified in the table below, and on any date thereafter, redeem the CIBC Tier 1 Notes – Series A or Series B without the consent of the holders. Also, subject to the approval of OSFI, CIBC Capital Trust may redeem all, but not part of, the CIBC Tier 1 Notes – Series A or Series B prior to the earliest redemption date specified in the table below without the consent of the holders, upon the occurrence of certain specified tax or regulatory events.

OSFI's capital adequacy guidelines confirmed the adoption of Basel III in Canada and clarified the treatment of non-qualifying capital instruments. Non-qualifying capital instruments are subject to a 10% phase-out per annum commencing in 2013. Banks are expected to develop and maintain a redemption schedule for non-qualifying capital instruments that gives priority to redeeming instruments at their regular par redemption dates before exercising any regulatory event redemption rights. With the adoption of Basel III, innovative capital instruments such as the CIBC Tier 1 Notes are considered non-qualifying capital instruments. We expect to exercise our regulatory event redemption rights in fiscal 2022 in respect of the $300 million CIBC Tier 1 Notes – Series B.

On June 30, 2019, CIBC Capital Trust redeemed all $1.3 billion of the CIBC Tier 1 Notes – Series A. In accordance with their terms, the CIBC Tier 1 Notes – Series A were redeemed at 100% of their principal amount, together with accrued and unpaid interest thereon. As a result of the redemption of the CIBC Tier 1 Notes – Series A by CIBC Capital Trust, CIBC redeemed the corresponding senior deposit notes issued by CIBC to CIBC Capital Trust on June 30, 2019.

The table below presents the significant terms and conditions of the Notes. As at October 31, 2019, we held nil trading positions (2018: $8 million in net long trading positions) of the Notes.

$ millions, as at October 31						**2019**	2018
				Earliest redemption dates		Principal amount	
	Issue date	Interest payment dates	Yield	At greater of Canada Yield Price and par (1)	At par		
Series A	March 13, 2009	June 30, December 31	9.976 %	June 30, 2014	June 30, 2019	**$ –**	$ 1,300
Series B	March 13, 2009	June 30, December 31	10.250 %	June 30, 2014	June 30, 2039	**300**	300
						$ 300	$ 1,600

(1) Canada Yield Price: a price calculated at the time of redemption (other than an interest rate reset date applicable to the series) to provide a yield to maturity equal to the yield on a Government of Canada bond of appropriate maturity plus: (i) for the CIBC Tier 1 Notes – Series A, (a) 1.735% if the redemption date is any time prior to June 30, 2019, or (b) 3.475% if the redemption date is any time on or after June 30, 2019; and (ii) for the CIBC Tier 1 Notes – Series B, (a) 1.645% if the redemption date is any time prior to June 30, 2039, or (b) 3.29% if the redemption date is any time on or after June 30, 2039.

Note 17 Share-based payments

We provide the following share-based compensation to certain employees and directors in the form of cash-settled or equity-settled awards.

Restricted share award plan

Under the RSA plan, share unit equivalents (RSA units) are granted to certain key employees on an annual basis or during the year as special grants. RSA grants are made in the form of cash-settled awards which generally vest and settle in cash either at the end of three years or one-third annually beginning one year after the date of the grant. Dividend equivalents on RSA units are paid in cash or in the form of additional RSA units to the employees over or at the end of the vesting period or settlement date.

Grant date fair value of each cash-settled RSA unit granted in the normal course is calculated based on the average closing price per common share on the TSX for the 10 trading days prior to a date specified in the grant terms. Upon vesting, each RSA unit is settled in cash based on the average closing price per common share on the TSX for the 10 trading days prior to the vesting date. Grant date fair value of each cash-settled RSA unit granted as part of the acquisition of The PrivateBank in 2017 was based on a 10-day average volume-weighted share price prior to the acquisition date.

During the year, 2,666,888 RSAs were granted at a weighted-average price of $113.01 (2018: 2,653,437 granted at a weighted-average price of $115.20; 2017: 4,331,700 granted at a weighted-average price of $105.67) and the number of RSAs outstanding as at October 31, 2019 was 8,343,235 (2018: 8,252,167; 2017: 7,590,852). Compensation expense in respect of RSAs, before the impact of hedging, totalled $319 million in 2019 (2018: $352 million; 2017: $323 million). As at October 31, 2019, liabilities in respect of RSAs, which are included in Other liabilities, were $850 million (2018: $858 million).

Performance share unit plan

Under the PSU plan, awards are granted to certain key employees on an annual basis in December. PSU grants are made in the form of cash-settled awards which vest and settle in cash at the end of three years. Dividend equivalents on PSUs granted prior to December 2015 are paid in cash to the employees over the vesting period. For PSUs granted in December 2015 and later, employees receive dividend equivalents in the form of additional PSUs.

Grant date fair value of each cash-settled PSU is calculated based on the average closing price per common share on the TSX for the 10 trading days prior to a date specified in the grant terms. The final number of PSUs that vest will range from 75% to 125% of the initial number awarded based on CIBC's performance relative to the other major Canadian banks. Upon vesting, each PSU is settled in cash based on the average closing price per common share on the TSX for the 10 trading days prior to the vesting date.

During the year, 952,273 PSUs were granted at a weighted-average price of $113.48 (2018: 894,040 granted at a weighted-average price of $115.23; 2017: 952,434 granted at a weighted-average price of $105.15). As at October 31, 2019, the number of PSUs outstanding, before the impact of CIBC's relative performance, was 3,033,980 (2018: 2,920,695; 2017: 2,651,991). Compensation expense in respect of PSUs, before the impact of hedging, totalled $106 million in 2019 (2018: $123 million; 2017: $128 million). As at October 31, 2019, liabilities in respect of PSUs, which are included in Other liabilities, were $319 million (2018: $328 million).

Restricted stock plan

As part of the acquisition of The PrivateBank in 2017, CIBC restricted stock was issued to replace previously issued PrivateBancorp restricted stock held by employees of The PrivateBank with substantially the same terms and vesting schedule. Under the restricted stock plan, awards were granted to certain key employees in the form of equity-settled awards. Pursuant to the acquisition, each restricted stock represents a CIBC common share with transferability restriction. The common shares are not restricted to voting rights, but dividends are subject to forfeiture under the terms of the grant. Dividends are payable in cash and are distributed to the holders to the extent and at the same time the underlying shares vest and are released from restriction. The transfer restrictions generally vest over a three-year period and vesting is contingent upon continued employment. At the acquisition date, restricted stock was granted at a 10-day average volume-weighted share price of US$80.09 and the number of restricted stock outstanding as at October 31, 2019 was nil (2018: 60,764). Compensation expense in respect of restricted stock totalled $1 million in 2019 (2018: $4 million).

Exchangeable shares

As part of our acquisition of Wellington Financial in the first quarter of 2018, equity-settled awards in the form of exchangeable shares, which vest over a period of up to 5 years and have specific service and non-market performance vesting conditions, were issued to selected employees. Employees receive dividend equivalents in the form of additional exchangeable shares upon vesting. Compensation expense in respect of the exchangeable shares is based on the grant date fair value, adjusted for the impact of best estimates on the satisfaction of the service requirements and non-market performance conditions. At the acquisition, each exchangeable share was granted at $123.99, and the number of exchangeable shares outstanding as at October 31, 2019 was 386,010 (2018: 493,310). Compensation expense in respect of exchangeable shares totalled $8 million in 2019 (2018: $20 million).

Deferred share unit plan/deferred compensation plan

Under the DSU plan, certain key employees are granted DSUs during the year as special grants. Under the DSU plan and the DCP plan assumed through the acquisition of The PrivateBank in 2017, certain employees can also elect to receive DSUs in exchange for cash compensation that they would otherwise be entitled to. DSUs vest in accordance with the vesting schedule defined in the grant agreement or plan document and settle in cash on a date elected by the employee that is not less than two years after the deferral commitment, or after the employee leaves CIBC in a lump-sum payment or up to 10 annual installments. Employees receive dividend equivalents in the form of additional DSUs.

Grant date fair value of each cash-settled DSU that is not granted under the DCP, is calculated based on the average closing price per common share on the TSX for the 10 trading days prior to a date specified in the grant terms. These DSUs are settled in cash based on the average closing price per common share on the TSX for the 10 trading days prior to the payout date and after the employee's termination of employment. For the DCP plan, the grant date fair value for units issued as part of the acquisition of The PrivateBank in 2017 was based on a 10-day average volume-weighted share price prior to the acquisition date. The grant date fair value for subsequent DCP grants is based on the closing stock price on the New York Stock Exchange (NYSE) on the last day of the quarter. Upon distribution, each DSU is settled in cash based on the average closing price per common share on the NYSE for the 10 trading days prior to the date of the distribution.

During the year, 173,089 DSUs were granted at a weighted-average price of $110.53 (2018: 132,739 granted at a weighted-average price of $115.60; 2017: 198,301 granted at a weighted-average price of $106.21) and the number of DSUs outstanding as at October 31, 2019 was 617,281 (2018: 447,200; 2017: 248,032). Compensation expense in respect of DSUs, before the impact of hedging, totalled $17 million in 2019 (2018: $26 million; 2017: $20 million). As at October 31, 2019, liabilities in respect of DSUs, which are included in Other liabilities, were $82 million (2018: $64 million).

Directors' plans

Under the Director DSU/Common Share Election Plan, each director who is not an officer or employee of CIBC may elect to receive the annual equity retainer as either DSUs or common shares.

Under the Non-Officer Director Share Plan, each non-officer director may elect to receive all or a portion of their remuneration in the form of cash, common shares or DSUs.

The value of DSUs credited to a director is payable when he or she is no longer a director or employee of CIBC or of an affiliate of CIBC. In addition, for directors subject to section 409A of the U.S. Internal Revenue Code of 1986, as amended, the director is not providing any services to CIBC or any member of its controlled group as an independent contractor. In addition, under the Director DSU/Common Share Election Plan, the value of DSUs is payable only if the director is not related to, or affiliated with, CIBC as defined in the *Income Tax Act* (Canada).

Other non-interest expense in respect of the DSU components of these plans totalled $3 million in 2019 (2018: $3 million; 2017: $5 million). As at October 31, 2019, liabilities in respect of DSUs, which are included in Other liabilities, were $27 million (2018: $25 million).

Stock option plans

Under the ESOP, stock options are periodically granted to certain key employees. Options provide the employee with the right to purchase common shares from CIBC at a fixed price not less than the closing price of the shares on the trading day immediately preceding the grant date. In general, the options vest by the end of the fourth year and expire 10 years from the grant date.

As at October 31, 2019, 15,310,806 (2018: 15,703,861) common shares were reserved for future issue under our stock option plans. Stock options in respect of 5,176,962 (2018: 4,713,163) common shares have been granted but not yet exercised under the ESOP. 10,133,844 (2018: 10,990,698) common shares remain available for future stock option grants. At the April 2018 Annual Meeting, CIBC received shareholder approval to increase the number of common shares reserved for issuance by 10,000,000 common shares to a maximum of 52,634,500 common shares under the ESOP. In addition, in 2017, 1,119,211 common shares were reserved for issue pursuant to the terms in the merger agreement of the acquisition of The PrivateBank, which specified that each PrivateBancorp outstanding and unexercised option was converted into an option to purchase CIBC shares. On November 30, 2017, the Board terminated the Non-Officer Director Stock Option Plan.

The following tables summarize the activities of the stock options and provide additional details related to stock options outstanding and vested.

As at or for the year ended October 31	**2019**		2018		2017	
	Number of stock options	**Weighted-average exercise price** (1)	Number of stock options	Weighted-average exercise price	Number of stock options	Weighted-average exercise price
Outstanding at beginning of year	**4,713,163**	**$ 91.05**	4,876,673	$ 84.28	4,073,451	$ 86.92
Granted	**894,324**	**111.50**	756,516	120.02	1,935,997	75.83
Exercised (2)	**(393,055)**	**58.60**	(876,309)	67.84	(990,934)	76.78
Forfeited	**(35,714)**	**110.42**	(42,443)	103.98	(133,581)	99.77
Cancelled/expired	**(1,756)**	**45.63**	(1,274)	45.08	(8,260)	58.99
Outstanding at end of year	**5,176,962**	**$ 96.93**	4,713,163	$ 91.05	4,876,673	$ 84.28
Exercisable at end of year	**2,290,139**	**$ 80.27**	1,898,125	$ 71.89	1,988,449	$ 64.28
Available for grant	**10,133,844**		10,990,698		1,777,497	

(1) For foreign currency-denominated options granted and exercised during the year, the weighted-average exercise prices are translated using exchange rates as at the grant date and settlement date, respectively. The weighted-average exercise price of outstanding balances as at October 31, 2019 reflects the conversion of foreign currency-denominated options at the year-end exchange rate.
(2) The weighted-average share price at the date of exercise was $106.94 (2018: $120.55; 2017: $110.44).

As at October 31, 2019	Stock options outstanding			Stock options vested	
Range of exercise prices	**Number outstanding**	**Weighted-average contractual life remaining**	**Weighted-average exercise price**	**Number outstanding**	**Weighted-average exercise price**
$11.00 – $55.00	**299,179**	**2.72**	**$ 30.50**	**299,179**	**$ 30.50**
$55.01 – $65.00	**164,194**	**5.73**	**60.23**	**164,194**	**60.23**
$65.01 – $75.00	**235,996**	**1.77**	**71.33**	**235,996**	**71.33**
$75.01 – $85.00	**391,931**	**2.67**	**79.75**	**391,931**	**79.75**
$85.01 – $95.00	**392,973**	**4.29**	**90.93**	**388,894**	**90.94**
$95.01 – $105.00	**1,167,876**	**5.69**	**99.65**	**809,945**	**100.46**
$105.01 – $115.00	**1,783,985**	**8.15**	**111.14**	**–**	**–**
$115.01 – $125.00	**740,828**	**8.12**	**120.02**	**–**	**–**
	5,176,962	**6.20**	**$ 97.82**	**2,290,139**	**$ 80.27**

The fair value of options granted during the year were measured at the grant date using the Black-Scholes option pricing model. Model assumptions are based on observable market data for the risk-free interest rate and dividend yield; contractual terms for the exercise price; and historical experience for expected life. Volatility assumptions are best estimates of market implied volatility matching the exercise price and expected life of the options.

The fair value of in-the-money options granted as part of the acquisition of The PrivateBank in 2017 approximated their intrinsic value.

The following weighted-average assumptions were used as inputs into the Black-Scholes option pricing model to determine the fair value of options on the date of grant, excluding the options granted pursuant to the acquisition of The PrivateBank:

For the year ended October 31	**2019**	2018	2017
Weighted-average assumptions			
Risk-free interest rate	**2.63 %**	2.08 %	1.58 %
Expected dividend yield	**5.87 %**	5.15 %	5.75 %
Expected share price volatility	**18.36 %**	14.74 %	14.53 %
Expected life	**6 years**	6 years	6 years
Share price/exercise price	**$ 111.50**	$ 120.02	$ 110.83

For 2019, the weighted-average grant date fair value of options was $8.22 (2018: $7.06; 2017: $5.31). The weighted-average grant date fair value of options granted pursuant to the acquisition of The PrivateBank was $63.75 in 2017.

Compensation expense in respect of stock options totalled $7 million in 2019 (2018: $7 million; 2017: $5 million).

Employee share purchase plan

Under our Canadian ESPP, qualifying employees can choose each year to have any portion of their eligible earnings withheld to purchase common shares. We match 50% of the employee contribution amount, up to a maximum contribution of 3% of eligible earnings, subject to a ceiling of $2,250 annually. CIBC contributions vest after employees have two years of continuous participation in the plan, and all subsequent contributions vest immediately. Similar programs exist in other regions globally, where each year qualifying employees can choose to have a portion of their eligible earnings withheld to purchase common shares and receive a matching employer contribution subject to each plan's provisions. Employee contributions to our ESPP are used to purchase common shares from Treasury. CIBC FirstCaribbean operates an ESPP locally, in which contributions are used by the plan trustee to purchase CIBC FirstCaribbean common shares in the open market.

Our contributions are expensed as incurred and totalled $48 million in 2019 (2018: $45 million; 2017: $43 million).

Note 18 | Post-employment benefits

We sponsor pension and other post-employment benefit plans for eligible employees in a number of jurisdictions including Canada, the U.S., the U.K., and the Caribbean. Our pension plans include registered funded defined benefit pension plans, supplemental arrangements that provide pension benefits in excess of statutory limits, and defined contribution plans. We also provide certain health-care, life insurance, and other benefits to eligible employees and retired members. Plan assets and defined benefit obligations related to our defined benefit plans are measured for accounting purposes as at October 31 each year.

Plan characteristics, funding and risks

Pension plans

Pension plans include CIBC's Canadian, U.S., U.K., and Caribbean pension plans. CIBC's Canadian pension plans represent approximately 90% of our consolidated defined benefit obligation. All of our Canadian pension plans are defined benefit plans, the most significant of which is our principal Canadian pension plan (the CIBC Pension Plan), which encompasses approximately 64,000 active, deferred, and retired members.

The CIBC Pension Plan provides members with monthly pension income at retirement based on a prescribed plan formula which is based on a combination of maximum yearly pensionable earnings, average earnings at retirement and length of service recognized in the plan. There is a two-year waiting period for members to join the CIBC Pension Plan.

The CIBC Pension Plan is funded through a separate trust. Actuarial funding valuations are prepared by the Plan's external actuary at least once every three years or more frequently as required by Canadian pension legislation to determine CIBC's minimum funding requirements as well as maximum permitted contributions. Any deficits determined in the funding valuations must generally be funded over a period not exceeding fifteen years. CIBC's pension funding policy is to make at least the minimum annual required contributions required by regulations. Any contributions in excess of the minimum requirements are discretionary.

The CIBC Pension Plan is registered with OSFI and the Canada Revenue Agency and is subject to the acts and regulations that govern federally regulated pension plans.

Other post-employment plans

Other post-employment plans include CIBC's Canadian, U.S. and Caribbean post-retirement health-care benefit plans (referred to for disclosure purposes as other post-employment plans). CIBC's Canadian other post-employment plan (the Canadian post-employment plan) represents more than 90% of our consolidated other post-employment defined benefit obligation.

The Canadian post-employment plan provides medical, dental and life insurance benefits to retirees that meet specified eligibility requirements, including specified age and service period eligibility requirements. CIBC reimburses 100% of the cost of benefits for eligible employees that retired prior to January 1, 2009, whereas the contribution level for medical and dental benefits for eligible employees that retire subsequent to this date has been fixed at a specified level. The plan is funded on a pay-as-you-go basis.

Benefit changes

There were no material changes to the terms of our defined benefit pension or other post-employment plans in 2019 or 2018.

Risks

CIBC's defined benefit plans expose the group to actuarial risks (such as longevity risk), currency risk, interest rate risk, market (investment) risk and health-care cost inflation risks.

The CIBC pension plan operates a currency overlay strategy, which may use forwards or similar instruments, to manage and mitigate its currency risk.

Interest rate risk is managed as part of the CIBC pension plan's liability-driven investment strategy through a combination of physical bonds, overlays funded in the repo market, and/or derivatives.

Market (investment) risk is mitigated through a multi-asset portfolio construction process that diversifies across a variety of market risk drivers.

The use of derivatives within the CIBC pension plan is governed by its derivatives policy that was approved by the Pension Benefits Management Committee (PBMC) and permits the use of derivatives to manage risk at the discretion of the Pension Investment Committee (PIC). In addition to the management of interest rate risk, risk reduction and mitigation strategies may include hedging of currency, credit spread and/or equity risks. The derivatives policy also permits the use of derivatives to enhance plan returns.

Plan governance

All of CIBC's pension arrangements are governed by local pension committees, senior management or a board of trustees. However, all significant plan changes require approval from the Management Resources and Compensation Committee (MRCC). For the Canadian pension plans, the MRCC is responsible for setting the strategy for the pension plans, reviewing material risks, performance including funded status, and approving material design or governance changes.

While specific investment policies are determined at a plan level to reflect the unique characteristics of each plan, common investment policies for all plans include the optimization of the risk-return relationship using a portfolio of multiple asset classes diversified by market segment, economic sector, and issuer. The objectives are to secure the benefits promised by our funded plans, to maximize long-term investment returns while not compromising the benefit security of the respective plans, manage the level of funding contributions in conjunction with the stability of the funded status, and implement all policies in a cost effective manner. Investments in quoted debt and equity (held either directly or indirectly through investment funds) represent the most significant asset allocations.

The use of derivatives is limited to the purposes and instruments described in the derivatives policy of the CIBC Pension Plan. These include the use of synthetic debt or equity instruments, currency hedging, risk reduction and enhancement of returns.

Investments in specific asset classes are further diversified across funds, managers, strategies, sectors and geographies, depending on the specific characteristics of each asset class.

The exposure to any one of these asset classes will be determined by our assessment of the needs of the plan assets and economic and financial market conditions. Factors evaluated before adopting the asset mix include demographics, cash-flow payout requirements, liquidity requirements, actuarial assumptions, expected benefit increases, and plan funding requirements.

Management of the assets of the various Canadian plans has been delegated primarily to the PIC, which is a committee that is composed of CIBC management. The PIC is responsible for the appointment and termination of individual investment managers (which includes CIBC Asset Management Inc., a wholly owned subsidiary of CIBC), who each have investment discretion within established target asset mix ranges as set by the MRCC. Should a fund's actual asset mix fall outside specified ranges, the assets are re-balanced as required to be within the target asset mix ranges. On a periodic basis, an Asset-Liability Matching study is performed in which the consequences of the strategic investment policies are analyzed.

Management of the actuarial valuations of the various Canadian plans is primarily the responsibility of the Pension Finance & Administration Committee (PFAC). The PFAC is responsible for approving the actuarial assumptions for the valuations of the plans, and for recommending the level of annual funding for the Canadian plans to CIBC senior management.

Local committees with similar mandates manage our non-Canadian plans and annually report back to the MRCC on all material governance activities.

Amounts recognized on the consolidated balance sheet

The following tables present the financial position of our defined benefit pension and other post-employment plans for Canada, the U.S., the U.K., and our Caribbean subsidiaries. Other minor plans operated by some of our subsidiaries are not material and are not included in these disclosures.

	Pension plans		Other post-employment plans	
$ millions, as at or for the year ended October 31	**2019**	2018	**2019**	2018
Defined benefit obligation				
Balance at beginning of year	**$ 7,370**	$ 7,613	**$ 589**	$ 696
Current service cost	**218**	223	**11**	13
Past service cost	**1**	–	**–**	–
Interest cost on defined benefit obligation	**303**	281	**24**	25
Employee contributions	**5**	5	**–**	–
Benefits paid	**(353)**	(334)	**(30)**	(29)
Loss on settlements	**1**	–	–	–
Foreign exchange rate changes	**(1)**	9	**–**	1
Net actuarial (gains) losses on defined benefit obligation	**1,178**	(427)	**77**	(117)
Balance at end of year	**$ 8,722**	$ 7,370	**$ 671**	$ 589
Plan assets				
Fair value at beginning of year	**$ 7,691**	$ 7,758	**$ –**	$ –
Interest income on plan assets (1)	**323**	294	**–**	–
Net actuarial gains (losses) on plan assets (1)	**965**	(234)	**–**	–
Employer contributions	**229**	199	**30**	29
Employee contributions	**5**	5	**–**	–
Benefits paid	**(353)**	(334)	**(30)**	(29)
Plan administration costs	**(6)**	(6)	**–**	–
Net transfer out	**–**	(1)	**–**	–
Foreign exchange rate changes	**(1)**	10	**–**	–
Fair value at end of year	**$ 8,853**	$ 7,691	**$ –**	$ –
Net defined benefit asset (liability)	**131**	321	**(671)**	(589)
Valuation allowance (2)	**(15)**	(10)	**–**	–
Net defined benefit asset (liability), net of valuation allowance	**$ 116**	$ 311	**$ (671)**	$ (589)

(1) The actual return on plan assets for the year was $1,288 million (2018: $60 million).
(2) The valuation allowance reflects the effect of asset ceiling on plans with a net defined benefit asset.

The net defined benefit asset (liability), net of valuation allowance, included in other assets and other liabilities is as follows:

	Pension plans		Other post-employment plans	
$ millions, as at October 31	**2019**	2018	**2019**	2018
Other assets (1)	**$ 175**	$ 361	**$ –**	$ –
Other liabilities (1)	**(59)**	(50)	**(671)**	(589)
	$ 116	$ 311	**$ (671)**	$ (589)

(1) Excludes nil of other assets (2018: $1 million) and $7 million (2018: $6 million) of other liabilities for other post-employment plans of immaterial subsidiaries.

The defined benefit obligation and plan assets by region are as follows:

	Pension plans		Other post-employment plans	
$ millions, as at October 31	**2019**	2018	**2019**	2018
Defined benefit obligation				
Canada	**$ 7,982**	$ 6,684	**$ 620**	$ 541
U.S., U.K., and the Caribbean	**740**	686	**51**	48
Defined benefit obligation at the end of year	**$ 8,722**	$ 7,370	**$ 671**	$ 589
Plan assets				
Canada	**$ 8,004**	$ 6,908	**$ –**	$ –
U.S., U.K., and the Caribbean	**849**	783	**–**	–
Plan assets at the end of year	**$ 8,853**	$ 7,691	**$ –**	$ –

Amounts recognized in the consolidated statement of income

The net defined benefit expense for our defined benefit plans in Canada, the U.S., the U.K., and the Caribbean is as follows:

	Pension plans			Other post-employment plans		
$ millions, for the year ended October 31	**2019**	2018	2017	**2019**	2018	2017
Current service cost [1]	**$ 218**	$ 223	$ 214	**$ 11**	$ 13	$ 14
Past service cost	**1**	–	(5)	**–**	–	–
Interest cost on defined benefit obligation	**303**	281	272	**24**	25	25
Interest income on plan assets	**(323)**	(294)	(279)	**–**	–	–
Interest cost on effect of asset ceiling	**–**	–	1	**–**	–	–
Plan administration costs	**6**	6	6	**–**	–	–
Loss on settlements	**1**	–	–	**–**	–	–
Special termination benefits	**–**	–	2	**–**	–	–
Net defined benefit plan expense recognized in net income	**$ 206**	$ 216	$ 211	**$ 35**	$ 38	$ 39

(1) The 2019, 2018 and 2017 current service costs were calculated using separate discount rates of 4.14%, 3.72%, and 3.72%, respectively, to reflect the longer duration of future benefits payments associated with the additional year of service to be earned by the plan's active participants.

Amounts recognized in the consolidated statement of comprehensive income

The net remeasurement gains (losses) recognized in OCI for our defined benefit plans in Canada, the U.S., the U.K., and the Caribbean is as follows:

	Pension plans			Other post-employment plans		
$ millions, for the year ended October 31	**2019**	2018	2017	**2019**	2018	2017
Actuarial gains (losses) on defined benefit obligation arising from changes in:						
Demographic assumptions	**$ –**	$ 4	$ 1	**$ –**	$ 46	$ 26
Financial assumptions	**(1,133)**	488	19	**(78)**	67	5
Experience	**(45)**	(65)	(91)	**1**	4	5
Net actuarial gains (losses) on plan assets	**965**	(234)	221	**–**	–	–
Changes in asset ceiling excluding interest income	**(5)**	1	8	**–**	–	–
Net remeasurement gains (losses) recognized in OCI [1]	**$ (218)**	$ 194	$ 158	**$ (77)**	$ 117	$ 36

(1) Excludes net remeasurement gains/losses recognized in OCI in respect of immaterial subsidiaries not included in the disclosures totalling $2 million net losses (2018: $2 million of net gains; 2017: $1 million of net losses).

Canadian defined benefit plans

As the Canadian defined benefit pension and other post-employment benefit plans represent approximately 90% of our consolidated defined benefit obligation, they are the subject and focus of the disclosures in the balance of this note.

Disaggregation and maturity profile of defined benefit obligation

The breakdown of the defined benefit obligation for our Canadian plans between active, deferred and retired members is as follows:

	Pension plans		Other post-employment plans	
$ millions, as at October 31	**2019**	2018	**2019**	2018
Active members	**$ 4,165**	$ 3,482	**$ 179**	$ 142
Deferred members	**587**	484	**–**	–
Retired members	**3,230**	2,718	**441**	399
Total	**$ 7,982**	$ 6,684	**$ 620**	$ 541

The weighted-average duration of the defined benefit obligation for our Canadian plans is as follows:

	Pension plans		Other post-employment plans	
As at October 31	**2019**	2018	**2019**	2018
Weighted-average duration, in years	**15.4**	15.5	**13.6**	12.6

Plan assets

The major categories of our defined benefit pension plan assets for our Canadian plans are as follows:

$ millions, as at October 31	**2019**		2018	
Asset category (1)				
Canadian equity securities (2)	**$ 547**	**7 %**	$ 636	9 %
Debt securities (3)				
Government bonds	**4,623**	**58**	2,636	38
Corporate bonds	**1,024**	**13**	1,027	15
Inflation adjusted bonds	**76**	**1**	69	1
	5,723	**72**	3,732	54
Investment funds (4)				
Canadian equity funds	**28**	**–**	23	–
U.S. equity funds	**379**	**5**	342	5
International equity funds (5)	**32**	**–**	25	–
Global equity funds (5)	**907**	**12**	1,077	16
Emerging markets equity funds	**256**	**3**	247	4
Fixed income funds	**110**	**1**	93	1
	1,712	**21**	1,807	26
Other (2)				
Hedge funds	**–**	**–**	10	–
Alternative investments	**1,095**	**13**	507	7
Cash and cash equivalents and other	**220**	**3**	317	5
Obligations related to securities sold under repurchase agreements	**(1,293)**	**(16)**	(101)	(1)
	22	**–**	733	11
	$ 8,004	**100 %**	$ 6,908	100 %

(1) Asset categories are based upon risk classification including synthetic exposure through derivatives. The fair value of derivatives as at October 31, 2019 was a net derivative asset of $16 million (2018: net derivative liability of $7 million).
(2) Pension benefit plan assets include CIBC issued securities and deposits of $8 million (2018: $13 million), representing 0.1% of Canadian plan assets (2018: 0.2%). All of the equity securities held as at October 31, 2019 and 2018 have daily quoted prices in active markets except hedge funds, infrastructure, and private equity.
(3) All debt securities held as at October 31, 2019 and 2018 are investment grade, of which $88 million (2018: $38 million) have daily quoted prices in active markets.
(4) $29 million (2018: $24 million) of the investment funds are directly held as at October 31, 2019 and have daily quoted prices in active markets.
(5) Global equity funds include North American and international investments, whereas International equity funds do not include North American investments.

Principal actuarial assumptions

The weighted-average principal assumptions used to determine the defined benefit obligation for our Canadian plans are as follows:

	Pension plans		Other post-employment plans	
As at October 31	**2019**	2018	**2019**	2018
Discount rate	**3.1 %**	4.1 %	**3.0 %**	4.0 %
Rate of compensation increase (1)	**2.3 %**	2.3 %	**2.3 %**	2.3 %

(1) Rates of compensation increase for 2019 and 2018 have been updated to reflect the use of a salary growth rate assumption table that is based on the age and tenure of the employees. The table yields a weighted-average salary growth rate of approximately 2.3% per annum (2018: 2.3%).

Assumptions regarding future mortality have been based on published statistics and mortality tables. The current longevities underlying the values of the defined benefit obligation of our Canadian plans are as follows (in years):

As at October 31	**2019**	2018
Longevity at age 65 for current retired members		
Males	**23.3**	23.3
Females	**24.8**	24.7
Longevity at age 65 for current members aged 45		
Males	**24.3**	24.2
Females	**25.7**	25.7

The assumed health-care cost trend rates of the Canadian other post-employment plan providing medical, dental, and life insurance benefits are as follows:

For the year ended October 31	**2019**	2018
Health-care cost trend rates assumed for next year	**5.3 %**	5.3 %
Rate to which the cost trend rate is assumed to decline	**4.0 %**	4.0 %
Year that the rate reaches the ultimate trend rate	**2040**	2040

Sensitivity analysis

Reasonably possible changes to one of the principal actuarial assumptions, holding other assumptions constant, would have affected the defined benefit obligation of our Canadian plans as follows:

Estimated increase (decrease) in defined benefit obligation	Pension plans	Other post-employment plans
$ millions, as at October 31	**2019**	**2019**
Discount rate (100 basis point change)		
Decrease in assumption	**$ 1,378**	**$ 96**
Increase in assumption	**(1,113)**	**(77)**
Rate of compensation increase (100 basis point change)		
Decrease in assumption	**(251)**	**(1)**
Increase in assumption	**285**	**2**
Health-care cost trend rates (100 basis point change)		
Decrease in assumption	**n/a**	**(26)**
Increase in assumption	**n/a**	**30**
Future mortality		
1 year shorter life expectancy	**(199)**	**(13)**
1 year longer life expectancy	**196**	**14**

n/a Not applicable.

The sensitivity analyses presented above are indicative only, and should be considered with caution as they have been calculated in isolation without changing other assumptions. In practice, changes in one assumption may result in changes in another, which may magnify or counteract the disclosed sensitivities.

Future cash flows

Cash contributions

The most recently completed actuarial valuation of the CIBC Pension Plan for funding purposes was as at October 31, 2018. The next actuarial valuation of this plan for funding purposes will be effective as of October 31, 2019.

The minimum contributions for 2020 are anticipated to be $197 million for the Canadian defined benefit pension plans and $28 million for the Canadian other post-employment benefit plans. These estimates are subject to change since contributions are affected by various factors, such as market performance, regulatory requirements, and management's ability to change funding policy.

Expected future benefit payments

The expected future benefit payments for our Canadian plans for the next 10 years are as follows:

$ millions, for the year ended October 31	2020	2021	2022	2023	2024	2025–2029	Total
Defined benefit pension plans	$ 326	$ 333	$ 340	$ 349	$ 357	$ 1,921	$ 3,626
Other post-employment plans	28	29	30	31	32	173	323
	$ 354	$ 362	$ 370	$ 380	$ 389	$ 2,094	$ 3,949

Defined contributions and other plans

We also maintain defined contribution plans for certain employees and make contributions to government pension plans. The expense recognized in the consolidated statement of income for these benefit plans is as follows:

$ millions, for the year ended October 31	**2019**	2018	2017
Defined contribution pension plans	**$ 29**	$ 27	$ 21
Government pension plans (1)	**121**	124	107
	$ 150	$ 151	$ 128

(1) Includes Canada Pension Plan, Quebec Pension Plan, and U.S. Federal Insurance Contributions Act.

Note 19 Income taxes

Total income taxes

$ millions, for the year ended October 31	2019	2018 (1)	2017
Consolidated statement of income			
Provision for current income taxes			
Adjustments for prior years	**$ (125)**	$ (39)	$ (19)
Current income tax expense	**1,365**	1,392	1,160
	1,240	1,353	1,141
Provision for deferred income taxes			
Adjustments for prior years	**107**	32	6
Effect of changes in tax rates and laws	**34**	87	3
Origination and reversal of temporary differences	**(33)**	(50)	12
	108	69	21
	1,348	1,422	1,162
OCI	**22**	42	166
Total comprehensive income	**$ 1,370**	$ 1,464	$ 1,328

(1) Excludes loss carryforwards that were recognized directly in retained earnings relating to foreign exchange translation amounts on CIBC's net investment in foreign operations. These amounts were previously reclassified to retained earnings as part of our transition to IFRS in 2012.

Components of income tax

$ millions, for the year ended October 31	2019	2018	2017
Current income taxes			
Federal	**$ 634**	$ 686	$ 683
Provincial	**428**	467	451
Foreign	**226**	188	127
	1,288	1,341	1,261
Deferred income taxes			
Federal	**30**	54	52
Provincial	**20**	36	33
Foreign	**32**	33	(18)
	82	123	67
	$ 1,370	$ 1,464	$ 1,328

The combined Canadian federal and provincial income tax rate varies each year according to changes in the statutory rates imposed by each of these jurisdictions, and according to changes in the proportion of our business carried out in each province. We are also subject to Canadian taxation on income of foreign branches.

Earnings of foreign subsidiaries would generally only be subject to Canadian tax when distributed to Canada. Additional Canadian taxes that would be payable if all foreign subsidiaries' retained earnings were distributed to the Canadian parent as dividends are estimated to be nil.

The effective rates of income tax in the consolidated statement of income are different from the combined Canadian federal and provincial income tax rates as set out in the following table:

Reconciliation of income taxes

$ millions, for the year ended October 31	2019		2018		2017	
Combined Canadian federal and provincial income tax rate applied to income before income taxes	**$ 1,718**	**26.5 %**	$ 1,777	26.5 %	$ 1,558	26.5 %
Income taxes adjusted for the effect of:						
Earnings of foreign subsidiaries	**(214)**	**(3.3)**	(220)	(3.3)	(137)	(2.3)
Tax-exempt income	**(131)**	**(2.0)**	(203)	(3.0)	(219)	(3.7)
Disposition	**–**	**–**	(1)	–	(26)	(0.4)
Changes in income tax rate on deferred tax balances	**34**	**0.5**	88	1.3	3	–
Impact of equity-accounted income	**(23)**	**(0.4)**	(29)	(0.4)	(25)	(0.4)
Other (including Enron settlement)	**(36)**	**(0.5)**	10	0.1	8	0.1
Income taxes in the consolidated statement of income	**$ 1,348**	**20.8 %**	$ 1,422	21.2 %	$ 1,162	19.8 %

Deferred income taxes

Sources of and movement in deferred tax assets and liabilities

Deferred tax assets

$ millions, for the year ended October 31		Allowance for credit losses	Buildings and equipment	Pension and employee benefits	Provisions	Financial instrument revaluation	Tax loss carry-forwards (1)	Other (2)	Total assets
2019	**Balance at beginning of year before accounting policy changes**	**$ 298**	**$ 12**	**$ 437**	**$ 16**	**$ 66**	**$ 38**	**$ 127**	**$ 994**
	Impact of adopting IFRS 15 at November 1, 2018	**–**	**–**	**–**	**–**	**–**	**–**	**3**	**3**
	Balance at beginning of year after accounting policy changes	**298**	**12**	**437**	**16**	**66**	**38**	**130**	**997**
	Recognized in net income	**(124)**	**14**	**46**	**3**	**(32)**	**(14)**	**20**	**(87)**
	Recognized in OCI	**–**	**–**	**83**	**–**	**(50)**	**–**	**–**	**33**
	Other (3)	**(4)**	**21**	**1**	**1**	**17**	**–**	**7**	**43**
	Balance at end of year	**$ 170**	**$ 47**	**$ 567**	**$ 20**	**$ 1**	**$ 24**	**$ 157**	**$ 986**
2018	Balance at beginning of year under IAS 39	$ 245	$ 69	$ 559	$ 47	$ 124	$ 18	$ 107	$ 1,169
	Impact of adopting IFRS 9 at November 1, 2017	7	–	–	–	20	–	–	27
	Balance at beginning of year under IFRS 9	252	69	559	47	144	18	107	1,196
	Recognized in net income	31	(53)	(45)	(31)	(60)	20	22	(116)
	Recognized in OCI	1	–	(87)	–	(1)	–	–	(87)
	Other (3)	14	(4)	10	–	(17)	–	(2)	1
	Balance at end of year	$ 298	$ 12	$ 437	$ 16	$ 66	$ 38	$ 127	$ 994
2017	Balance at beginning of year	$ 227	$ 88	$ 520	$ 31	$ 25	$ 70	$ 117	$ 1,078
	Recognized in net income	2	(14)	19	15	(26)	(49)	3	(50)
	Recognized in OCI	–	–	(49)	–	19	–	–	(30)
	Acquisitions	14	–	86	–	111	–	10	221
	Other (3)	2	(5)	(17)	1	(5)	(3)	(23)	(50)
	Balance at end of year	$ 245	$ 69	$ 559	$ 47	$ 124	$ 18	$ 107	$ 1,169

Deferred tax liabilities

$ millions, for the year ended October 31		Intangible assets	Buildings and equipment	Pension and employee benefits	Goodwill	Financial instrument revaluation	Foreign currency	Other	Total liabilities
2019	**Balance at beginning of year before accounting policy changes**	**$ (287)**	**$ (47)**	**$ (11)**	**$ (85)**	**$ (12)**	**$ –**	**$ 6**	**$ (436)**
	Impact of adopting IFRS 15 at November 1, 2018	**–**	**–**	**–**	**–**	**–**	**–**	**(5)**	**(5)**
	Balance at beginning of year after accounting policy changes	**(287)**	**(47)**	**(11)**	**(85)**	**(12)**	**–**	**1**	**(441)**
	Recognized in net income	**(16)**	**(12)**	**(1)**	**(1)**	**(4)**	**–**	**13**	**(21)**
	Recognized in OCI	**–**	**–**	**(6)**	**–**	**–**	**–**	**(1)**	**(7)**
	Other (3)	**(12)**	**(9)**	**9**	**2**	**(9)**	**–**	**(19)**	**(38)**
	Balance at end of year	**$ (315)**	**$ (68)**	**$ (9)**	**$ (84)**	**$ (25)**	**$ –**	**$ (6)**	**$ (507)**
2018	Balance at beginning of year under IFRS 9 (4)	$ (329)	$ (52)	$ (10)	$ (93)	$ (17)	$ (1)	$ 30	$ (472)
	Recognized in net income	53	–	3	1	3	–	(13)	47
	Recognized in OCI	–	–	(3)	–	(2)	–	13	8
	Other (3)	(11)	5	(1)	7	4	1	(24)	(19)
	Balance at end of year	$ (287)	$ (47)	$ (11)	$ (85)	$ (12)	$ –	$ 6	$ (436)
2017	Balance at beginning of year	$ (158)	$ (45)	$ (8)	$ (88)	$ (54)	$ 24	$ 1	$ (328)
	Recognized in net income	(19)	(3)	1	(5)	36	–	19	29
	Recognized in OCI	–	–	(5)	–	(13)	–	2	(16)
	Acquisitions	(143)	(7)	–	–	–	–	–	(150)
	Other (3)	(9)	3	2	–	14	(25)	8	(7)
	Balance at end of year	$ (329)	$ (52)	$ (10)	$ (93)	$ (17)	$ (1)	$ 30	$ (472)
Net deferred tax assets as at October 31, 2019									**$ 479**
Net deferred tax assets as at October 31, 2018									$ 558
Net deferred tax assets as at October 31, 2017									$ 697

(1) The tax loss carryforwards include $22 million (2018: $38 million; 2017: $18 million) that relate to operating losses (of which $1 million relate to Canada, $18 million relate to the U.S., and $3 million relate to the Caribbean) that expire in various years commencing in 2020, and $2 million (2018: nil, 2017: nil) that relate to U.S. capital losses that expire in 2024.
(2) Certain information has been restated to conform to the presentation adopted in the current year.
(3) Includes foreign currency translation adjustments.
(4) Transition impact from the adoption of IFRS 9 at November 1, 2017 was nil.

Deferred tax assets and liabilities are assessed by entity for presentation in our consolidated balance sheet. As a result, the net deferred tax assets of $479 million (2018: $558 million) are presented in the consolidated balance sheet as deferred tax assets of $517 million (2018: $601 million) and deferred tax liabilities of $38 million (2018: $43 million).

Unrecognized tax losses

The amount of unused operating tax losses for which deferred tax assets have not been recognized was $1,908 million as at October 31, 2019 (2018: $1,051 million), of which $669 million relates to the U.S. region and $1,239 million (2018: $1,051 million) relates to the Caribbean region. These unused operating tax losses expire within 10 years.

The amount of unused capital tax losses for which deferred tax assets have not been recognized was $611 million as at October 31, 2019 (2018: $614 million). These unused capital tax losses relate to Canada.

U.S. Tax Reforms

On December 22, 2017, the President of the United States signed into law the Tax Cuts and Jobs Act (U.S. tax reforms), which reduced the U.S. federal corporate income tax rate to 21% effective January 1, 2018, resulting in a significant decrease in CIBC's U.S. deferred tax assets in the first quarter of 2018. The U.S. tax reforms introduced other important changes to U.S. corporate income tax laws including the creation of a new Base Erosion Anti-abuse Tax (BEAT) that subjects certain payments from a U.S. corporation to foreign related parties to additional taxes. In December 2018 and 2019, the Internal Revenue Service released proposed and final regulations to implement certain aspects of the U.S. tax reforms, including BEAT. CIBC continues to evaluate the impact of these regulations on our U.S. operations.

Enron

In prior years, the Canada Revenue Agency (CRA) issued reassessments disallowing the deduction of approximately $3 billion of the 2005 Enron settlement payments and related legal expenses (the "Enron expenses"). In January 2019, CIBC entered into a settlement agreement (the "Agreement") with the CRA that provides certainty with respect to the portion of the Enron expenses that are deductible in Canada. The impact of this Agreement resulted in the recognition of a net $38 million tax recovery in the first quarter of 2019. This recovery was determined after taking into account the portion of the Enron expenses that we expect to deduct in the United States, but which has not yet been agreed to by the Internal Revenue Service, and the taxable refund interest that we expect to collect from the CRA upon the reassessment of certain prior year tax returns in accordance with the Agreement. It is possible that adjustments may be required to the amount of the tax benefits recognized in the United States.

Dividend Received Deduction

In prior years, the CRA reassessed CIBC approximately $527 million of additional income tax by denying the tax deductibility of certain 2011 to 2013 Canadian corporate dividends on the basis that they were part of a "dividend rental arrangement". In March 2018, CIBC filed a Notice of Appeal with the Tax Court of Canada with respect to the 2011 taxation year. The matter is now in litigation. The circumstances of the dividends subject to the reassessments are similar to those prospectively addressed by the rules in the 2015 and 2018 Canadian federal budgets. In May 2019, the CRA reassessed CIBC in respect of the 2014 taxation year for approximately $273 million of additional income tax. It is possible that subsequent years may be reassessed for similar activities. CIBC is confident that its tax filing positions were appropriate and intends to defend itself vigorously. Accordingly, no amounts have been accrued in the consolidated financial statements.

Note 20 | Earnings per share

$ millions, except per share amounts, for the year ended October 31	**2019**	2018	2017
Basic EPS			
Net income attributable to equity shareholders	**$ 5,096**	$ 5,267	$ 4,699
Less: preferred share dividends and premiums	**111**	89	52
Net income attributable to common shareholders	**4,985**	5,178	4,647
Weighted-average common shares outstanding (thousands)	**444,324**	443,082	412,636
Basic EPS	**$ 11.22**	$ 11.69	$ 11.26
Diluted EPS			
Net income attributable to common shareholders	**$ 4,985**	$ 5,178	$ 4,647
Weighted-average common shares outstanding (thousands)	**444,324**	443,082	412,636
Add: stock options potentially exercisable [(1)] (thousands)	**702**	1,111	827
Add: restricted shares and equity-settled consideration (thousands)	**431**	434	100
Weighted-average diluted common shares outstanding (thousands)	**445,457**	444,627	413,563
Diluted EPS	**$ 11.19**	$ 11.65	$ 11.24

(1) Excludes average options outstanding of 2,319,723 with a weighted-average exercise price of $114.29 (2018: 688,123 with a weighted-average exercise price of $120.02; 2017: 729,807 with a weighted-average exercise price of $111.69), as the options' exercise prices were greater than the average market price of common shares.

Note 21 | Commitments, guarantees and pledged assets

Commitments

Credit-related arrangements

Credit-related arrangements are generally off-balance sheet instruments and are typically entered into to meet the financing needs of clients. In addition, there are certain exposures for which we could be obligated to extend credit that are not recorded on the consolidated balance sheet. Our policy of requiring collateral or other security to support credit-related arrangements and the types of security held is generally the same as for loans. The contract amounts presented below for credit-related arrangements represent the maximum amount of additional credit that we could be obligated to extend. The contract amounts also represent the additional credit risk amounts should the contracts be fully drawn, the counterparties default and any collateral held proves to be of no value. As many of these arrangements will expire or terminate without being drawn upon, the contract amounts are not necessarily indicative of future cash requirements or actual risk of loss.

$ millions, as at October 31	**2019**	2018
	Contract amounts	
Securities lending (1)	**$ 44,220**	$ 51,550
Unutilized credit commitments (2)	**241,038**	224,746
Backstop liquidity facilities	**10,870**	10,520
Standby and performance letters of credit	**13,489**	13,242
Documentary and commercial letters of credit	**224**	199
Other commitments to extend credit (3)	**2,937**	138
	$ 312,778	$ 300,395

(1) Excludes securities lending of $1.8 billion (2018: $2.7 billion) for cash because it is reported on the consolidated balance sheet.
(2) Includes $122.0 billion (2018: $116.5 billion) of personal, home equity and credit card lines, which are unconditionally cancellable at our discretion.
(3) Certain prior period amounts have been revised from those previously presented.

In addition, the client securities lending of the joint ventures which CIBC has with The Bank of New York Mellon totalled $77.6 billion (2018: $81.2 billion) of which $6.7 billion (2018: $7.8 billion) are transactions between CIBC and the joint ventures.

CIBC has provided indemnities to customers of the joint ventures in respect of securities lending transactions with third parties amounting to $67.8 billion (2018: $70.6 billion).

Securities lending

Securities lending represents our credit exposure when we lend our own or our clients' securities to a borrower and the borrower defaults on the redelivery obligation. The borrower must fully collateralize the security lent at all times.

Unutilized credit commitments

Unutilized credit commitments are the undrawn portion of lending facilities that we have approved to meet the requirements of clients. These lines may include various conditions that must be satisfied prior to drawdown and include facilities extended in connection with contingent acquisition financing. The credit risk associated with these lines arises from the possibility that a commitment will be drawn down as a loan at some point in the future, prior to the expiry of the commitment. The amount of collateral obtained, if deemed necessary, is based on our credit evaluation of the borrower and may include a charge over the present and future assets of the borrower.

Backstop liquidity facilities

We provide irrevocable backstop liquidity facilities primarily to ABCP conduits. We are the financial services agent for some of these conduits, while other conduits are administered by third parties. The liquidity facilities for our sponsored ABCP programs, Safe Trust, Sure Trust, and Sound Trust, require us to provide funding, subject to the satisfaction of certain limited conditions with respect to the conduits, to fund non-defaulted assets.

Standby and performance letters of credit

These represent an irrevocable obligation to make payments to third parties in the event that clients are unable to meet their contractual financial or performance obligations. The credit risk associated with these instruments is essentially the same as that involved in extending irrevocable loan commitments to clients. The amount of collateral obtained, if deemed necessary, is based on our credit evaluation of the borrower and may include a charge over present and future assets of the borrower.

Documentary and commercial letters of credit

Documentary and commercial letters of credit are short-term instruments issued on behalf of a client, authorizing a third party, such as an exporter, to draw drafts on CIBC up to a specified amount, subject to specific terms and conditions. We are at risk for any drafts drawn that are not ultimately settled by the client; however, the amounts drawn are collateralized by the related goods.

Other commitments to extend credit

These represent other commitments to extend credit, and primarily include forward-dated securities financing trades in the form of securities purchased under resale agreements with various counterparties that are executed on or before the end of our reporting period and that settle shortly after period end, usually within five business days.

Operating lease commitments[1]

Future minimum lease payments and receipts for operating lease commitments for each of the five succeeding years and thereafter are as follows:

	Operating leases	
$ millions, as at October 31, 2019	Payments	Receipts [2]
2020	$ 510	$ 132
2021	529	136
2022	484	138
2023	420	139
2024	351	138
2025 and thereafter	3,253	1,164

(1) Payments include expenses related to base rent, taxes and estimated operating expenses, and exclude expenses related to certain servicing arrangements. Total rental payments in 2019 were $499 million (2018: $494 million, 2017: $476 million).
(2) Includes sub-lease income from a finance lease property, a portion of which is rented out and considered an investment property.

Finance lease commitments[1]

Future minimum lease payments for finance lease commitments for each of the five succeeding years and thereafter are as follows:

$ millions, as at October 31, 2019	
2020	$ 50
2021	48
2022	45
2023	42
2024	41
2025 and thereafter	245
	471
Less: future interest charges	144
Present value of finance lease commitments	$ 327

(1) Total interest expense related to finance lease arrangements was $24 million (2018: $25 million; 2017: $28 million).

Other commitments

As an investor in merchant banking activities, we enter into commitments to fund external private equity funds. In connection with these activities, we had commitments to invest up to $258 million (2018: $194 million).

In addition, we act as underwriter for certain new issuances under which we alone or together with a syndicate of financial institutions purchase these new issuances for resale to investors. As at October 31, 2019, the related underwriting commitments were $60 million (2018: $176 million).

Guarantees and other indemnification agreements

Guarantees

A guarantee is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor failed to make payment when due in accordance with the original or modified terms of a debt instrument. Guarantees include standby and performance letters of credit as discussed above, and credit derivatives protection sold, as discussed in Note 12.

Other indemnification agreements

In the ordinary course of operations, we enter into contractual arrangements under which we may agree to indemnify the counterparty to such arrangement from any losses relating to a breach of representations and warranties, a failure to perform certain covenants, or for claims or losses arising from certain external events as outlined within the particular contract. This may include, for example, losses arising from changes in tax legislation, litigation, or claims relating to past performance. In addition, we indemnify each of our directors and officers, to the extent permitted by law, against any and all claims or losses (including any amounts paid in settlement of any such claims) incurred as a result of their service to CIBC. In most indemnities, maximum loss clauses are generally not provided for, and as a result, no defined limit of the maximum potential liability exists. Amounts are accrued when we have a present legal or constructive obligation as a result of a past event, when it is both probable that an outflow of economic benefits will be required to resolve the matter, and when a reliable estimate can be made of the amount of the obligation. We believe that the likelihood of the conditions arising to trigger obligations under these contract arrangements is remote. Historically, any payments made in respect of these contracts have not been significant. Amounts related to these indemnifications, representations, and warranties reflected within the consolidated financial statements as at October 31, 2019 and 2018 are not significant.

Pledged assets

In the normal course of business, on-and off-balance sheet assets are pledged as collateral against liabilities. The following table summarizes asset pledging amounts and the activities to which they relate:

$ millions, as at October 31	2019	2018
Assets pledged in relation to:		
Securities lending	**$ 46,242**	$ 47,894
Obligations related to securities sold under repurchase agreements	**51,942**	31,058
Obligations related to securities sold short	**15,635**	13,782
Securitizations	**19,398**	22,893
Covered bonds	**20,206**	21,544
Derivatives	**12,952**	11,680
Foreign governments and central banks (1)	**784**	686
Clearing systems, payment systems, and depositories (2)	**2,400**	5,867
Other	**1,247**	675
	$ 170,806	$ 156,079

(1) Includes assets pledged to maintain access to central bank facilities in foreign jurisdictions.
(2) Includes assets pledged in order to participate in clearing and payment systems and depositories.

Note 22 | Contingent liabilities and provisions

In the ordinary course of its business, CIBC is a party to a number of legal proceedings, including regulatory investigations, in which claims for substantial monetary damages are asserted against CIBC and its subsidiaries. Legal provisions are established if, in the opinion of management, it is both probable that an outflow of economic benefits will be required to resolve the matter, and a reliable estimate can be made of the amount of the obligation. If the reliable estimate of probable loss involves a range of potential outcomes within which a specific amount appears to be a better estimate, that amount is accrued. If no specific amount within the range of potential outcomes appears to be a better estimate than any other amount, the mid-point in the range is accrued. In some instances, however, it is not possible either to determine whether an obligation is probable or to reliably estimate the amount of loss, in which case no accrual can be made.

While there is inherent difficulty in predicting the outcome of legal proceedings, based on current knowledge and in consultation with legal counsel, we do not expect the outcome of these matters, individually or in aggregate, to have a material adverse effect on our consolidated financial statements. However, the outcome of these matters, individually or in aggregate, may be material to our operating results for a particular reporting period. We regularly assess the adequacy of CIBC's litigation accruals and make the necessary adjustments to incorporate new information as it becomes available.

CIBC considers losses to be reasonably possible when they are neither probable nor remote. It is reasonably possible that CIBC may incur losses in addition to the amounts recorded when the loss accrued is the mid-point of a range of reasonably possible losses, or the potential loss pertains to a matter in which an unfavourable outcome is reasonably possible but not probable.

CIBC believes the estimate of the aggregate range of reasonably possible losses, in excess of the amounts accrued, for its significant legal proceedings, where it is possible to make such an estimate, is from nil to approximately $1.1 billion as at October 31, 2019. This estimated aggregate range of reasonably possible losses is based upon currently available information for those significant proceedings in which CIBC is involved, taking into account CIBC's best estimate of such losses for those cases for which an estimate can be made. CIBC's estimate involves significant judgment, given the varying stages of the proceedings and the existence of multiple defendants in many of such proceedings whose share of the liability has yet to be determined. The range does not include potential punitive damages and interest. The matters underlying the estimated range as at October 31, 2019 consist of the significant legal matters disclosed below. The matters underlying the estimated range will change from time to time, and actual losses may vary significantly from the current estimate. For certain matters, CIBC does not believe that an estimate can currently be made as many of them are in preliminary stages and certain matters have no specific amount claimed. Consequently, these matters are not included in the range.

The following is a description of CIBC's significant legal proceedings, which we intend to vigorously defend.

Green v. Canadian Imperial Bank of Commerce, et al.

In July 2008, a shareholder plaintiff commenced this proposed class action in the Ontario Superior Court of Justice against CIBC and several former and current CIBC officers and directors. It alleges that CIBC and the individual officers and directors violated the *Ontario Securities Act* through material misrepresentations and non-disclosures relating to CIBC's exposure to the U.S. sub-prime mortgage market. The plaintiffs instituted this action on behalf of all CIBC shareholders in Canada who purchased shares between May 31, 2007 and February 28, 2008. The action seeks damages of $10 billion. In July 2012, the plaintiffs' motions for leave to file the statement of claim and for class certification were dismissed by the Ontario Superior Court of Justice. In February 2014, the Ontario Court of Appeal released its decision overturning the lower court and allowing the matter to proceed as a certified class action. In August 2014, CIBC and the individual defendants were granted leave to appeal to the Supreme Court of Canada. The defendants' appeal to the Supreme Court of Canada was heard on February 9, 2015. In December 2015, the Supreme Court of Canada upheld the Ontario Court of Appeal's decision allowing the matter to proceed as a certified class action. No date has been set for a motion for summary judgment.

Fresco v. Canadian Imperial Bank of Commerce
Gaudet v. Canadian Imperial Bank of Commerce

In June 2007, two proposed class actions were filed against CIBC in the Ontario Superior Court of Justice *(Fresco v. CIBC)* and in the Quebec Superior Court *(Gaudet v. CIBC)*. Each makes identical claims for unpaid overtime for full-time, part-time, and retail frontline non-management employees. The Ontario action seeks $500 million in damages plus $100 million in punitive damages for all employees in Canada, while the Quebec action is limited to employees in Quebec and has been stayed pending the outcome of the Ontario action. In June 2009, in the Ontario action, the motion judge denied certification of the matter as a class action. In September 2010, the Ontario Divisional Court upheld the motion judge's denial of the plaintiff's certification motion and the award of costs to CIBC by a two-to-one majority. In January 2011, the Ontario Court of Appeal granted the plaintiff leave to appeal the decision denying certification. In June 2012, the Ontario Court of Appeal overturned the lower court and granted certification of the matter as a class action. The Supreme Court of Canada released its decision in March 2013 denying CIBC leave to appeal certification of the matter as a class action, and denying the plaintiff's cross appeal on aggregate damages. The plaintiff's motion for summary judgment that was scheduled for September 2019 has been adjourned to December 2019.

Credit card class actions – Quebec Consumer Protection Act:

Marcotte v. Bank of Montreal, et al.
Corriveau v. Amex Bank of Canada, et al.
Lamoureux v. Bank of Montreal, et al.
St. Pierre v. Bank of Montreal, et al.
Marcotte v. Bank of Montreal, et al. (II)
Giroux v. Royal Bank of Canada, et al.
Pilon v. Amex Bank of Canada, et al.

Since 2004, a number of proposed class actions have been filed in the Quebec Superior Court against CIBC and numerous other financial institutions. The actions, brought on behalf of cardholders, allege that the financial institutions are in breach of certain provisions of the *Quebec Consumer Protection Act* (CPA). The alleged violations include charging fees on foreign currency transactions, charging fees on cash advances, increasing credit limits without the cardholder's express consent, and failing to allow a 21-day grace period before posting charges to balances upon which interest is calculated. CIBC and the other defendant banks are jointly raising a constitutional challenge to the Quebec CPA on the basis that banks are not required to comply with provincial legislation because banking and cost of borrowing disclosure is a matter of exclusive federal jurisdiction.

The first of these class actions (*Marcotte v. Bank of Montreal, et al.*), which alleges that charging cardholders fees on foreign currency transactions violates the Quebec CPA, went to trial in 2008. In a decision released in June 2009, the trial judge found in favour of the plaintiffs concluding that the Quebec CPA is constitutionally applicable to federally regulated financial institutions and awarding damages against all the defendants. The court awarded compensatory damages against CIBC in the amount of $38 million plus an additional sum to be determined at a future date. The court awarded punitive damages against a number of the other defendants, but not against CIBC. CIBC and the other financial institutions appealed this decision. The appeal was heard by the Quebec Court of Appeal in September 2011. In August 2012, the Quebec Court of Appeal allowed the defendant banks' appeals in part and overturned the trial judgment against CIBC. The plaintiffs and some of the defendant banks appealed to the Supreme Court of Canada, and that appeal was heard in February 2014. On September 19, 2014, the Supreme Court of Canada found that the relevant provisions of the Quebec CPA were constitutionally applicable to the banks, but that CIBC is not liable for damages because it fully complied with the Quebec CPA.

The *Giroux* and *Marcotte II* proposed class actions were discontinued in January 2015.

The *Lamoureux*, *St. Pierre* and *Corriveau* actions were settled in 2016 subject to court approval. Pursuant to the proposed settlement, CIBC was to pay $4.25 million to settle these three actions. The court approval hearing was held in December 2016. In January 2017, the court did not approve CIBC's proposed settlement as it found the fees for plaintiffs' counsel were excessive and the end date for one of the actions was later than required. The plaintiffs' appeal was heard in September 2017 and the appeal was dismissed in March 2018. In July 2019, following renegotiation of certain of the terms of the settlement, the court approved the settlement. The amount of the approved settlement for these actions remained at $4.25 million. The *Lamoureux, St. Pierre,* and *Corriveau* class actions are now settled.

The *Pilon* proposed class action was commenced in January 2018 in Quebec against CIBC and several other financial institutions. The plaintiffs allege that the defendants breached the Quebec CPA and the *Bank Act* when they unilaterally increased the credit limit on the plaintiffs' credit cards. The claim seeks the return of all over limit fees charged to Quebec customers beginning in January 2015 as well as punitive damages of $500 per class member. The motion for class certification in *Pilon* was heard in April 2019. In August 2019, the court dismissed the certification motion. The plaintiff is appealing the decision.

Credit card class actions – Interchange fees litigation:

Bancroft-Snell v. Visa Canada Corporation, et al.
9085-4886 Quebec Inc. v. Visa Canada Corporation, et al.
Watson v. Bank of America Corporation, et al.
Fuze Salon v. BofA Canada Bank, et al.
1023926 Alberta Ltd. v. Bank of America Corporation, et al.
The Crown & Hand Pub Ltd. v. Bank of America Corporation, et al.
Hello Baby Equipment Inc. v. BofA Canada Bank, et al.

Since 2011 seven proposed class actions have been commenced against VISA Canada Corporation (Visa), MasterCard International Incorporated (MasterCard), CIBC and numerous other financial institutions. The actions, brought on behalf of all merchants who accepted payment by Visa or MasterCard from March 23, 2001 to the present, allege two "separate, but interrelated" conspiracies: one in respect of Visa and one in respect of MasterCard. The claims allege that Visa and MasterCard conspired with their issuing banks to set default interchange rate and merchant discount fees and that certain rules (Honour All Cards and No Surcharge) have the effect of increasing the merchant discount fees. The claims allege civil conspiracy, violation of the *Competition Act*, interference with economic interests and unjust enrichment. The claims seek unspecified general and punitive damages. The motion for class certification in *Watson* was granted in March 2014. The appeal of the decision granting class certification was heard in December 2014. In August 2015, the British Columbia Court of Appeal allowed the appeals in part, resulting in certain causes of action being struck and others being reinstated. The matter remains certified as a class action. The trial in *Watson is* scheduled to commence in October 2020. The motion for class certification in *9085-4886 Quebec Inc.* (formerly *Bakopanos*) was heard in November 2017. In February 2018, the Court certified *9085-4886 Quebec Inc.* as a class action. In May 2019, the plaintiffs' appeal of the certification decision in *9085-4886 Quebec Inc*. was heard and in July 2019, the Quebec Court of Appeal allowed the plaintiffs' appeal.

Mortgage prepayment class actions:

Jordan v. CIBC Mortgages Inc.
Lamarre v. CIBC Mortgages Inc.
Sherry v. CIBC Mortgages Inc.
Haroch v. Toronto Dominion Bank, et al.

In 2011, three proposed class actions were filed in the Superior Courts of Ontario, Quebec and British Columbia against CIBC Mortgages Inc. The representative plaintiffs allege that since 2005, CIBC Mortgages Inc. wrongfully charged or overcharged mortgage prepayment penalties and that the calculation clauses in the mortgage contract that provide for discretion in applying the prepayment penalties are void and unenforceable at law. The motion for class certification in *Sherry* was granted in June 2014 conditional on the plaintiffs framing a workable class definition. In July 2014, CIBC filed a Notice of Appeal. CIBC's appeal of the certification decision in *Sherry* was heard in April 2016. The court reserved its decision. In June 2016, the British Columbia Court of Appeal allowed the appeal in *Sherry* in part, resulting in certain causes of action being struck. *Sherry* remains certified as a class action, and continuation of the certification motion on the amended pleading was heard November 2017. In August 2018, the court certified certain of the plaintiffs' causes of action in

Sherry. The appeal in *Sherry* was heard in April 2019. The court reserved its decision. The certification motion in Jordan was heard in August 2018. In February 2019, the court certified *Jordan* as a class action. CIBC's motion for leave to appeal the certification decision in *Jordan* was denied in June 2019.

In May 2018, a new proposed class action, *Haroch,* was filed in the Superior Court of Quebec. The action is brought on behalf of Quebec residents who during the class period allegedly paid a mortgage prepayment charge in excess of three months' interest. The plaintiffs allege that the defendants created complex prepayment formulas that are contrary to the *Quebec Civil Code*, the *Quebec Consumer Protection Act* and the *Interest Act* and seek damages back to 2015. *Haroch* and *Lamarre* have been consolidated. The motion for class certification in *Haroch* was heard in June 2019 and in July 2019, the court certified the matter as a class action against CIBC and CIBC Mortgages Inc. CIBC and CIBC Mortgages Inc. are seeking leave to appeal the certification decision. The leave motion is scheduled for January 2020.

Cerberus Capital Management L.P. v. CIBC

In October 2015, Securitized Asset Funding 2011-2, LTD., a special purpose investment vehicle affiliated with Cerberus Capital Management L.P. (collectively, "Cerberus"), commenced a Federal Court action in New York against CIBC seeking unspecified damages of "at least hundreds of millions of dollars". The action relates to two transactions in 2008 and 2011 in which CIBC issued a limited recourse note and certificate to Cerberus which significantly reduced CIBC's exposure to the U.S. residential real estate market. The complaint alleges that CIBC breached its contract with Cerberus by failing to appropriately calculate and pay with respect to two of the payment streams due under the 2008 note and 2011 certificate.

In November 2015, Cerberus voluntarily dismissed the Federal Court action and filed a new action asserting the same claims in New York State Court. In January 2016, CIBC served its Answer and Counterclaims. In March 2016, Cerberus filed a motion for summary judgment and sought to stay discovery. In April 2016, the court directed the parties to start discovery. In April 2018, the court denied the plaintiffs' motion for summary judgment. The plaintiffs appealed the decision, which was heard in November 2018. In December 2018, the appellate court affirmed the lower court's denial of the plaintiffs' motion for summary judgment.

Fire & Police Pension Association of Colorado v. Bank of Montreal, et al.

In January 2018, a proposed class action was filed in the U.S. District Court for the Southern District of New York against CIBC, CIBC World Markets Corp., CIBC World Markets Inc. and several other financial institutions. The complaint alleges that the defendant financial institutions conspired to depress a benchmark interest rate called the Canadian Dealer Offered Rate (CDOR) by making coordinated, artificially low submissions to the survey used to calculate the CDOR. The plaintiffs allege that a depressed CDOR benefitted defendants as parties to derivatives transactions that settled by reference to that rate. The complaint asserts claims under the antitrust laws and the *Commodity Exchange Act*, among others. The representative plaintiff seeks to represent a putative class of entities that engaged in U.S.-based transactions in financial instruments that were priced, benchmarked, and/or settled based on CDOR between August 9, 2007 and June 30, 2014. In March 2018, the plaintiff delivered an amended claim extending the class period to December 2014. The defendants brought motions to dismiss, which the court granted in March 2019. In April 2019, the plaintiff filed a notice of intent to appeal the decision. In July 2019, the plaintiff withdrew the case with prejudice. This matter is now closed.

Valeant class actions:

Catucci v. Valeant Pharmaceuticals International Inc., et al.
Potter v. Valeant Pharmaceuticals International Inc., et al.

In March 2016, a proposed class action was filed in the Quebec Superior Court on behalf of purchasers of shares in Valeant Pharmaceuticals International Inc. against the issuer, its directors and officers, its auditors and the underwriting syndicates for six public offerings from 2013 to 2015. CIBC World Markets Corp. was part of the underwriting syndicate for three of the offerings (underwriting 1.5% of a US$1.6 billion offering in June 2013, 1.5% of a US$900 million offering in December 2013 and 0.625% of an offering comprising US$5.25 billion and €1.5 billion in March 2015). The proposed class action alleges various misrepresentations on the part of Valeant and the other defendants, including representations made in the prospectus of the public offerings, relating to Valeant's relationships with various "specialty pharmacies" who were allegedly acting improperly in the distribution of Valeant's products resulting in Valeant's operational results, revenues, and share price during the relevant period being artificially inflated. In July 2016, a similar proposed class action (*Potter v. Valeant Pharmaceuticals International Inc., et al.*) was commenced in New Jersey Federal Court.

The motion for class certification in *Catucci* and motion to dismiss in *Potter* were heard in April 2017. In September 2017, the court certified *Catucci* as a class action. The defendants sought leave to appeal the certification decision, which was dismissed in December 2017. In *Potter* the court dismissed the action against the underwriters, without prejudice to the plaintiff to re-plead its allegations.

Simplii Privacy Class Actions

Bannister v. CIBC (formerly John Doe v. CIBC)
Steinman v. CIBC

In June 2018, two proposed class actions were filed against CIBC on behalf of Simplii Financial clients who allege their personal information was disclosed as a result of a security incident in May 2018. The actions allege that Simplii Financial failed to protect its clients' personal information. The *Bannister* proposed class action seeks aggregated damages of approximately $550 million, while the *Steinman* proposed class action, which has been stayed, sought damages per class member plus punitive damages of $20 million. The motion for certification in *Bannister*, which was scheduled for October 2019, has been adjourned to December 2019.

Pozgaj v. CIBC and CIBC Trust

In September 2018, a proposed class action was filed in the Ontario Superior Court against CIBC and CIBC Trust. It alleges that the defendants should not have paid mutual fund trailing commissions to order-execution-only-dealers. The action is brought on behalf of all persons who held units of CIBC mutual funds through order-execution-only-dealers and seeks $200 million in damages.

York County on Behalf of the County of York Retirement Fund v. Rambo, et al.

In February 2019, a class action complaint was filed in the Northern District of California against the directors, certain officers and the underwriters of several senior note offerings of the Pacific Gas and Electric Company (PG&E) that took place between March 2016 and April 2018, the total issuance amount for the series of offerings being approximately US$4 billion. CIBC World Markets Corp. was part of the underwriting syndicate for an offering, whereby CIBC World Markets Corp. underwrote 6% of a US$650 million December 2016 issuance of senior notes. The offering involved the issuance of two tranches of notes: US$400 million of 30-year senior notes maturing in December 2046 and US$250 million of one-year floating rate notes that matured and were repaid in November 2017. The complaint alleges that the disclosure documentation associated with the note offerings contained misrepresentations and/or omissions of material facts, including with respect to PG&E's failure to comply with various safety regulations, vegetation management programs and requirements, as well as understating the extent to which its equipment has allegedly caused multiple fires in California, including before the wildfires that occurred in California in 2017 and 2018. In October 2019, the defendants filed a motion to dismiss.

Legal provisions

The following table presents changes in our legal provisions:

$ millions, for the year ended October 31	2019	2018
Balance at beginning of year	**$ 40**	$ 97
Additional new provisions recognized	**39**	23
Less:		
Amounts incurred and charged against existing provisions	**(8)**	(78)
Unused amounts reversed	**(4)**	(2)
Balance at end of year	**$ 67**	$ 40

Restructuring

The following table presents changes in the restructuring provision:

$ millions, for the year ended October 31	2019	2018
Balance at beginning of year	**$ 71**	$ 149
Additional new provisions recognized	**–**	28
Less:		
Amounts incurred and charged against existing provisions	**(45)**	(70)
Unused amounts reversed	**–**	(36)
Balance at end of year	**$ 26**	$ 71

The amount of $26 million as at October 31, 2019 primarily represents obligations related to ongoing payments as a result of the restructuring.

Note 23 | Concentration of credit risk

Concentration of credit exposure may arise with a group of counterparties that have similar economic characteristics or are located in the same geographic region. The ability of such counterparties to meet contractual obligations would be similarly affected by changing economic, political or other conditions.

The amounts of credit exposure associated with our on- and off-balance sheet financial instruments are summarized in the following table:

Credit exposure by country of ultimate risk

$ millions, as at October 31	2019				2018 (1)			
	Canada	**U.S.**	**Other countries**	**Total**	Canada	U.S.	Other countries	Total
On-balance sheet								
Major assets (2)(3)(4)	**$ 444,317**	**$ 120,286**	**$ 55,844**	**$ 620,447**	$ 431,917	$ 99,063	$ 40,405	$ 571,385
Off-balance sheet								
Credit-related arrangements								
Financial institutions	**$ 47,815**	**$ 13,526**	**$ 12,318**	**$ 73,659**	$ 45,433	$ 16,358	$ 12,258	$ 74,049
Governments	**9,208**	**10**	**14**	**9,232**	9,880	10	50	9,940
Retail	**130,544**	**510**	**432**	**131,486**	124,625	386	390	125,401
Corporate	**61,228**	**28,907**	**8,266**	**98,401**	58,397	25,158	7,450	91,005
	$ 248,795	**$ 42,953**	**$ 21,030**	**$ 312,778**	$ 238,335	$ 41,912	$ 20,148	$ 300,395

(1) Certain prior period amounts have been revised from those previously presented.
(2) Major assets consist of cash and deposits with banks, loans and acceptances net of allowance for credit losses, securities, securities borrowed or purchased under resale agreements, and derivative instruments.
(3) Includes Canadian currency of $426.0 billion (2018: $410.5 billion) and foreign currencies of $194.4 billion (2018: $160.9 billion).
(4) No industry or foreign jurisdiction accounted for more than 10% of loans and acceptances net of allowance for credit losses, with the exception of the U.S., which accounted for 12.1% as at October 31, 2019 (2018: 10.5%).

See Note 12 for derivative instruments by country and counterparty type of ultimate risk.
In addition, see Note 21 for details on the client securities lending of the joint ventures which CIBC has with The Bank of New York Mellon.

Also see shaded sections in "MD&A – Management of risk" for a detailed discussion on our credit risk.

Note 24 Related-party transactions

In the ordinary course of business, we provide banking services and enter into transactions with related parties on terms similar to those offered to unrelated parties. Related parties include key management personnel[1], their close family members, and entities that they or their close family members control or jointly control. Related parties also include associates and joint ventures accounted for under the equity method, and post-employment benefit plans for CIBC employees. Loans to these related parties are made in the ordinary course of business and on substantially the same terms as for comparable transactions with unrelated parties. As CIBC's subsidiaries are consolidated, transactions with these entities have been eliminated and are not reported as related-party transactions. We offer a subsidy on annual fees and preferential interest rates on credit card balances to senior officers, which is the same offer extended to all employees of CIBC.

Key management personnel and their affiliates

As at October 31, 2019, loans to key management personnel[1] and their close family members and to entities that they or their close family members control or jointly control totalled $239 million (2018: $209 million), letters of credit and guarantees totalled $4 million (2018: $5 million), and undrawn credit commitments totalled $72 million (2018: $59 million).

These outstanding balances are generally unsecured and we have no provision for credit losses on impaired loans relating to these amounts for the years ended October 31, 2019 and 2018.

(1) Key management personnel are defined as those persons having authority and responsibility for planning, directing and controlling the activities of CIBC directly or indirectly and comprise the members of the Board (referred to as directors), and Executive Committee (ExCo) and certain named officers per the *Bank Act* (Canada) (collectively referred to as senior officers). Board members who are also ExCo members are included as senior officers.

Compensation of key management personnel

$ millions, for the year ended October 31	**2019**		2018	
	Directors	**Senior officers**	Directors	Senior officers
Short-term benefits [1]	**$ 3**	**$ 23**	$ 2	$ 23
Post-employment benefits	**–**	**3**	–	3
Share-based benefits [2]	**2**	**38**	2	35
Total compensation	**$ 5**	**$ 64**	$ 4	$ 61

(1) Comprises salaries, statutory and non-statutory benefits related to senior officers and fees related to directors recognized during the year. Also includes annual incentive plan payments related to senior officers on a cash basis.
(2) Comprises grant-date fair values of awards granted in the year.

Refer to the following Notes for additional details on related-party transactions:

Share-based payment plans

See Note 17 for details of these plans offered to directors and senior officers.

Post-employment benefit plans

See Note 18 for related-party transactions between CIBC and the post-employment benefit plans.

Equity-accounted associates and joint ventures

See Note 25 for details of our investments in equity-accounted associates and joint ventures.

Note 25 | Investments in equity-accounted associates and joint ventures

Joint ventures

CIBC is a 50/50 joint venture partner with The Bank of New York Mellon in two joint ventures: CIBC Mellon Trust Company and CIBC Mellon Global Securities Services Company, which provide trust and asset servicing, both in Canada. As at October 31, 2019, the carrying value of our investments in the joint ventures was $529 million (2018: $463 million), which was included in Corporate and Other.

As at October 31, 2019, loans to the joint ventures totalled nil (2018: nil) and undrawn credit commitments totalled $128 million (2018: $128 million).

CIBC, The Bank of New York Mellon, and CIBC Mellon have, jointly and severally, provided indemnities to customers of the joint ventures in respect of securities lending transactions. See Note 21 for additional details.

There was no unrecognized share of losses of any joint ventures, either for the year or cumulatively. In 2019 and 2018, none of our joint ventures experienced any significant restrictions to transfer funds in the form of cash dividends or distributions, or repayment of loans or advances.

The following table provides the summarized aggregate financial information related to our proportionate interest in the equity-accounted joint ventures:

$ millions, for the year ended October 31	**2019**	2018	2017
Net income	**$ 88**	$ 106	$ 81
OCI	**45**	(12)	(30)
Total comprehensive income	**$ 133**	$ 94	$ 51

Associates

As at October 31, 2019, the total carrying value of our investments in associates was $57 million (2018: $63 million). These investments comprise: listed associates with a carrying value of $9 million (2018: nil) and a fair value of $9 million (2018: nil); and unlisted associates with a carrying value of $48 million (2018: $63 million) and a fair value of $76 million (2018: $101 million). Of the total carrying value of our investments in associates, $5 million (2018: nil) was included in Canadian Personal and Small Business Banking, nil (2018: $1 million) in Canadian Commercial Banking and Wealth Management, $33 million (2018: $41 million) in Capital Markets, and $19 million (2018: $21 million) in Corporate and Other.

As at October 31, 2019, loans to associates totalled nil (2018: nil) and undrawn credit commitments totalled $79 million (2018: $79 million). We also had commitments to invest up to nil (2018: nil) in our associates.

There was no unrecognized share of losses of any associate, either for the year or cumulatively. In 2019 and 2018, none of our associates experienced any significant restrictions to transfer funds in the form of cash dividends or distributions, or repayment of loans or advances.

The following table provides the summarized aggregate financial information related to our proportionate interest in equity-accounted associates:

$ millions, for the year ended October 31	**2019**	2018	2017
Net income	**$ 4**	$ 15	$ 20
OCI	**(1)**	(7)	6
Total comprehensive income	**$ 3**	$ 8	$ 26

Note 26 | Significant subsidiaries

The following is a list of significant subsidiaries in which CIBC, either directly or indirectly, owns 100% of the voting shares, except where noted.

$ millions, as at October 31, 2019

Subsidiary name (1)	Address of head or principal office	Book value of shares owned by CIBC (2)
Canada and U.S.		
CIBC Asset Management Inc.	Toronto, Ontario, Canada	**$ 444**
CIBC BA Limited	Toronto, Ontario, Canada	– (3)
CIBC Bancorp USA Inc.	Chicago, Illinois, U.S.	**9,077**
Canadian Imperial Holdings Inc.	New York, New York, U.S.	
CIBC Inc.	New York, New York, U.S.	
CIBC Capital Corporation	New York, New York, U.S.	
CIBC World Markets Corp.	New York, New York, U.S.	
CIBC Bank USA	Chicago, Illinois, U.S.	
CIBC Private Wealth Group, LLC	Atlanta, Georgia, U.S.	
CIBC Private Wealth Advisors, Inc.	Chicago, Illinois, U.S.	
CIBC National Trust Company	Atlanta, Georgia, U.S.	
CIBC Delaware Trust Company	Wilmington, Delaware, U.S.	
CIBC Investor Services Inc.	Toronto, Ontario, Canada	**25**
CIBC Life Insurance Company Limited	Toronto, Ontario, Canada	**23**
CIBC Mortgages Inc.	Toronto, Ontario, Canada	**230**
CIBC Securities Inc.	Toronto, Ontario, Canada	**2**
CIBC Trust Corporation	Toronto, Ontario, Canada	**591**
CIBC World Markets Inc.	Toronto, Ontario, Canada	**306**
CIBC Wood Gundy Financial Services Inc.	Toronto, Ontario, Canada	
CIBC Wood Gundy Financial Services (Quebec) Inc.	Montreal, Quebec, Canada	
INTRIA Items Inc.	Mississauga, Ontario, Canada	**100**
International		
CIBC Australia Ltd	Sydney, New South Wales, Australia	**19**
CIBC Cayman Holdings Limited	George Town, Grand Cayman, Cayman Islands	**1,742**
CIBC Cayman Bank Limited	George Town, Grand Cayman, Cayman Islands	
CIBC Cayman Capital Limited	George Town, Grand Cayman, Cayman Islands	
CIBC Cayman Reinsurance Limited	George Town, Grand Cayman, Cayman Islands	
CIBC Investments (Cayman) Limited	George Town, Grand Cayman, Cayman Islands	**2,820**
FirstCaribbean International Bank Limited (91.7%)	Warrens, St. Michael, Barbados	
CIBC Bank and Trust Company (Cayman) Limited (91.7%)	George Town, Grand Cayman, Cayman Islands	
CIBC Fund Administration Services (Asia) Limited (91.7%)	Hong Kong, China	
CIBC Trust Company (Bahamas) Limited (91.7%)	Nassau, The Bahamas	
FirstCaribbean International Bank (Bahamas) Limited (87.3%)	Nassau, The Bahamas	
Sentry Insurance Brokers Ltd. (87.3%)	Nassau, The Bahamas	
FirstCaribbean International Bank (Barbados) Limited (91.7%)	Warrens, St. Michael, Barbados	
FirstCaribbean International Finance Corporation (Leeward & Windward) Limited (91.7%)	Castries, St. Lucia	
FirstCaribbean International Securities Limited (91.7%)	Kingston, Jamaica	
FirstCaribbean International Bank (Cayman) Limited (91.7%)	George Town, Grand Cayman, Cayman Islands	
FirstCaribbean International Finance Corporation (Netherlands Antilles) N.V. (91.7%)	Curacao, Netherlands Antilles	
FirstCaribbean International Bank (Curacao) N.V. (91.7%)	Curacao, Netherlands Antilles	
FirstCaribbean International Bank (Jamaica) Limited (91.7%)	Kingston, Jamaica	
FirstCaribbean International Bank (Trinidad and Tobago) Limited (91.7%)	Maraval, Port of Spain, Trinidad & Tobago	
FirstCaribbean International Wealth Management Bank (Barbados) Limited (91.7%)	Warrens, St. Michael, Barbados	
CIBC World Markets (Japan) Inc.	Tokyo, Japan	**48**
CIBC World Markets plc	London, United Kingdom	**490**

(1) Each subsidiary is incorporated or organized under the laws of the state or country in which the principal office is situated, except for Canadian Imperial Holdings Inc., CIBC Inc., CIBC Capital Corporation, CIBC World Markets Corp., CIBC Private Wealth Group, LLC, CIBC Private Wealth Advisors, Inc., and CIBC Bancorp USA Inc., which were incorporated or organized under the laws of the State of Delaware, U.S.; CIBC National Trust Company, which was organized under the laws of the United States; and CIBC World Markets (Japan) Inc., which was incorporated in Barbados.
(2) The book value of shares of subsidiaries is shown at cost and may include non-voting common and preferred shares. These amounts are eliminated upon consolidation.
(3) The book value of shares owned by CIBC is less than $1 million.

In addition to the above, we consolidate certain SEs where we have control over the SE. See Note 6 for additional details.

Note 27 | Financial instruments – disclosures

Certain disclosures required by IFRS 7 are provided in the shaded sections of the "MD&A – Management of risk", as permitted by IFRS. The following table provides a cross referencing of those disclosures to the MD&A.

Description	Section
For each type of risk arising from financial instruments, an entity shall disclose: the exposure to risks and how they arise; objectives, policies and processes used for managing the risks; methods used to measure the risk; and description of collateral.	Risk overview Credit risk Market risk Liquidity risk Operational risk Reputation, conduct and legal risk Regulatory compliance risk
Credit risk: gross exposure to credit risk, credit quality and concentration of exposures.	Credit risk
Market risk: trading portfolios – Value-at-Risk (VaR); stressed VaR, incremental risk charge, non-trading portfolios – interest rate risk, foreign exchange risk and equity risk.	Market risk
Liquidity risk: liquid assets, maturity of financial assets and liabilities, and credit commitments.	Liquidity risk

We have provided quantitative disclosures related to credit risk consistent with Basel guidelines in the "Credit risk" section of the MD&A. The table below sets out the categories of the on-balance sheet exposures that are subject to the credit risk framework as set out in the Capital Adequacy Requirements (CAR) Guideline issued by OSFI under the different Basel approaches based on the carrying value of those exposures in our consolidated financial statements. The credit risk framework includes counterparty credit risk exposures arising from OTC derivatives, repo-style transactions and trades cleared through CCPs, as well as securitization exposures. Items not subject to the credit risk framework include exposures that are subject to the market risk framework, amounts that are not subject to capital requirements or are subject to deduction from capital, and amounts relating to CIBC's insurance subsidiaries, which are excluded from the scope of regulatory consolidation.

$ millions, as at October 31		AIRB approach	Standardized approach	Other credit risk (1)	Total subject to credit risk	Not subject to credit risk	Total consolidated balance sheet
2019	**Cash and deposits with banks**	**$ 11,247**	**$ 3,840**	**$ 1,627**	**$ 16,714**	**$ 645**	**$ 17,359**
	Securities	**68,960**	**9,687**	**–**	**78,647**	**42,663**	**121,310**
	Cash collateral on securities borrowed	**3,663**	**1**	**–**	**3,664**	**–**	**3,664**
	Securities purchased under resale agreements	**56,111**	**–**	**–**	**56,111**	**–**	**56,111**
	Loans	**348,100**	**39,068**	**970**	**388,138**	**2,718**	**390,856**
	Allowance for credit losses	**(1,465)**	**(450)**	**–**	**(1,915)**	**–**	**(1,915)**
	Derivative instruments	**23,821**	**74**	**–**	**23,895**	**–**	**23,895**
	Customers' liability under acceptances	**9,167**	**–**	**–**	**9,167**	**–**	**9,167**
	Other assets	**15,879**	**385**	**6,074**	**22,338**	**8,819**	**31,157**
	Total credit exposures	**$ 535,483**	**$ 52,605**	**$ 8,671**	**$ 596,759**	**$ 54,845**	**$ 651,604**
2018	Total credit exposures	$ 485,004	$ 45,529	$ 8,692	$ 539,225	$ 57,874	$ 597,099

(1) Includes credit risk exposures arising from other assets that are subject to the credit risk framework but are not included in the standardized or AIRB frameworks, including other balance sheet assets which are risk-weighted at 100%, significant investments in the capital of non-financial institutions, and amounts below the thresholds for capital deduction that are risk-weighted at 250%.

Note 28 Offsetting financial assets and liabilities

The following table identifies the amounts that have been offset on the consolidated balance sheet in accordance with the requirements of IAS 32 "Financial Instruments: Presentation", and also those amounts that are subject to enforceable netting agreements but do not qualify for offsetting on the consolidated balance sheet either because we do not have a currently enforceable legal right to set-off the recognized amounts, or because we do not intend to settle on a net basis or to realize the asset and settle the liability simultaneously.

Financial assets

	Amounts subject to enforceable netting agreements							
				Related amounts not set-off on the consolidated balance sheet				
$ millions, as at October 31	Gross amounts of recognized financial assets	Gross amounts offset on the consolidated balance sheet (1)	Net amounts	Financial instruments (2)	Collateral received (3)	Net amounts	Amounts not subject to enforceable netting agreements (4)	Net amounts presented on the consolidated balance sheet
2019								
Derivatives	**$ 42,156**	**$ (21,206)**	**$ 20,950**	**$ (14,572)**	**$ (3,888)**	**$ 2,490**	**$ 2,945**	**$ 23,895**
Cash collateral on securities borrowed	**3,664**	**–**	**3,664**	**–**	**(3,588)**	**76**	**–**	**3,664**
Securities purchased under resale agreements	**59,131**	**(3,020)**	**56,111**	**–**	**(55,721)**	**390**	**–**	**56,111**
	$ 104,951	**$ (24,226)**	**$ 80,725**	**$ (14,572)**	**$ (63,197)**	**$ 2,956**	**$ 2,945**	**$ 83,670**
2018								
Derivatives	$ 33,862	$ (14,750)	$ 19,112	$ (11,789)	$ (4,794)	$ 2,529	$ 2,319	$ 21,431
Cash collateral on securities borrowed	5,488	–	5,488	–	(5,406)	82	–	5,488
Securities purchased under resale agreements	45,028	(1,578)	43,450	–	(43,358)	92	–	43,450
	$ 84,378	$ (16,328)	$ 68,050	$ (11,789)	$ (53,558)	$ 2,703	$ 2,319	$ 70,369

Financial liabilities

	Amounts subject to enforceable netting agreements							
				Related amounts not set-off on the consolidated balance sheet				
$ millions, as at October 31	Gross amounts of recognized financial liabilities	Gross amounts offset on the consolidated balance sheet (1)	Net amounts	Financial instruments (2)	Collateral pledged (3)	Net amounts	Amounts not subject to enforceable netting agreements (4)	Net amounts presented on the consolidated balance sheet
2019								
Derivatives	**$ 43,941**	**$ (21,206)**	**$ 22,735**	**$ (14,572)**	**$ (6,840)**	**$ 1,323**	**$ 2,378**	**$ 25,113**
Cash collateral on securities lent	**1,822**	**–**	**1,822**	**–**	**(1,779)**	**43**	**–**	**1,822**
Obligations related to securities sold under repurchase agreements	**54,821**	**(3,020)**	**51,801**	**–**	**(51,343)**	**458**	**–**	**51,801**
	$ 100,584	**$ (24,226)**	**$ 76,358**	**$ (14,572)**	**$ (59,962)**	**$ 1,824**	**$ 2,378**	**$ 78,736**
2018								
Derivatives	$ 33,358	$ (14,750)	$ 18,608	$ (11,789)	$ (5,539)	$ 1,280	$ 2,365	$ 20,973
Cash collateral on securities lent	2,731	–	2,731	–	(2,697)	34	–	2,731
Obligations related to securities sold under repurchase agreements	32,418	(1,578)	30,840	–	(30,780)	60	–	30,840
	$ 68,507	$ (16,328)	$ 52,179	$ (11,789)	$ (39,016)	$ 1,374	$ 2,365	$ 54,544

(1) Comprises amounts related to financial instruments which qualify for offsetting. Effective beginning in 2017, derivatives cleared through the Chicago Mercantile Exchange (CME) are considered to be settled-to-market and not collateralized-to-market. Derivatives which are settled-to-market are settled on a daily basis, resulting in derecognition, rather than offsetting, of the related amounts. As a result, settled-to-market amounts are no longer considered to be subject to enforceable netting arrangements. In the absence of this change, an amount of $355 million as at October 31, 2019 (2018: $531 million) relating to derivatives cleared through CME would otherwise have been considered to be offset on the consolidated balance sheet.
(2) Comprises amounts subject to set-off under enforceable netting agreements, such as ISDA agreements, derivative exchange or clearing counterparty agreements, global master repurchase agreements, and global master securities lending agreements. Under such arrangements, all outstanding transactions governed by the relevant agreement can be offset if an event of default or other predetermined event occurs.
(3) Collateral received and pledged amounts are reflected at fair value, but have been limited to the net balance sheet exposure so as not to include any over-collateralization.
(4) Includes contractual rights of set-off that are subject to uncertainty under the laws of the relevant jurisdiction, exchange-traded derivatives and derivatives which are settled-to-market.

The offsetting and collateral arrangements discussed above and other credit risk mitigation strategies used by CIBC are further explained in the "Credit risk" section of the MD&A. Certain amounts of securities received as collateral are restricted from being sold or re-pledged.

Note 29 Interest income and expense

The table below provides the consolidated interest income and expense by accounting categories.

$ millions, for the year ended October 31		Interest income	Interest expense
2019	**IFRS 9**		
	Measured at amortized cost (1)	**$ 17,871**	**$ 9,824**
	Debt securities measured at FVOCI (1)	**960**	**n/a**
	Other (2)	**1,866**	**322**
	Total	**$ 20,697**	**$ 10,146**
2018	**IFRS 9**		
	Measured at amortized cost (1)	$ 15,275	$ 7,139
	Debt securities measured at FVOCI (1)	749	n/a
	Other (2)	1,481	301
	Total	$ 17,505	$ 7,440
2017	**IAS 39**		
	Amortized cost and HTM (1)	$ 11,712	$ 4,359
	AFS debt securities (1)	480	n/a
	Other (2)	1,401	257
	Total	$ 13,593	$ 4,616

(1) Interest income for financial instruments that are measured at amortized cost and debt securities that are measured at FVOCI is calculated using the effective interest rate method.
(2) Includes interest income and expense and dividend income for financial instruments that are mandatorily measured and designated at FVTPL and equity securities designated at FVOCI.
n/a Not applicable.

Note 30 | Segmented and geographic information

CIBC has four strategic business units (SBUs) – Canadian Personal and Small Business Banking, Canadian Commercial Banking and Wealth Management, U.S. Commercial Banking and Wealth Management, and Capital Markets. These SBUs are supported by Corporate and Other.

Canadian Personal and Small Business Banking provides personal and business clients across Canada with financial advice, products and services through a team in our banking centres, as well as through our direct, mobile and remote channels.

Canadian Commercial Banking and Wealth Management provides high-touch, relationship-oriented banking and wealth management services to middle-market companies, entrepreneurs, high-net-worth individuals and families across Canada, as well as asset management services to institutional investors.

U.S. Commercial Banking and Wealth Management provides high-touch, relationship-oriented commercial, personal and small business banking, as well as wealth management services to meet the needs of middle-market companies, executives, entrepreneurs, high-net-worth individuals and families in the markets we serve in the U.S.

Capital Markets provides integrated global markets products and services, investment banking advisory and execution, corporate banking solutions and top-ranked research to corporate, government and institutional clients around the world.

Corporate and Other includes the following functional groups – Technology and Operations, Risk Management, Culture and Brand, and Finance, as well as other support groups. The expenses of these functional and support groups are generally allocated to the business lines within the SBUs. The majority of the functional and support costs of CIBC Bank USA are recognized directly in the U.S. Commercial Banking and Wealth Management SBU. Corporate and Other also includes the results of CIBC FirstCaribbean and other strategic investments, as well as other income statement and balance sheet items not directly attributable to the business lines.

Business unit allocations

Revenue, expenses, and other balance sheet resources related to certain activities are generally allocated to the lines of business within the SBUs.

Treasury activities impact the financial results of the SBUs. Each line of business within our SBUs is charged or credited with a market-based cost of funds on assets and liabilities, respectively, which impacts the revenue performance of the SBUs. Once the interest and liquidity risks inherent in our client-driven assets and liabilities are transfer priced into Treasury, they are managed within CIBC's risk framework and limits. The residual financial results associated with Treasury activities are reported in Corporate and Other, with the exception of certain Treasury activities in U.S. Commercial Banking and Wealth Management, which are reported in that SBU. Capital is attributed to the SBUs in a manner that is intended to consistently measure and align economic costs with the underlying benefits and risks associated with SBU activities. Earnings on unattributed capital remain in Corporate and Other. We review our transfer pricing methodologies on an ongoing basis to ensure they reflect changing market environments and industry practices.

To measure and report the results of operations of the lines of business within our Canadian Personal and Small Business Banking and Canadian Commercial Banking and Wealth Management SBUs, we use a Manufacturer/Customer Segment/Distributor Management Model. The model uses certain estimates and allocation methodologies to process internal payments between lines of business for sales, renewals and trailer commissions to facilitate preparation of segmented financial information. Periodically, the sales, renewals and trailer commission rates paid to customer segments for certain products/services are revised and applied prospectively.

Non-interest expenses incurred by our functional groups are attributed to the SBUs to which they relate based on appropriate criteria.

Effective November 1, 2017, provision for credit losses on both impaired (stage 3) and performing (stages 1 and 2) loans are recognized in the respective SBUs. See "Changes made to our business segments in previous years" below for details on how provision for credit losses was attributed prior to our adoption of IFRS 9 on November 1, 2017.

Changes made to our business segments in previous years

2018

We adopted IFRS 9 effective November 1, 2017. As permitted, prior period amounts were not restated. See Note 1 for additional details. Our adoption of IFRS 9 impacted how provision for credit losses is attributed to our SBUs. Prior to November 1, 2017, provision for credit losses on performing loans was recognized in Corporate and Other, with the exception of provision for credit losses related to CIBC Bank USA, which was recognized in U.S. Commercial Banking and Wealth Management, and provision for credit losses on: (i) performing residential mortgages greater than 90 days delinquent; and (ii) performing personal loans and scored small business loans greater than 30 days delinquent, which was recognized in Canadian Personal and Small Business Banking. Following our adoption of IFRS 9 on November 1, 2017, we recognize provision for credit losses on both impaired (stage 3) and performing (stages 1 and 2) loans in the respective SBUs.

2017

In 2017, we announced changes to CIBC's leadership team and organizational structure to further accelerate our transformation. We also completed our acquisition of PrivateBancorp and its subsidiary, The PrivateBank, subsequently rebranded as CIBC Bank USA. These changes resulted in the creation of our four current SBUs: Canadian Personal and Small Business Banking, Canadian Commercial Banking and Wealth Management, U.S. Commercial Banking and Wealth Management, and Capital Markets. Prior to the announcement, CIBC had three SBUs: Retail and Business Banking, Wealth Management, and Capital Markets.

In 2017, we also enhanced the transfer pricing methodology used by Treasury to charge and credit the SBUs for the cost and benefit of funding assets and liabilities, respectively, to better align to our liquidity risk models.

Prior period amounts were reclassified accordingly as a result of these changes, with no impact on prior period consolidated net income.

Results by reporting segments and geographic areas

$ millions, for the year ended October 31	Canadian Personal and Small Business Banking	Canadian Commercial Banking and Wealth Management	U.S. Commercial Banking and Wealth Management	Capital Markets	Corporate and Other	CIBC Total	Canada [1]	U.S. [1]	Caribbean [1]	Other countries [1]
2019 Net interest income [2]	**$ 6,382**	**$ 1,224**	**$ 1,383**	**$ 1,228**	**$ 334**	**$ 10,551**	**$ 7,890**	**$ 1,405**	**$ 820**	**$ 436**
Non-interest income [3][4]	**2,376**	**2,822**	**583**	**1,709**	**570**	**8,060**	**6,008**	**1,099**	**643**	**310**
Total revenue	**8,758**	**4,046**	**1,966**	**2,937**	**904**	**18,611**	**13,898**	**2,504**	**1,463**	**746**
Provision for (reversal of) credit losses	**896**	**163**	**73**	**153**	**1**	**1,286**	**1,111**	**173**	**1**	**1**
Amortization and impairment [5]	**96**	**8**	**109**	**4**	**621**	**838**	**508**	**139**	**181**	**10**
Other non-interest expenses	**4,649**	**2,098**	**1,010**	**1,512**	**749**	**10,018**	**7,985**	**1,290**	**556**	**187**
Income (loss) before income taxes	**3,117**	**1,777**	**774**	**1,268**	**(467)**	**6,469**	**4,294**	**902**	**725**	**548**
Income taxes [2]	**826**	**476**	**91**	**331**	**(376)**	**1,348**	**1,008**	**139**	**155**	**46**
Net income (loss)	**$ 2,291**	**$ 1,301**	**$ 683**	**$ 937**	**$ (91)**	**$ 5,121**	**$ 3,286**	**$ 763**	**$ 570**	**$ 502**
Net income (loss) attributable to:										
Non-controlling interests	**$ –**	**$ –**	**$ –**	**$ –**	**$ 25**	**$ 25**	**$ –**	**$ –**	**$ 25**	**$ –**
Equity shareholders	**2,291**	**1,301**	**683**	**937**	**(116)**	**5,096**	**3,286**	**763**	**545**	**502**
Average assets [6]	**$ 259,089**	**$ 62,552**	**$ 48,687**	**$ 184,566**	**$ 84,822**	**$ 639,716**	**$ 501,066**	**$ 99,152**	**$ 27,086**	**$ 12,412**
2018 Net interest income [2]	$ 6,167	$ 1,120	$ 1,236	$ 1,413	$ 129	$ 10,065	$ 7,963	$ 1,204	$ 793	$ 105
Non-interest income [3][4]	2,438	2,745	530	1,499	557	7,769	6,030	895	567	277
Total revenue	8,605	3,865	1,766	2,912	686	17,834	13,993	2,099	1,360	382
Provision for (reversal of) credit losses	741	5	79	(30)	75	870	740	57	75	(2)
Amortization and impairment [5]	98	9	107	4	439	657	469	136	44	8
Other non-interest expenses	4,297	2,059	916	1,488	841	9,601	7,655	1,231	530	185
Income (loss) before income taxes	3,469	1,792	664	1,450	(669)	6,706	5,129	675	711	191
Income taxes [2]	922	485	99	381	(465)	1,422	1,021	288	72	41
Net income (loss)	$ 2,547	$ 1,307	$ 565	$ 1,069	$ (204)	$ 5,284	$ 4,108	$ 387	$ 639	$ 150
Net income (loss) attributable to:										
Non-controlling interests	$ –	$ –	$ –	$ –	$ 17	$ 17	$ –	$ –	$ 17	$ –
Equity shareholders	2,547	1,307	565	1,069	(221)	5,267	4,108	387	622	150
Average assets [6]	$ 259,130	$ 55,713	$ 42,028	$ 166,231	$ 75,339	$ 598,441	$ 476,224	$ 80,935	$ 31,101	$ 10,181
2017 Net interest income [2]	$ 5,752	$ 984	$ 545	$ 1,647	$ 49	$ 8,977	$ 7,829	$ 449	$ 639	$ 60
Non-interest income [3][4]	2,620	2,606	331	1,176	570	7,303	5,720	675	646	262
Total revenue	8,372	3,590	876	2,823	619	16,280	13,549	1,124	1,285	322
Provision for (reversal of) credit losses	766	16	84	(4)	(33)	829	730	68	31	–
Amortization and impairment [5]	87	9	33	5	408	542	431	64	39	8
Other non-interest expenses	4,261	2,012	501	1,368	887	9,029	7,534	805	518	172
Income (loss) before income taxes	3,258	1,553	258	1,454	(643)	5,880	4,854	187	697	142
Income taxes [2]	838	415	55	364	(510)	1,162	928	88	110	36
Net income (loss)	$ 2,420	$ 1,138	$ 203	$ 1,090	$ (133)	$ 4,718	$ 3,926	$ 99	$ 587	$ 106
Net income (loss) attributable to:										
Non-controlling interests	$ –	$ –	$ –	$ –	$ 19	$ 19	$ –	$ –	$ 19	$ –
Equity shareholders	2,420	1,138	203	1,090	(152)	4,699	3,926	99	568	106
Average assets [6]	$ 246,316	$ 50,832	$ 19,905	$ 156,440	$ 68,872	$ 542,365	$ 451,831	$ 52,023	$ 28,553	$ 9,958

(1) Net income and average assets are allocated based on the geographic location where they are recorded.
(2) U.S. Commercial Banking and Wealth Management and Capital Markets net interest income and income taxes include taxable equivalent basis (TEB) adjustments of $2 million and $177 million, respectively (2018: $2 million and $278 million, respectively; 2017: $2 million and $298 million, respectively) with an equivalent offset in Corporate and Other.
(3) The fee and commission income within non-interest income consists primarily of underwriting and advisory fees, deposit and payment fees, credit fees, card fees, investment management and custodial fees, mutual fund fees and commissions on securities transactions. Underwriting and advisory fees are earned primarily in Capital Markets with the remainder earned in Canadian Commercial Banking and Wealth Management. Deposit and payment fees are earned primarily in Canadian Personal and Small Business Banking, with the remainder earned mainly in Canadian Commercial Banking and Wealth Management and Corporate and Other. Credit fees are earned primarily in Canadian Commercial Banking and Wealth Management, Capital Markets, and U.S. Commercial Banking and Wealth Management. Card fees are earned primarily in Canadian Personal and Small Business Banking, with the remainder earned mainly in Corporate and Other. Investment management and custodial fees are earned primarily in Canadian Commercial Banking and Wealth Management and U.S. Commercial Banking and Wealth Management, with the remainder earned mainly in Corporate and Other. Mutual fund fees are earned primarily in Canadian Commercial Banking and Wealth Management and U.S. Commercial Banking and Wealth Management. Commissions on securities transactions are earned primarily in Capital Markets and Canadian Commercial Banking and Wealth Management.
(4) Includes intersegment revenue, which represents internal sales commissions and revenue allocations under the Manufacturer / Customer Segment / Distributor Management Model. Prior period amounts have been restated to conform to the presentation.
(5) Comprises amortization and impairment of buildings, furniture, equipment, leasehold improvements, and software and other intangible assets.
(6) Assets are disclosed on an average basis as this measure is most relevant to a financial institution and is the measure reviewed by management.

The following table provides a breakdown of revenue from our reporting segments:

$ millions, for the year ended October 31	2019	2018	2017
Canadian Personal and Small Business Banking	**$ 8,758**	$ 8,605	$ 8,372
Canadian Commercial Banking and Wealth Management			
Commercial banking	**$ 1,651**	$ 1,488	$ 1,324
Wealth management	**2,395**	2,377	2,266
	$ 4,046	$ 3,865	$ 3,590
U.S. Commercial Banking and Wealth Management (1)			
Commercial banking	**$ 1,349**	$ 1,197	$ 532
Wealth management	**611**	563	324
Other	**6**	6	20
	$ 1,966	$ 1,766	$ 876
Capital Markets (1)			
Global markets	**$ 1,705**	$ 1,674	$ 1,601
Corporate and investment banking (2)	**1,232**	1,238	1,222
	$ 2,937	$ 2,912	$ 2,823
Corporate and Other (1)			
International banking	**$ 803**	$ 663	$ 723
Other	**101**	23	(104)
	$ 904	$ 686	$ 619

(1) U.S. Commercial Banking and Wealth Management and Capital Markets revenue includes a TEB adjustment of $2 million and $177 million, respectively (2018: $2 million and $278 million, respectively; 2017: $2 million and $298 million, respectively) with an equivalent offset in Corporate and Other.

(2) Certain information has been reclassified to conform to the presentation adopted in 2019. Corporate and investment banking now includes the Other line of business.

Note 31 | Future accounting policy changes

IFRS 16 "Leases" (IFRS 16)

IFRS 16, issued in January 2016, replaces IAS 17 "Leases", and is effective for annual periods beginning on or after January 1, 2019, which for us will be on November 1, 2019. As a lessee, the new standard will result in on-balance sheet recognition for most leases that are considered operating leases under IAS 17, which will result in a gross-up of the consolidated balance sheet through the recognition of a liability for the present value of future lease payments (i.e. lease liability) and an asset representing the right to use the underlying asset (i.e. right-of-use asset). We will no longer recognize the impacted lease payments through operating expenses; instead, we will recognize depreciation expense on the right-of-use asset and interest expense on the lease liability in the consolidated statement of income. Accounting for leases by lessors remains mostly unchanged from IAS 17. However, on transition, intermediate lessors are required to reassess subleases by reference to the right-of-use asset arising from the head lease that could result in on-balance sheet recognition for certain subleases previously classified as operating subleases. The application of IFRS 16 mainly will apply to our office and banking centre leases, as well as certain subleases previously classified as operating subleases.

We expect to adopt IFRS 16 for the fiscal year beginning November 1, 2019 using the modified retrospective method, with no restatement of comparative periods.

As at November 1, 2019, the adoption of IFRS 16 is expected to result in the recognition of approximately $1.6 billion of right-of-use assets and corresponding lease liabilities on our consolidated balance sheet. In addition, the reassessment of certain subleases related to a previously recognized finance lease property, a portion of which is leased and considered investment property, is expected to result in an increase in net assets of approximately $0.1 billion from the recognition of additional sublease-related assets, net of the derecognition of amounts related to the corresponding head lease. As at November 1, 2019, the after-tax impact to retained earnings as a result of adopting IFRS 16 is expected to be an increase of $0.1 billion.

In addition, the following permitted recognition exemptions and practical expedients have been applied:

- A single discount rate curve has been applied to portfolios of leases with reasonably similar characteristics at the date of application.
- In contracts where we are the lessee, we have not reassessed contracts that were identified as finance leases under the previous accounting standard (IAS 17).
- We have elected to exclude leases of assets considered as low value and certain short-term leases.
- We have applied the onerous leases provisions recognized as at October 31, 2019 as an alternative to performing an impairment review of our right-of-use assets as at November 1, 2019. Where an onerous lease provision was recorded on a lease, the right-of-use asset has been reduced by the amount of that provision on transition and no further impairment review was performed.
- We have elected not to separate lease and non-lease components of a lease contract when calculating the lease liability and corresponding right-of-use asset for certain classes of assets. Non-lease components may consist of, but are not limited to, common area maintenance expenses and utility charges. Other occupancy costs not within the scope of IFRS 16 will continue to be recorded as operating expenses.

The actual impacts of the initial application of IFRS 16 may vary from our estimates based on final application and testing of the internal controls over financial reporting related to IFRS 16, as well as revisions to the accounting policies and judgments, including application of practical expedients. We have updated our accounting systems and internal control processes in response to the standard, and are in the final stages of testing and acceptance for our transition to IFRS 16.

IFRIC 23 "Uncertainty over Income Tax Treatments" (IFRIC 23)

In June 2017, the IASB issued IFRIC 23, which clarifies the accounting for uncertainties in income taxes. IFRIC 23 is effective for annual reporting periods beginning on or after January 1, 2019, which for us is on November 1, 2019.

There will be no impact to our consolidated financial statements as a result of adopting IFRIC 23.

Interest Rate Benchmark Reform: Amendments to IFRS 9, IAS 39 and IFRS 7

In September 2019, the IASB issued "Interest Rate Benchmark Reform: Amendments to IFRS 9, IAS 39 and IFRS 7", which provides relief for specific hedge accounting requirements to address uncertainties in the period before the interest rate benchmark reform, and provides specific disclosure requirements for the affected hedging relationships. The amendments are effective for annual periods beginning on or after January 1, 2020. As permitted under IFRS 9, we have elected to continue to apply the hedge accounting requirements of IAS 39. Therefore, the amendments will apply to IAS 39 and IFRS 7 for us, mandatorily effective on November 1, 2020. Earlier application is permitted.

We continue to evaluate the impact of the amendments to IAS 39 and IFRS 7 on our consolidated financial statements.

Conceptual Framework for Financial Reporting

In March 2018, the IASB issued a revised version of its "Conceptual Framework for Financial Reporting" (Conceptual Framework). The Conceptual Framework sets out the fundamental concepts that underlie the preparation and presentation of financial statements and serves to guide the IASB in developing IFRS standards. The Conceptual Framework also assists entities in developing accounting policies when no IFRS standard applies to a particular transaction, and more broadly, the Conceptual Framework helps entities to understand and interpret the standards. The Conceptual Framework is effective for annual periods beginning on or after January 1, 2020, which for us will be on November 1, 2020. Early application is permitted.

We are currently assessing the impact of the Conceptual Framework on our consolidated financial statements.

IFRS 17 "Insurance Contracts" (IFRS 17)

IFRS 17, issued in May 2017, replaces IFRS 4 "Insurance Contracts", and was originally effective for annual periods beginning on or after January 1, 2021, which for us is on November 1, 2021. In June 2019, the IASB released an exposure draft proposing amendments to IFRS 17, including the expected proposal to defer the effective date from reporting periods beginning on or after January 1, 2021 to January 1, 2022. The IASB plans to finalize the amendments to IFRS 17 in 2020, subsequent to the comment period ended September 2019. IFRS 17 provides comprehensive guidance on the recognition, measurement, presentation and disclosure of insurance contracts.

We continue to evaluate the impact of IFRS 17 on our consolidated financial statements.

Quarterly review

Condensed consolidated statement of income

Unaudited, $ millions, for the three months ended	**2019** Oct. 31	Jul. 31	Apr. 30	Jan. 31	2018 Oct. 31	Jul. 31	Apr. 30	Jan. 31
Net interest income	**$ 2,801**	**$ 2,694**	**$ 2,460**	**$ 2,596**	$ 2,539	$ 2,577	$ 2,476	$ 2,473
Non-interest income	**1,971**	**2,038**	**2,082**	**1,969**	1,913	1,970	1,900	1,986
Total revenue	**4,772**	**4,732**	**4,542**	**4,565**	4,452	4,547	4,376	4,459
Provision for credit losses	**402**	**291**	**255**	**338**	264	241	212	153
Non-interest expenses	**2,838**	**2,670**	**2,588**	**2,760**	2,591	2,572	2,517	2,578
Income before income taxes	**1,532**	**1,771**	**1,699**	**1,467**	1,597	1,734	1,647	1,728
Income taxes	**339**	**373**	**351**	**285**	329	365	328	400
Net income	**$ 1,193**	**$ 1,398**	**$ 1,348**	**$ 1,182**	$ 1,268	$ 1,369	$ 1,319	$ 1,328
Net income attributable to non-controlling interests	**$ 8**	**$ 6**	**$ 7**	**$ 4**	$ 2	$ 4	$ 6	$ 5
Preferred shareholders	**32**	**28**	**28**	**23**	24	23	24	18
Common shareholders	**1,153**	**1,364**	**1,313**	**1,155**	1,242	1,342	1,289	1,305
Net income attributable to equity shareholders	**$ 1,185**	**$ 1,392**	**$ 1,341**	**$ 1,178**	$ 1,266	$ 1,365	$ 1,313	$ 1,323

Condensed consolidated balance sheet

Unaudited, $ millions, as at	**2019** Oct. 31	Jul. 31	Apr. 30	Jan. 31	2018 Oct. 31	Jul. 31	Apr. 30	Jan. 31
Assets								
Cash and deposits with banks	**$ 17,359**	**$ 16,699**	**$ 14,407**	**$ 16,572**	$ 17,691	$ 17,801	$ 17,035	$ 15,240
Securities	**121,310**	**119,699**	**121,547**	**109,027**	101,664	102,628	102,319	95,284
Securities borrowed or purchased under resale agreements	**59,775**	**55,422**	**54,085**	**56,848**	48,938	49,596	49,881	55,260
Loans								
Residential mortgages	**208,652**	**207,531**	**207,396**	**207,657**	207,749	208,454	208,427	207,989
Personal and credit card	**56,406**	**56,321**	**55,758**	**55,143**	55,731	55,066	54,645	53,446
Business and government	**125,798**	**123,680**	**121,815**	**113,976**	109,555	104,914	103,629	97,198
Allowance for credit losses	**(1,915)**	**(1,771)**	**(1,751)**	**(1,715)**	(1,639)	(1,641)	(1,619)	(1,626)
Derivative instruments	**23,895**	**24,582**	**22,103**	**21,174**	21,431	22,003	23,939	29,304
Customers' liability under acceptances	**9,167**	**9,679**	**9,727**	**10,011**	10,265	10,517	9,134	9,672
Other assets	**31,157**	**30,680**	**29,022**	**25,954**	25,714	25,687	23,147	25,160
	$ 651,604	**$ 642,522**	**$ 634,109**	**$ 614,647**	$ 597,099	$ 595,025	$ 590,537	$ 586,927
Liabilities and equity								
Deposits								
Personal	**$ 178,091**	**$ 175,196**	**$ 174,662**	**$ 172,836**	$ 163,879	$ 161,743	$ 161,859	$ 163,316
Business and government	**257,502**	**253,976**	**250,986**	**239,697**	240,149	239,957	230,212	225,652
Bank	**11,224**	**12,650**	**14,795**	**13,062**	14,380	12,829	14,264	14,498
Secured borrowings	**38,895**	**39,222**	**37,097**	**39,112**	42,607	45,238	42,696	42,713
Derivative instruments	**25,113**	**25,895**	**22,839**	**23,337**	20,973	21,776	22,296	29,091
Acceptances	**9,188**	**9,740**	**9,745**	**10,051**	10,296	10,521	9,163	9,675
Obligations related to securities lent or sold short or under repurchase agreements	**69,258**	**65,557**	**65,584**	**60,576**	47,353	47,599	54,089	50,475
Other liabilities	**19,069**	**16,656**	**17,017**	**15,731**	18,266	16,777	17,779	16,041
Subordinated indebtedness	**4,684**	**5,620**	**4,171**	**4,162**	4,080	4,031	4,633	3,144
Equity	**38,580**	**38,010**	**37,213**	**36,083**	35,116	34,554	33,546	32,322
	$ 651,604	**$ 642,522**	**$ 634,109**	**$ 614,647**	$ 597,099	$ 595,025	$ 590,537	$ 586,927

Select financial measures

Unaudited, as at or for the three months ended	**2019** Oct. 31	Jul. 31	Apr. 30	Jan. 31	2018 Oct. 31	Jul. 31	Apr. 30	Jan. 31
Return on common shareholders' equity	**12.9 %**	**15.5 %**	**15.8 %**	**13.8 %**	15.3 %	16.7 %	17.0 %	17.4 %
Return on average assets	**0.72 %**	**0.86 %**	**0.87 %**	**0.76 %**	0.83 %	0.90 %	0.91 %	0.89 %
Average common shareholders' equity ($ millions)	**$ 35,553**	**$ 35,028**	**$ 34,091**	**$ 33,183**	$ 32,200	$ 31,836	$ 31,017	$ 29,677
Average assets ($ millions)	**$ 655,971**	**$ 648,537**	**$ 633,556**	**$ 620,599**	$ 603,726	$ 605,220	$ 594,340	$ 590,344
Average assets to average common equity	**18.5**	**18.5**	**18.6**	**18.7**	18.7	19.0	19.2	19.9
Capital and leverage								
CET1 ratio	**11.6 %**	**11.4 %**	**11.2 %**	**11.2 %**	11.4 %	11.3 %	11.2 %	10.8 %
Tier 1 capital ratio	**12.9 %**	**12.7 %**	**12.6 %**	**12.7 %**	12.9 %	12.8 %	12.7 %	12.4 %
Total capital ratio	**15.0 %**	**15.2 %**	**14.5 %**	**14.7 %**	14.9 %	14.8 %	15.1 %	14.1 %
Leverage ratio	**4.3 %**	**4.3 %**	**4.3 %**	**4.2 %**	4.3 %	4.2 %	4.1 %	4.0 %
Net interest margin	**1.69 %**	**1.65 %**	**1.59 %**	**1.66 %**	1.67 %	1.69 %	1.71 %	1.66 %
Efficiency ratio	**59.5 %**	**56.4 %**	**57.0 %**	**60.5 %**	58.2 %	56.6 %	57.5 %	57.8 %

Common share information

Unaudited, as at or for the three months ended	**2019** Oct. 31	Jul. 31	Apr. 30	Jan. 31	2018 Oct. 31	Jul. 31	Apr. 30	Jan. 31
Weighted-average basic shares outstanding (thousands) (1)	**445,357**	**444,868**	**444,028**	**443,033**	443,015	444,081	444,140	441,124
Per share								
– basic earnings	**$ 2.59**	**$ 3.07**	**$ 2.96**	**$ 2.61**	$ 2.81	$ 3.02	$ 2.90	$ 2.96
– diluted earnings	**2.58**	**3.06**	**2.95**	**2.60**	2.80	3.01	2.89	2.95
– dividends	**1.44**	**1.40**	**1.40**	**1.36**	1.36	1.33	1.33	1.30
– book value (2)	**79.87**	**78.58**	**77.49**	**75.11**	73.83	72.41	69.98	67.34
Share price (3)								
– high	**113.20**	**113.13**	**114.73**	**116.19**	124.59	118.72	121.04	123.99
– low	**98.20**	**101.80**	**105.60**	**100.80**	112.24	112.00	110.11	112.65
– close	**112.31**	**103.83**	**112.81**	**111.41**	113.68	118.72	111.83	121.86
Dividend payout ratio	**55.6 %**	**45.7 %**	**47.3 %**	**52.2 %**	48.4 %	43.9 %	45.8 %	44.0 %

(1) Excludes nil unvested restricted shares as at October 31, 2019 (2018: 60,764).
(2) Common shareholders' equity divided by the number of common shares issued and outstanding at end of period.
(3) The high and low price during the period, and closing price on the last trading day of the period, on the TSX.

Ten-year statistical review

Condensed consolidated statement of income

Unaudited, $ millions, for the year ended October 31	IFRS 2019	2018	2017	2016	2015	2014	2013	2012	2011	Canadian GAAP 2010
Net interest income	**$ 10,551**	$ 10,065	$ 8,977	$ 8,366	$ 7,915	$ 7,459	$ 7,453	$ 7,326	$ 7,062	$ 6,204
Non-interest income	**8,060**	7,769	7,303	6,669	5,941	5,904	5,252	5,159	5,373	5,881
Total revenue	**18,611**	17,834	16,280	15,035	13,856	13,363	12,705	12,485	12,435	12,085
Provision for credit losses	**1,286**	870	829	1,051	771	937	1,121	1,291	1,144	1,046
Non-interest expenses	**10,856**	10,258	9,571	8,971	8,861	8,512	7,608	7,202	7,486	7,027
Income before income taxes	**6,469**	6,706	5,880	5,013	4,224	3,914	3,976	3,992	3,805	4,012
Income taxes	**1,348**	1,422	1,162	718	634	699	626	689	927	1,533
Non-controlling interests	**–**	–	–	–	–	–	–	–	–	27
Net income	**$ 5,121**	$ 5,284	$ 4,718	$ 4,295	$ 3,590	$ 3,215	$ 3,350	$ 3,303	$ 2,878	$ 2,452
Net income attributable to non-controlling interests	**$ 25**	$ 17	$ 19	$ 20	$ 14	$ (3)	$ (2)	$ 9	$ 11	$ –
Preferred shareholders	**111**	89	52	38	45	87	99	158	177	169
Common shareholders	**4,985**	5,178	4,647	4,237	3,531	3,131	3,253	3,136	2,690	2,283
Net income attributable to equity shareholders	**$ 5,096**	$ 5,267	$ 4,699	$ 4,275	$ 3,576	$ 3,218	$ 3,352	$ 3,294	$ 2,867	$ 2,452

Condensed consolidated balance sheet

Unaudited, $ millions, as at October 31	IFRS 2019	2018	2017	2016	2015	2014	2013	2012	2011	Canadian GAAP 2010
Assets										
Cash and deposits with banks	**$ 17,359**	$ 17,691	$ 14,152	$ 14,165	$ 18,637	$ 13,547	$ 6,379	$ 4,727	$ 5,142	$ 12,052
Securities	**121,310**	101,664	93,419	87,423	74,982	59,542	71,984	65,334	60,295	77,608
Securities borrowed or purchased under resale agreements	**59,775**	48,938	45,418	33,810	33,334	36,796	28,728	28,474	27,479	37,342
Loans										
Residential mortgages	**208,652**	207,749	207,271	187,298	169,258	157,526	150,938	150,056	150,509	93,568
Personal and credit card	**56,406**	55,731	53,315	50,373	48,321	47,087	49,213	50,476	50,586	46,462
Business and government	**125,798**	109,555	97,766	71,437	65,276	56,075	48,207	43,624	39,663	38,582
Allowance for credit losses	**(1,915)**	(1,639)	(1,618)	(1,691)	(1,670)	(1,660)	(1,698)	(1,860)	(1,803)	(1,720)
Derivative instruments	**23,895**	21,431	24,342	27,762	26,342	20,680	19,947	27,039	28,270	24,682
Customers' liability under acceptances	**9,167**	10,265	8,824	12,364	9,796	9,212	9,720	10,436	9,454	7,684
Other assets	**31,157**	25,714	22,375	18,416	19,033	16,098	14,588	14,813	14,163	15,780
	$ 651,604	$ 597,099	$ 565,264	$ 501,357	$ 463,309	$ 414,903	$ 398,006	$ 393,119	$ 383,758	$ 352,040
Liabilities and equity										
Deposits										
Personal	**$ 178,091**	$ 163,879	$ 159,327	$ 148,081	$ 137,378	$ 130,085	$ 125,034	$ 118,153	$ 116,592	$ 113,294
Business and government	**257,502**	240,149	225,622	190,240	178,850	148,793	134,736	125,055	117,143	127,759
Bank	**11,224**	14,380	13,789	17,842	10,785	7,732	5,592	4,723	4,177	5,618
Secured borrowings	**38,895**	42,607	40,968	39,484	39,644	38,783	49,802	52,413	51,308	–
Derivative instruments	**25,113**	20,973	23,271	28,807	29,057	21,841	19,724	27,091	28,792	26,489
Acceptances	**9,188**	10,296	8,828	12,395	9,796	9,212	9,721	10,481	9,489	7,684
Obligations related to securities lent or sold short or under repurchase agreements	**69,258**	47,353	43,708	24,550	20,149	23,764	20,313	21,259	21,730	37,893
Capital Trust securities (1)	**n/a**	n/a	n/a	n/a	n/a	n/a	n/a	1,678	1,594	–
Other liabilities	**19,069**	18,266	15,305	12,919	12,223	10,932	10,862	11,076	11,704	12,572
Subordinated indebtedness	**4,684**	4,080	3,209	3,366	3,874	4,978	4,228	4,823	5,138	4,773
Non-controlling interests	**186**	173	202	201	193	164	175	170	164	168
Shareholders' equity	**38,394**	34,943	31,035	23,472	21,360	18,619	17,819	16,197	15,927	15,790
	$ 651,604	$ 597,099	$ 565,264	$ 501,357	$ 463,309	$ 414,903	$ 398,006	$ 393,119	$ 383,758	$ 352,040

(1) Commencing November 1, 2012, CIBC Capital Trust was deconsolidated.
n/a Not applicable.

Select financial measures

Unaudited, as at or for the year ended October 31	IFRS 2019	2018	2017	2016	2015	2014	2013	2012	2011	Canadian GAAP 2010
Return on equity	**14.5 %**	16.6 %	18.3 %	19.9 %	18.7 %	18.3 %	21.4 %	22.2 %	22.2 %	19.4 %
Return on average assets	**0.80 %**	0.88 %	0.87 %	0.84 %	0.79 %	0.78 %	0.83 %	0.83 %	0.73 %	0.71 %
Average common shareholders' equity ($ millions)	**$ 34,467**	$ 31,184	$ 25,393	$ 21,275	$ 18,857	$ 17,067	$ 15,167	$ 14,116	$ 12,145	$ 11,772
Average assets ($ millions)	**$ 639,716**	$ 598,441	$ 542,365	$ 509,140	$ 455,324	$ 411,481	$ 403,546	$ 397,155	$ 394,527	$ 345,943
Average assets to average common equity	**18.6**	19.2	21.4	23.9	24.1	24.1	26.6	28.1	32.5	29.4
Capital and leverage – Basel III										
CET1 ratio	**11.6 %**	11.4 %	10.6 %	11.3 %	10.8 %	10.3 %	9.4 %	n/a	n/a	n/a
Tier 1 capital ratio	**12.9 %**	12.9 %	12.1 %	12.8 %	12.5 %	12.2 %	11.6 %	n/a	n/a	n/a
Total capital ratio	**15.0 %**	14.9 %	13.8 %	14.8 %	15.0 %	15.5 %	14.6 %	n/a	n/a	n/a
Leverage ratio	**4.3 %**	4.3 %	4.0 %	4.0 %	3.9 %	n/a	n/a	n/a	n/a	n/a
Basel II										
Tier 1 capital ratio (1)	**n/a**	n/a	n/a	n/a	n/a	n/a	n/a	13.8 %	14.7 %	13.9 %
Total capital ratio (1)	**n/a**	n/a	n/a	n/a	n/a	n/a	n/a	17.3 %	18.4 %	17.8 %
Net interest margin	**1.65 %**	1.68 %	1.66 %	1.64 %	1.74 %	1.81 %	1.85 %	1.84 %	1.79 %	1.79 %
Efficiency ratio	**58.3 %**	57.5 %	58.8 %	59.7 %	63.9 %	63.7 %	59.9 %	57.7 %	60.2 %	58.1 %

(1) Capital measures for fiscal year 2011 and prior fiscal years are under Canadian GAAP and have not been restated for IFRS.
n/a Not applicable.

Condensed consolidated statement of changes in equity

Unaudited, $ millions, for the year ended October 31	IFRS 2019	2018	2017	2016	2015	2014	2013	2012	2011	Canadian GAAP 2010
Balance at beginning of year	**$ 35,116**	$ 31,237	$ 23,673	$ 21,553	$ 18,783	$ 17,994	$ 16,367	$ 16,091	$ 14,799	$ 14,275
Adjustment for change in accounting policy	**6** (1)	(91) (2)	–	–	–	– (3)	7 (4)	(180)	–	– (5)
Premium on purchase of common shares	**(79)**	(313)	–	(209)	(9)	(250)	(422)	(118)	–	–
Premium on redemption of preferred shares	**–**	–	–	–	–	–	–	(30)	(12)	–
Changes in share capital										
Preferred	**575**	453	797	–	(31)	(675)	–	(1,050)	(400)	–
Common	**348**	695	4,522	213	31	29	(16)	393	572	563
Changes in contributed surplus	**(11)**	(1)	65	(4)	1	(7)	(3)	(8)	(5)	4
Changes in OCI	**122**	317	(338)	(248)	933	145	325	(435)	(171)	9
Net income	**5,096**	5,267	4,699	4,275	3,576	3,218	3,352	3,294	2,867	2,452
Dividends										
Preferred	**(111)**	(89)	(52)	(38)	(45)	(87)	(99)	(128)	(165)	(169)
Common	**(2,488)**	(2,356)	(2,121)	(1,879)	(1,708)	(1,567)	(1,523)	(1,470)	(1,391)	(1,350)
Non-controlling interests	**13**	(25)	1	8	29	(11)	5	8	(4)	–
Other	**(7)**	22	(9)	2	(7)	(6)	1	–	1	6
Balance at end of year	**$ 38,580**	$ 35,116	$ 31,237	$ 23,673	$ 21,553	$ 18,783	$ 17,994	$ 16,367	$ 16,091	$ 15,790

(1) Represents the impact of adoption of IFRS 15 "Revenue from Contracts with Customers".
(2) Represents the impact of adoption of IFRS 9 "Financial Instruments".
(3) Represents the impact of adoption of IFRS 10 "Consolidated Financial Statements".
(4) Represents the impact of adoption of amendments to IAS 19 "Employee Benefits".
(5) Represents the impact of changing the measurement date for employee future benefits.

Common share information

Unaudited, as at or for the year ended October 31	IFRS									Canadian GAAP
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Weighted-average number basic shares outstanding (thousands) (1)	**444,324**	443,082 (2)	412,636	395,389	397,213	397,620	400,880	403,685	396,233	387,802
Per share										
– basic earnings	**$ 11.22**	$ 11.69	$ 11.26	$ 10.72	$ 8.89	$ 7.87	$ 8.11	$ 7.77	$ 6.79	$ 5.89
– diluted earnings	**11.19**	11.65	11.24	10.70	8.87	7.86	8.11	7.76	6.71	5.87
– dividends	**5.60**	5.32	5.08	4.75	4.30	3.94	3.80	3.64	3.51	3.48
– book value (3)	**79.87**	73.83	66.55	56.59	51.25	44.30	40.36	35.83	32.88	32.17
Share price (4)										
– high	**116.19**	124.59	119.86	104.46	107.16	107.01	88.70	78.56	85.49	79.50
– low	**98.20**	110.11	97.76	83.33	86.00	85.49	74.10	68.43	67.84	61.96
– close	**112.31**	113.68	113.56	100.50	100.28	102.89	88.70	78.56	75.10	78.23
Dividend payout ratio	**49.9 %**	45.5 %	45.6 %	44.3 %	48.4 %	50.0 %	46.8 %	46.9 %	51.7 %	59.1 %

(1) Excludes nil unvested restricted shares as at October 31, 2019 (2018: 60,764).
(2) Excludes 2,010,890 common shares which were issued and outstanding but which had not been acquired by a third party as at October 31, 2017. These shares were issued as a component of our acquisition of The PrivateBank.
(3) Common shareholders' equity divided by the number of common shares issued and outstanding at end of year.
(4) The high and low price during the year, and closing price on the last trading day of the year, on the TSX.

Dividends on preferred shares(1)

Unaudited, for the year ended October 31	**2019**	2018	2017	2016	2015	2014	2013	2012	2011	2010
Class A										
Series 18	**$ –**	$ –	$ –	$ –	$ –	$ –	$ –	$ 1.3694	$ 1.3750	$ 1.3750
Series 19	**–**	–	–	–	–	–	–	–	–	1.2375
Series 23	**–**	–	–	–	–	–	–	–	–	1.3250
Series 26	**–**	–	–	–	–	1.4375	1.4375	1.4375	1.4375	1.4375
Series 27	**–**	–	–	–	0.3500	1.4000	1.4000	1.4000	1.4000	1.4000
Series 28	**–**	–	–	–	–	–	–	–	0.0400	0.0800
Series 29	**–**	–	–	–	0.6750	1.3500	1.3500	1.3500	1.3500	1.3500
Series 30	**–**	–	–	–	–	–	–	–	0.9000	1.2000
Series 31	**–**	–	–	–	–	–	–	0.2938	1.1750	1.1750
Series 32	**–**	–	–	–	–	–	–	0.5625	1.1250	1.1250
Series 33	**–**	–	–	–	–	1.0031	1.3375	1.3375	1.3375	1.3375
Series 35	**–**	–	–	–	–	0.8125	1.6250	1.6250	1.6250	1.6250
Series 37	**–**	–	–	–	–	1.2188	1.6250	1.6250	1.6250	1.6250
Series 39	**0.9633**	0.9750	0.9750	0.9750	0.9750	0.3793	–	–	–	–
Series 41	**0.9375**	0.9375	0.9375	0.9375	0.8203	–	–	–	–	–
Series 43	**0.9000**	0.9000	0.9000	0.9000	0.5764	–	–	–	–	–
Series 45	**1.1000**	1.1000	0.4551	–	–	–	–	–	–	–
Series 47	**1.1250**	0.8769	–	–	–	–	–	–	–	–
Series 49	**0.9990**	–	–	–	–	–	–	–	–	–
Series 51	**0.5256**	–	–	–	–	–	–	–	–	–

(1) The dividends are adjusted for the number of days during the year that the share is outstanding at the time of issuance and redemption.

Glossary

Allowance for credit losses

Under IFRS 9, allowance for credit losses represents 12 months of expected credit losses for instruments that have not been subject to a significant increase in credit risk, while allowance for credit losses represents lifetime expected credit losses for instruments that have been subject to a significant increase in credit risk, including impaired instruments. Expected credit loss allowances for loans and acceptances are included in allowance for credit losses on the consolidated balance sheet. Expected credit loss allowances for FVOCI debt securities are included as a component of the carrying value of the securities, which are measured at fair value. Expected credit loss allowances for other financial assets are included in the carrying value of the instrument. Expected credit loss allowances for guarantees and loan commitments are included in other liabilities.

Under IAS 39, allowance for credit losses generally represented an allowance set up in the financial statements sufficient to absorb specifically identified and inherent credit-related losses in CIBC's portfolio of loans, acceptances, letters of credit and guarantees. This allowance can be "collective", assessed by reviewing a portfolio of loans with similar characteristics, or "individual", assessed by reviewing the characteristics of an individual exposure.

Allowances for credit losses are adjusted for provisions for (reversals of) credit losses and are reduced by write-offs, net of recoveries.

Amortized cost

The amount at which a financial asset or financial liability is measured at initial recognition minus repayments, plus or minus any unamortized origination date premiums or discounts, plus or minus any basis adjustments resulting from a fair value hedge, and minus any reduction for impairment (directly or through the use of an allowance account). The amount of a financial asset or liability measured at initial recognition is the cost of the financial asset or liability including capitalized transaction costs and deferred fees.

Assets under administration (AUA)

Assets administered by CIBC that are beneficially owned by clients and are, therefore, not reported on the consolidated balance sheet. Services provided by CIBC are of an administrative nature, such as safekeeping of securities, client reporting and record keeping, collection of investment income, and the settlement of purchase and sale transactions. In addition, AUM amounts are included in the amounts reported under AUA.

Assets under management (AUM)

Assets managed by CIBC that are beneficially owned by clients and are, therefore, not reported on the consolidated balance sheet. The service provided in respect of these assets is discretionary portfolio management on behalf of the clients.

Average interest-earning assets

Average interest-earning assets include interest-bearing deposits with banks, securities, cash collateral on securities borrowed or securities purchased under resale agreements, and loans net of allowances.

Basis point

One-hundredth of a percentage point (0.01%).

Collateral

Assets pledged to secure loans or other obligations, which are forfeited if the obligations are not repaid.

Collateralized debt obligation (CDO)

Securitization of any combination of corporate debt, asset-backed securities (ABS), mortgage-backed securities or tranches of other CDOs to form a pool of diverse assets that are tranched into securities that offer varying degrees of risk and return to meet investor demand.

Collateralized loan obligation

Securitizations of diversified portfolios of corporate debt obligations and/or ABS that are tranched into securities that offer varying degrees of risk and return to meet investor demand.

Credit derivatives

A category of financial instruments that allow one party (the beneficiary) to separate and transfer the credit risk of nonpayment or partial payment of an underlying financial instrument to another party (the guarantor).

Credit valuation adjustment (CVA)

A valuation adjustment that is required to be considered in measuring fair value of over-the-counter (OTC) derivatives to recognize the risk that any given derivative counterparty may not ultimately be able to fulfill its obligations. In assessing the net counterparty credit risk exposure, we take into account credit mitigants such as collateral, master netting arrangements, and settlements through clearing houses.

Current replacement cost

The estimated cost of replacing an asset at the present time according to its current worth.

Derivatives

A financial contract that derives its value from the performance of an underlying instrument, index or financial rate.

Dividend payout ratio

Common dividends paid as a percentage of net income after preferred share dividends and premium on preferred share redemptions.

Dividend yield

Dividends per common share divided by the closing common share price.

Effective interest rate method
A method of calculating the amortized cost of a financial asset or financial liability and of allocating the interest income or interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or, when appropriate, a shorter period, to the net carrying amount of the financial asset or financial liability.

Efficiency ratio
Non-interest expenses as a percentage of total revenue (net interest income and non-interest income). Efficiency ratio is used as a measure of productivity.

Exchange-traded derivative contracts
Standardized derivative contracts (e.g., futures contracts and options) that are transacted on an organized exchange and cleared through a central clearing house, and are generally subject to standard margin requirements.

Fair value
The price that would be received to sell an asset, or paid to transfer a liability, between market participants in an orderly transaction in the principal market at the measurement date under current market conditions.

Forward contracts
A non-standardized contract to buy or sell a specified asset at a specified price and specified date in the future.

Forward rate agreement
An OTC forward contract that determines an interest rate to be paid or received commencing on a specified date in the future for a specified period.

Full-time equivalent employees
A measure that normalizes the number of full-time and part-time employees, base plus commissioned employees, and 100% commissioned employees into equivalent full-time units based on actual hours of paid work during a given period, for individuals whose compensation is included in the Employee compensation and benefits line on the consolidated statement of income.

Futures
A standardized contract to buy or sell a specified commodity, currency or financial instrument of standardized quantity and quality at a specific price and date in the future. Futures contracts are traded on an exchange.

Guarantees and standby letters of credit
Primarily represent CIBC's obligation, subject to certain conditions, to make payments to third parties on behalf of clients, if these clients cannot make those payments, or are unable to meet other specified contractual obligations.

Hedge
A transaction intended to offset potential losses/gains that may be incurred in a transaction or portfolio.

Loan loss ratio
The ratio is calculated as the provision for credit losses on impaired loans to average loans and acceptances, net of allowance for credit losses.

Mark-to-market
The fair value (as defined above) at which an asset can be sold or a liability can be transferred.

Net interest income
The difference between interest earned on assets (such as loans and securities) and interest incurred on liabilities (such as deposits and subordinated indebtedness).

Net interest margin
Net interest income as a percentage of average assets.

Normal course issuer bid
Involves a listed company buying its own shares for cancellation through a stock exchange or other published market, from time to time, and is subject to the various rules of the exchanges and securities commissions.

Notional amount
Principal amount or face amount of a financial contract used for the calculation of payments made on that contract.

Off-balance sheet financial instruments
A financial contract that is based mainly on a notional amount and represents a contingent asset or liability of an institution. Such instruments include credit-related arrangements.

Office of the Superintendent of Financial Institutions (OSFI)
OSFI supervises and regulates all banks, all federally incorporated or registered trust and loan companies, insurance companies, cooperative credit associations, fraternal benefit societies, and federal pension plans in Canada.

Operating leverage
Operating leverage is the difference between the year-over-year percent change in revenue (on a taxable equivalent basis) and year-over-year percent change in non-interest expenses.

Options
A financial contract under which the writer (seller) confers the right, but not the obligation, to the purchaser to either buy (call option) or sell (put option) a specified amount of an underlying asset or instrument at a specified price either at or by a specified date.

Provision for credit losses
An amount charged or credited to income to adjust the allowance for credit losses to the appropriate level, for both performing and impaired financial assets. Provision for credit losses for loans and acceptances and related off-balance sheet loan commitments is included in the Provision for credit losses line on the consolidated statement of income. Provision for credit losses for debt securities measured at fair value through other comprehensive income or amortized cost is included in Gains (losses) from debt securities measured at fair value through other comprehensive income (FVOCI) and amortized cost, net.

Return on average assets or average interest-earning assets
Net income expressed as a percentage of average assets or average interest-earning assets.

Return on common shareholders' equity
Net income attributable to equity shareholders expressed as a percentage of average common shareholders' equity.

Securities borrowed
Securities are typically borrowed to cover short positions. Borrowing requires the pledging of collateral by the borrower to the lender. The collateral may be cash or a highly rated security.

Securities lent
Securities are typically lent to a borrower to cover their short positions. Borrowing requires the pledging of collateral by the borrower to the lender. The collateral provided may be cash or a highly rated security.

Securities purchased under resale agreements
A transaction where a security is purchased by the buyer and, at the same time, the buyer commits to resell the security to the original seller at a specific price and date in the future.

Securities sold short
A transaction in which the seller sells securities that it does not own. Initially the seller typically borrows the securities in order to deliver them to the purchaser. At a later date, the seller buys identical securities in the market to replace the borrowed securities.

Securities sold under repurchase agreements
A transaction where a security is sold by the seller and, at the same time, the seller commits to repurchase the security from the original purchaser at a specific price and date in the future.

Structured entities (SE)
Entities that have been 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 to administrative tasks only and the relevant activities are directed by means of contractual arrangements.

Swap contracts
A financial contract in which counterparties exchange a series of cash flows based on a specified notional amount over a specified period.

Taxable equivalent basis (TEB)
The gross-up tax-exempt revenue on certain securities to a TEB. There is an equivalent offsetting adjustment to the income tax expense.

Total shareholder return
The total return earned on an investment in CIBC's common shares. The return measures the change in shareholder value, assuming dividends paid are reinvested in additional shares.

Risk and capital glossary

Advanced internal ratings-based (AIRB) approach for credit risk
Internal models based on historical experience of key risk assumptions such as probability of default (PD), loss given default (LGD) and exposure at default (EAD) are used to compute the capital requirements subject to OSFI approval. A capital floor based on the standardized approach is also calculated by banks under the AIRB approach for credit risk and an adjustment to risk-weighted assets (RWA) may be required as prescribed by OSFI.

Advanced measurement approach (AMA) for operational risk
A risk-sensitive approach to calculating the capital charge for operational risk based on internal risk measurement models, using a combination of quantitative and qualitative risk measurement techniques.

Asset/liability management (ALM)
The practice of managing risks that arise from mismatches between the assets and liabilities, mainly in the non-trading areas of the bank. Techniques are used to manage the relative duration of CIBC's assets (such as loans) and liabilities (such as deposits), in order to minimize the adverse impact of changes in interest rates.

Bail-in eligible liabilities
Bail-in eligible liabilities include long-term (i.e., original maturity over 400 days), unsecured senior debt issued on or after September 23, 2018 that is tradable and transferrable, and any preferred shares and subordinated debt that are not considered non-viability contingent capital (NVCC). Consumer deposits, secured liabilities (for example, covered bonds), certain financial contracts (for example, derivatives) and certain structured notes are not bail-in eligible.

Bank exposures
All direct credit risk exposures to deposit-taking institutions and regulated securities firms, and exposures guaranteed by those entities.

Business and government portfolio
A category of exposures that includes lending to businesses and governments, where the primary basis of adjudication relies on the determination and assignment of an appropriate risk rating that reflects the credit risk of the exposure.

Central counterparty (CCP)
A clearing house that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the future performance of open contracts.

Common Equity Tier 1 (CET1), Tier 1 and Total capital ratios
CET1, Tier 1 and total regulatory capital, divided by RWA, as defined by OSFI's Capital Adequacy Requirements Guideline, which is based on Basel Committee on Banking Supervision (BCBS) standards. During 2018, before any capital floor requirement, there were three different levels of RWA for the calculation of CIBC's CET1, Tier 1 and Total capital ratios. This occurred because of the option CIBC chose in 2014 for the phase-in of the credit valuation adjustment (CVA) capital charge. Beginning in 2019, the ratios are calculated by reference to the same level of RWA as the phase-in of the CVA capital charge has been completed.

Corporate exposures
All direct credit risk exposures to corporations, partnerships and proprietorships, and exposures guaranteed by those entities.

Credit risk
The risk of financial loss due to a borrower or counterparty failing to meet its obligations in accordance with contractual terms.

Drawn exposure
The amount of credit risk exposure resulting from loans already advanced to the customer.

Economic capital
Economic capital provides a framework to evaluate the returns of each strategic business unit, commensurate with risk assumed. Economic capital is a non-GAAP risk measure based upon an estimate of equity capital required by the businesses to absorb unexpected losses consistent with our targeted risk rating over a one-year horizon. Economic capital comprises primarily credit, market, operational and strategic risk capital.

Economic profit
A non-GAAP risk-adjusted performance measure used for measuring economic value added. It is calculated as earnings of each business less a charge for the cost of capital.

Exposure at default (EAD)
An estimate of the amount of exposure to a customer at the event of, and at the time of, default.

Incremental risk charge (IRC)
A capital charge applied in addition to market risk capital specifically to cover default and migration risk in unsecuritized credit assets of varying liquidity held in the trading book.

Internal Capital Adequacy Assessment Process (ICAAP)
A framework and process designed to provide a comprehensive view on capital adequacy, as defined by Pillar II of the Basel Accord, wherein we identify and measure our risks on an ongoing basis in order to ensure that the capital available is sufficient to cover all risks across CIBC.

Internal models approach (IMA) for market risk
Models, which have been developed by CIBC and approved by OSFI, for the measurement of risk and regulatory capital in the trading portfolio for general market risk, debt specific risk, and equity specific risk.

Internal ratings-based (IRB) approach for securitization exposures
Capital calculation method for securitizations available to the banks approved to use the IRB approach for underlying exposures securitized. This method comprises the securitization Internal Ratings-Based Approach (SEC-IRBA) and Internal Assessment Approach (SEC-IAA).

Leverage ratio exposure
The leverage ratio exposure is defined under the OSFI rules as on-balance sheet assets (unweighted) less Tier 1 capital regulatory adjustments plus derivative exposures, securities financing transaction exposures with a limited form of netting under certain conditions, and other off-balance sheet exposures (such as commitments, direct credit substitutes, forward asset purchases, standby/trade letters of credit and securitization exposures).

Leverage ratio
Defined as Tier 1 capital divided by the leverage ratio exposure determined in accordance with guidelines issued by OSFI, which are based on BCBS standards.

Liquidity coverage ratio (LCR)
Derived from the BCBS' Basel III framework and incorporated into OSFI's Liquidity Adequacy Requirements (LAR), the LCR is a liquidity standard that aims to ensure that an institution has an adequate stock of unencumbered High Quality Liquid Assets (HQLA) that consists of cash or assets that can be converted into cash at little or no loss of value in private markets, to meet its liquidity needs for a 30-calendar-day liquidity stress scenario.

Liquidity risk
The risk of having insufficient cash or its equivalent in a timely and cost-effective manner to meet financial obligations as they come due.

Loss given default (LGD)
An estimate of the amount of exposure to a customer that will not be recovered following a default by that customer, expressed as a percentage of the EAD. LGD is generally based on through-the-cycle assumptions for regulatory capital purposes, and generally based on point-in-time assumptions reflecting forward-looking information for IFRS 9 expected credit loss purposes.

Market risk
The risk of economic financial loss in our trading and non-trading portfolios from adverse changes in underlying market factors, including interest rates, foreign exchange rates, equity market prices, commodity prices, credit spreads and customer behaviour for retail products.

Master netting agreement
An industry standard agreement designed to reduce the credit risk of multiple transactions with a counterparty through the creation of a legal right of offset of exposures in the event of a default by that counterparty and through the provision for net settlement of all contracts through a single payment.

Non-viability contingent capital (NVCC)
Effective January 1, 2013, in order to qualify for inclusion in regulatory capital, all non-common Tier 1 and Tier 2 capital instruments must be capable of absorbing losses at the point of non-viability of a financial institution. This will ensure that investors in such instruments bear losses before taxpayers where the government determines that it is in the public interest to rescue a non-viable bank.

Operational risk
The risk of loss arising from people, inadequate or failed internal processes, and systems or from external events.

Other off-balance sheet exposure
The amount of credit risk exposure resulting from the issuance of guarantees and letters of credit.

Other retail
This exposure class includes all loans other than qualifying revolving retail and real estate secured personal lending that are extended to individuals and small businesses under the regulatory capital reporting framework.

Over-the-counter (OTC) derivatives exposure
The amount of credit risk exposure resulting from derivatives that trade directly between two counterparties, rather than through exchanges.

Probability of default (PD)
An estimate of the likelihood of default for any particular customer which occurs when that customer is not able to repay its obligations as they become contractually due. PD is generally based on through-the-cycle assumptions for regulatory capital purposes, and generally based on point-in-time assumptions reflecting forward-looking information for IFRS 9 expected credit loss purposes.

Qualifying central counterparty (QCCP)
An entity that is licensed to operate as a CCP and is permitted by the appropriate regulator or oversight body to operate as such with respect to the products offered by that CCP.

Qualifying revolving retail
This exposure class includes credit cards, unsecured lines of credit and overdraft protection products extended to individuals. Under the standardized approach, these exposures would be included under "other retail".

Real estate secured personal lending
This exposure class includes residential mortgages and home equity loans and lines of credit extended to individuals.

Regulatory capital
Regulatory capital, as defined by OSFI's Capital Adequacy Requirements Guideline, is comprised of Common Equity Tier 1 (CET1), Additional Tier 1 (AT1) and Tier 2 capital. CET1 capital includes common shares, retained earnings, accumulated other comprehensive income (AOCI) (excluding AOCI relating to cash flow hedges and changes to fair value option liabilities attributable to changes in own credit risk) and qualifying instruments issued by a consolidated banking subsidiary to third parties, less regulatory adjustments for items such as goodwill and other intangible assets, deferred tax assets, net assets related to defined benefit pension plans, and certain investments. AT1 capital primarily includes NVCC preferred shares, qualifying instruments issued by a consolidated subsidiary to third parties, and non-qualifying innovative Tier 1 notes which are subject to phase-out rules for capital instruments. Tier 1 capital is comprised of CET1 plus AT1. Tier 2 capital includes NVCC subordinated indebtedness, non-qualifying subordinated indebtedness subject to phase-out rules for capital instruments, eligible general allowances, and qualifying instruments issued by a consolidated subsidiary to third parties. Total capital is comprised of Tier 1 capital plus Tier 2 capital. Qualifying regulatory capital instruments must be capable of absorbing loss at the point of non-viability of the financial institution; non-qualifying capital instruments are excluded from regulatory capital at a rate of 10% per annum commencing January 1, 2013 through to January 1, 2022.

Repo-style transactions exposure
The amount of credit risk exposure resulting from our securities bought or sold under resale agreements, as well as securities borrowing and lending activities.

Reputation risk
The risk of negative publicity regarding CIBC's business conduct or practices which, whether true or not, could significantly harm CIBC's reputation as a leading financial institution, or could materially and adversely affect CIBC's business, operations, or financial condition.

Resecuritization
A securitization exposure in which the risk associated with an underlying pool of exposures is tranched and at least one of the underlying exposures is a securitization exposure.

Retail portfolios
A category of exposures that primarily includes consumer but also small business lending, where the primary basis of adjudication relies on credit-scoring models.

Risk-weighted assets (RWA)
RWA consist of three components: (i) RWA for credit risk are calculated using the AIRB and standardized approaches. The AIRB RWA are calculated using PDs, LGDs, EADs, and in some cases maturity adjustments, while the standardized approach applies risk weighting factors specified in the OSFI guidelines to on- and off- balance sheet exposures; (ii) RWA for market risk in the trading portfolio are based on the internal models approved by OSFI with the exception of the RWA for traded securitization assets where we are using the methodology defined by OSFI; and (iii) RWA for operational risk relating to the risk of losses resulting from people, inadequate or failed internal processes, and systems or from external events are calculated under the AMA and standardized approaches. During the period beginning in the third quarter of 2014 to the fourth quarter of 2018, CET1 capital RWA, Tier 1 capital RWA, and Total capital RWA will differ due to the phase-in of the CVA capital charge. Since the introduction of Basel II in 2008, OSFI has prescribed a capital floor requirement for institutions that use the AIRB approach for credit risk. The capital floor is determined by comparing a capital requirement calculated by reference to the Basel II standardized approach against the Basel III calculation, as specified by OSFI. Any shortfall in the Basel III capital requirement is added to RWA.

Securitization
The process of selling assets (normally financial assets such as loans, leases, trade receivables, credit card receivables or mortgages) to trusts or other SEs. An SE normally issues securities or other forms of interest to investors and/or the asset transferor, and the SE uses the proceeds of the issue of securities or other forms of interest to purchase the transferred assets. The SE will generally use the cash flows generated by the assets to meet the obligations under the securities or other interests issued by the SE, which may carry a number of different risk profiles.

Sovereign exposures
All direct credit risk exposures to governments, central banks and certain public sector entities, and exposures guaranteed by those entities.

Standardized approach for credit risk
Applied to exposures when there is not sufficient information to allow for the use of the AIRB approach for credit risk. Credit risk capital requirements are calculated based on a standardized set of risk weights as prescribed in the Basel Accord. The standardized risk weights are based on external credit assessments, where available, and other risk-related factors, including export credit agencies, exposure asset class, collateral, etc.

Standardized approach for operational risk
Capital is based on prescribed percentages that vary by business activity and is applied to the three-year average gross income.

Standardized approach for securitization exposures
This approach comprises the calculation methods available for securitization exposures that do not require OSFI approval: securitization External Ratings-Based (SEC-ERBA) and securitization Standardized Approach (SEC-SA).

Strategic risk
The risk of ineffective or improper implementation of business strategies, including mergers and acquisitions. It includes the potential financial loss due to the failure of organic growth initiatives or failure to respond appropriately to changes in the business environment.

Stressed Value-at-Risk
A value-at-risk calculation using a one-year observation period related to significant losses for the given portfolio at a specified level of confidence and time horizon.

Structural foreign exchange risk
Structural foreign exchange risk primarily consists of the risk inherent in net investments in foreign operations due to changes in foreign exchange rates, and foreign currency denominated risk-weighted assets and foreign currency denominated capital deductions.

Structural interest rate risk
Structural interest rate risk primarily consists of the risk arising due to mismatches in assets and liabilities, which do not arise from trading and trading-related businesses.

Total loss absorbing capacity (TLAC) measure
The sum of Total capital and bail-in-eligible liabilities that have a residual maturity greater than one year.

Undrawn exposures
The amount of credit risk exposure resulting from loans that have not been advanced to a customer, but which a customer may be entitled to draw in the future.

Value-at-Risk (VaR)
Generally accepted risk measure that uses statistical models to estimate the distribution of possible returns on a given portfolio at a specified level of confidence and time horizon.

Shareholder information

Fiscal Year

November 1st to October 31st

Key Dates

Reporting dates 2020

First quarter results – Wednesday, February 26, 2020
Second quarter results – Thursday, May 28, 2020
Third quarter results – Thursday, August 27, 2020
Fourth quarter results – Thursday, December 3, 2020

Annual Meeting of Shareholders 2020

CIBC's Annual Meeting of Shareholders will be held on April 8, 2020 at 9:30 a.m. (Mountain Daylight Time) in Edmonton at the JW Marriott Edmonton ICE District, Wayne Gretzky Ballroom, 10344 102 Street, Edmonton, Alberta, Canada, T5J 0K9.

Common shares of CIBC (CM) are listed on the Toronto Stock Exchange and the New York Stock Exchange. Preferred shares are listed on the Toronto Stock Exchange.

Dividends

Quarterly dividends were paid on CIBC common and preferred shares in 2019:

Common shares

Ex-dividend date	Record date	Payment date	Dividends per share	Number of common shares on record date
Sep 26/19	Sep 27/19	Oct 28/19	$1.44	445,274,138
Jun 27/19	Jun 28/19	Jul 29/19	$1.40	444,896,225
Mar 27/19	Mar 28/19	Apr 29/19	$1.40	444,137,463
Dec 27/18	Dec 28/18	Jan 28/19	$1.36	443,121,710

Preferred shares

Stock	Series 39 (1)	Series 41	Series 43	Series 45	Series 47	Series 49	Series 51
Ticker symbol	CM.PR.O	CM.PR.P	CM.PR.Q	CM.PR.R	CM.PR.S	CM.PR.T	CM.PR.Y
Quarterly dividend	$0.232063	$0.234375	$0.225000	$0.275000	$0.281250	$0.325000	$0.321875

[1]The dividend rate for Series 39 was reset in accordance with the share terms effective July 31, 2019.

2020 dividend payment dates

(Subject to approval by the CIBC Board of Directors)

Record dates	Payment dates
December 27, 2019	January 28, 2020
March 27, 2020	April 28, 2020
June 29, 2020	July 28, 2020
September 28, 2020	October 28, 2020

Eligible dividends

CIBC designates any and all dividends paid or deemed for Canadian federal, provincial or territorial income tax purposes to be paid on or after January 1, 2006 to be "eligible dividends", unless otherwise indicated in respect of dividends paid subsequent to this notification, and hereby notifies all recipients of such dividends of this designation.

Normal course issuer bid

CIBC is conducting a normal course issuer bid to purchase common shares for cancellation in the open market at market price until the earlier of: (i) CIBC purchasing 9 million common shares: (ii) CIBC providing a notice of termination, or (iii) June 3, 2020. A copy of the Notice of Intention to Make a Normal Course Issuer Bid that CIBC filed with the Toronto Stock Exchange may be obtained without charge by contacting the Corporate Secretary.

Regulatory capital

Information on CIBC's regulatory capital instruments and regulatory capital position may be found at www.cibc.com; About CIBC; Investor Relations; Regulatory Capital Instruments.

Credit ratings

Credit rating information can be found on pages 71 – 72 in this Annual Report.

Shareholder investment plan

All Canadian and U.S. resident registered holders of CIBC common shares and designated Class A preferred shares may participate in one or more of the following options and pay no brokerage commissions or service charges:

Dividend reinvestment option – Canadian residents may have dividends reinvested in additional CIBC common shares.
Share purchase option – Canadian residents may purchase up to $50,000 of additional CIBC common shares during the fiscal year.
Stock dividend option – U.S. residents may elect to receive stock dividends on CIBC common shares.

Further information is available through AST Trust Company (Canada) (formerly CST Trust Company) and on the CIBC website at www.cibc.com.

Transfer agent and registrar

For information relating to shareholdings, shareholder investment plan, dividends, direct dividend deposit, dividend reinvestment accounts and lost certificates, or to eliminate duplicate mailings of shareholder material, please contact:

AST Trust Company (Canada), P.O. Box 700, Postal Station B, Montreal, QC, H3B 3K3
416 682-3860 or 1 800 258-0499 (Canada and the U.S. only), Fax 1 888 249-6189, Email: inquiries@astfinancial.com, Website: www.astfinancial.com/ca.

Common and preferred shares are transferable in Canada at the offices of our agent, AST Trust Company (Canada), in Toronto, Montreal, Calgary and Vancouver.

In the U.S., common shares are transferable at:
Computershare Inc., By Mail: P.O. Box 43078 Providence, RI 02940-3078; By Overnight Delivery: 150 Royall Street, Canton, MA 02021, 1 800 589-9836, Website: www.computershare.com/investor.

How to reach us:

CIBC Head Office
Commerce Court, Toronto, Ontario, Canada M5L 1A2
Telephone number: 416 980-2211
SWIFT code: CIBCCATT
Website: www.cibc.com

Investor Relations
Email: investorrelations@cibc.com

Corporate Secretary
Call: 416 980-3096
Email: corporate.secretary@cibc.com

Office of the CIBC Ombudsman
Toll-free across Canada: 1 800 308-6859
Toronto: 416 861-3313
Email: ombudsman@cibc.com

CIBC Telephone Banking
Toll-free across Canada: 1 800 465-2422

Communications and Public Affairs
Email: corpcommmailbox@cibc.com

Client Care
Toll-free across Canada: 1 800 465-2255
Email: client.care@cibc.com

Where to find more information

CIBC Annual Report 2019
Additional print copies of the Annual Report will be available in March 2020 and may be obtained by emailing investorrelations@cibc.com. The Annual Report is also available online at www.cibc.com/ca/investor-relations/annual-reports.html.

Des exemplaires supplémentaires du Rapport annuel seront disponibles en mars 2020 et peuvent être commandés par courriel à relationsinvestisseurs@cibc.com. Le Rapport annuel est aussi disponible à l'adresse www.cibc.com/ca/investor-relations/annual-reports-fr.html.

CIBC Corporate Responsibility Report and Public Accountability Statement 2019
This report reviews our economic, environmental, social and governance activities over the past year and will be available in March 2020 at https://www.cibc.com/en/about-cibc/corporate-responsibility.html.

Management Proxy Circular 2020
The Management Proxy Circular contains information for shareholders about CIBC's annual meeting, including information relating to the election of CIBC's directors, appointment of auditors and shareholder proposals, as well as other matters. The 2020 Proxy Circular will be available in March 2020 at www.cibc.com.

Corporate Governance
CIBC's Statement of Corporate Governance Practices describes the governance framework that guides the Board and management in fulfilling their obligations to CIBC and our shareholders. This statement and other information on Corporate Governance at CIBC, including our CIBC Code of Conduct for all employees and CIBC Code of Ethics for Directors, can be found on our corporate website at www.cibc.com/ca/inside-cibc/governance/governance-practices.html.

Regulatory Filings
In Canada with the Canadian Securities Administrators at www.sedar.com.

In the U.S. with the U.S. Securities and Exchange Commission at www.sec.gov/edgar.shtml.

Incorporation
Canadian Imperial Bank of Commerce (CIBC) is a diversified financial institution governed by the *Bank Act* (Canada). CIBC was formed through the amalgamation of The Canadian Bank of Commerce and Imperial Bank of Canada in 1961.

The Canadian Bank of Commerce was originally incorporated as Bank of Canada by special act of the legislature of the Province of Canada in 1858. Subsequently, the name was changed to The Canadian Bank of Commerce and it opened for business under that name in 1867. Imperial Bank of Canada was incorporated in 1875 by special act of the Parliament of Canada and commenced operations in that year.

Trademarks
Trademarks used in this Annual Report which are owned by Canadian Imperial Bank of Commerce, or its subsidiaries in Canada and/or other countries include, "CIBC Agility", "CIBC Bank USA Smart Account", the CIBC logo, the CIBC Cube Design & "Banking that fits your life.", "CIBC eDeposit", "CIBC FirstCaribbean International Bank", "CIBC Foreign Cash Online", "CIBC Global Money Transfer", "CIBC Investor's Edge", "CIBC Miracle Day", "CIBC Mobile Banking", "CIBC Pace It", "CIBC Personal Portfolio Services", "CIBC Private Wealth Management", "CIBC Smart", "CIBC SmartBanking", "CIBC Team Next", "Remi Beta Bot", "Simplii Financial" and "Wood Gundy". All other trademarks mentioned in this annual report which are not owned by Canadian Imperial Bank of Commerce or its subsidiaries, are the property of their respective owners.

Board of Directors:

The Hon. John P. Manley, P.C., O.C.
Chair of the Board
CIBC
Senior Advisor, Bennett Jones, LLP
Ottawa, Ontario, Canada
Joined in 2005

Brent S. Belzberg
(CGC, RMC)
Senior Managing Partner
TorQuest Partners
Toronto, Ontario, Canada
Joined in 2005

Nanci E. Caldwell
(MRCC)
Corporate Director
Woodside, California, U.S.A.
Joined in 2015

Michelle L. Collins
(RMC)
President
Cambium LLC
Chicago, Illinois, U.S.A.
Joined in 2017

Patrick D. Daniel
(CGC, MRCC – Chair)
Corporate Director
Calgary, Alberta, Canada
Joined in 2009

Luc Desjardins
(AC)
President and Chief Executive Officer
Superior Plus Corp.
Toronto, Ontario, Canada
Joined in 2009

Victor G. Dodig
President and Chief Executive Officer
CIBC
Toronto, Ontario, Canada
Joined in 2014

Linda S. Hasenfratz
(MRCC)
Chief Executive Officer
Linamar Corporation
Guelph, Ontario, Canada
Joined in 2004

Kevin J. Kelly
(AC)
Corporate Director
Toronto, Ontario, Canada
Joined in 2013

Christine E. Larsen
(RMC)
Corporate Director
Montclair, New Jersey, U.S.A.
Joined in 2016

Nicholas D. Le Pan
(AC – Chair)
Corporate Director
Ottawa, Ontario, Canada
Joined in 2008

Jane L. Peverett
(AC, CGC)
Corporate Director
West Vancouver, British Columbia, Canada
Joined in 2009

Katharine B. Stevenson
(CGC – Chair, MRCC)
Corporate Director
Toronto, Ontario, Canada
Joined in 2011

Martine Turcotte
(CGC, MRCC)
Vice Chair, Québec
BCE Inc. and Bell Canada
Verdun, Québec, Canada
Joined in 2014

Barry L. Zubrow
(RMC – Chair)
President
ITB LLC
Far Hills, New Jersey, U.S.A.
Joined in 2015

AC – Audit Committee
CGC – Corporate Governance Committee
MRCC – Management Resources and Compensation Committee
RMC – Risk Management Committee

Sustainable Banking for a Modern World

Sustainability is at the heart of CIBC's purpose: to help make your ambitions a reality. Inspired by this purpose, we integrate sustainability into everything we do, focusing on environmental, social and governance (ESG) matters of importance to our stakeholders.

Building on responsible business practices that we have embedded across CIBC, we are taking action to further reduce environmental impacts across our value chain, support programs that foster an inclusive and healthy society, and integrate best-in-class governance practices to create a sustainable future.

Client Focus

Our purpose – to help make our clients' ambitions a reality – is more than just words. It ensures we treat our clients with genuine care, professionalism and deliver excellence every day. By understanding their unique needs, and making their goals our own, we have the power to change our clients' lives for the better.

Responsible Banking

As our business and clients face new and intensifying environmental, social and economic challenges, we are working on all fronts to address them. Through our lending and investment decisions, and the actions we're taking on climate change, we're embracing our responsibility as a major North American bank to drive sustainable growth and support the low-carbon economy.

Culture

We're a collaborative global team of 45,000 members driven by a shared purpose. We are guided by our core values of trust, teamwork and accountability, within an inclusive CIBC culture where our team members can realize their goals, are empowered to excel, and are appreciated for their contributions.

Building Community

As a relationship-focused bank, we are eager to build strong connections with community organizations and leaders, so that we can boost their ability to tackle important challenges facing society. For more than 150 years, CIBC has been a strong community partner – making a positive impact through our corporate giving, sponsorships and the volunteer spirit of our team members.

Governance

Good governance is the foundation of our business sustainability and underpins CIBC's purpose. From our high ethical standards for team members and constant vigilance in safeguarding client interests to our robust controls around accountability, disclosure and risk management, strong practices are embedded across our organization.

CIBC's 2019 Sustainability Report will be available in March 2020 at **www.cibc.com**

2019 ANNUAL REPORT

All paper used in the production of the CIBC 2019 Annual Report is Forest Stewardship Council® (FSC®) certified.