

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, 2018, 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 November 28, 2018. 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 186 to 191 of this Annual Report.

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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", "Financial performance overview – Taxes", "Financial performance overview – Significant events", "Financial performance overview – Outlook for calendar year 2019", "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 resources", "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 – Financial instruments", "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 2019 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 "Financial performance overview – Outlook for calendar year 2019" 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 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 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 the acquisition of PrivateBancorp, Inc. 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.

External reporting change

The following external reporting change was made in 2018.

IFRS 9 "Financial Instruments"

We adopted IFRS 9 "Financial Instruments" (IFRS 9) effective November 1, 2017. As permitted, prior period amounts were not restated.

As part of the adoption of IFRS 9, we now recognize provision for credit losses on both impaired (stage 3) and performing (stages 1 and 2) loans in the respective strategic business units (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.

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 11.4%. Through our four strategic business units – 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⁽¹⁾ personal banking, business, public sector and institutional clients in Canada, the U.S. and around the world. We have approximately 44,000 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:

- Building a strong client-focused franchise;
- Diversifying our earnings growth;
- Optimizing our operational efficiency; and
- Maintaining capital and balance sheet discipline.

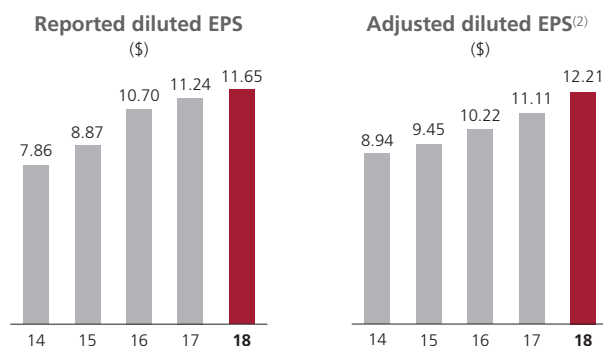
Performance against objectives

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 of shareholder value – earnings growth, efficiency ratio, return on common shareholders' equity (ROE), total shareholder return (TSR) 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⁽²⁾

To assess our earnings growth, we monitor our earnings per share (EPS). Our target beginning in 2018 is average annual EPS growth of 5% to 10%. In 2018, we delivered reported and adjusted⁽²⁾ diluted EPS growth of 4% and 10%, respectively.

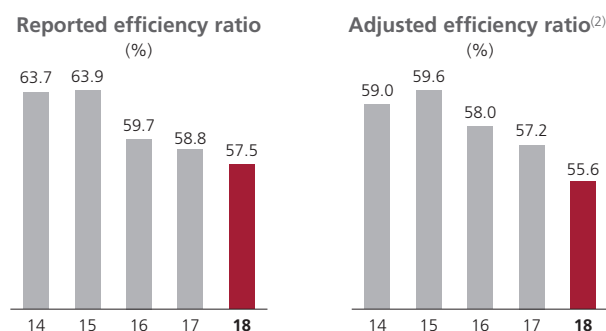
Going forward, we are maintaining our target to deliver average annual EPS growth of 5% to 10%.



Efficiency ratio⁽²⁾

To assess how well we use our assets to generate net income, we measure and monitor our efficiency ratio, defined as the ratio of non-interest expenses to total revenue. In 2018, CIBC's reported and adjusted⁽²⁾ efficiency ratios improved to 57.5% and 55.6%, respectively, from 58.8% and 57.2% in 2017.

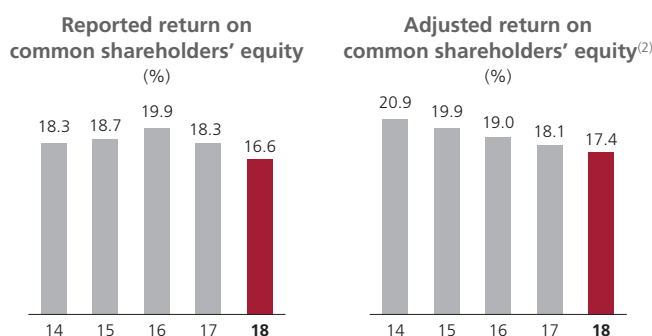
CIBC has set a near-term target of achieving a run rate efficiency ratio of 55% by 2019, and a medium-term target of 52% by 2022.



Return on common shareholders' equity⁽²⁾

ROE is another key measure of shareholder value. In 2018, CIBC's reported and adjusted⁽²⁾ ROE were strong, at 16.6% and 17.4%, respectively, above our target of at least 15%.

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



(1) Revised to consider clients that have banking relationships with both CIBC and Simplii Financial.

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

Total shareholder return

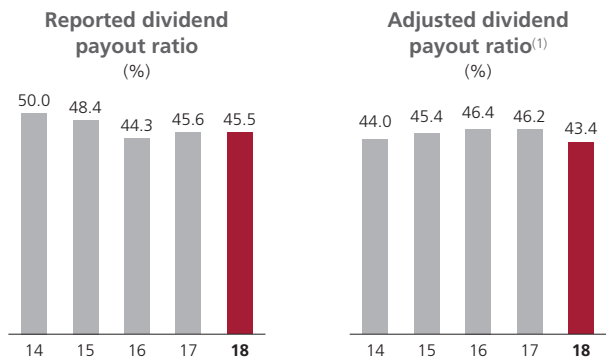
TSR is the ultimate measure of shareholder value, and the output of delivering against the financial targets within our control.

We have two shareholder return targets:

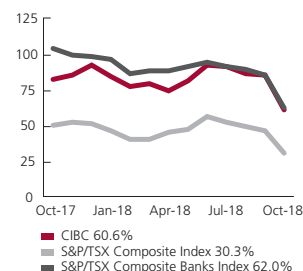
- For many years, we have consistently delivered adjusted dividend payout ratios in the range of 40% to 50% of earnings to common shareholders. Our key criteria for considering dividend increases are our current level of payout relative to our target and our view on the sustainability of our current earnings level through the cycle. In 2018, our reported and adjusted⁽¹⁾ dividend payout ratios were 45.5% and 43.4%, respectively.

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

- We also have an objective to deliver a TSR that exceeds the industry average, which we have defined as the Standard & Poor's Ratings Services (S&P)/Toronto Stock Exchange (TSX) Composite Banks Index, over a rolling five-year period. For the five years ended October 31, 2018, CIBC delivered a TSR of 60.6%, which was below the Banks Index return over the same period of 62.0%.



Rolling five-year TSR (%)



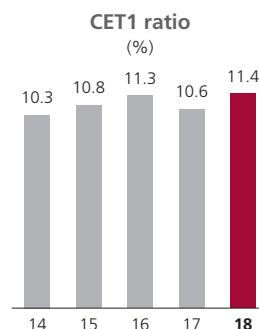
Balance sheet strength

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 2018, our Basel III CET1 ratio on an all-in basis was 11.4%, well above the current all-in 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.

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



Client experience

We continue to have a strong and ongoing focus on the client experience. Our Client Experience Index, which is a range of relevant measures from each of our businesses, is aligned to CIBC's client-focused strategy and is a composite of:

- External and internal Net Promoter Score studies;
- Relationship surveys, which measure the client's overall experience with our bank;
- Transactional surveys, which measure a client's experience with a particular interaction; and
- Specific business and operational metrics which tightly correlate with the client experience.

Economic and market environment

CIBC operated in an environment of moderate economic growth in Canada, and of accelerating growth in the U.S. in 2018. Canada enjoyed low unemployment rates that supported household credit quality, but both consumer and mortgage credit growth decelerated due to higher interest rates, softer housing inflation, and regulatory policy decisions. Corporate credit quality remained strong despite a slowing in profit growth, while business investment spending and loan demand accelerated. A slower increase in non-financial corporate bond issuance activity was more than offset by the accelerating issuance of financial sector bonds, while equity issuance activity was light. Government debt continued to grow but at a slightly slower pace than 2017. The U.S. economy showed strong growth and robust employment gains as fiscal stimulus more than offset rising interest rates, helping to drive a pick-up in business lending after a slow 2017. U.S. equity markets had a strong start to the year but gave up that ground in the fall on concerns over global growth and rising interest rates.

Financial performance overview

Financial highlights

As at or for the year ended October 31	2018	2017	2016	2015	2014
Financial results (\$ millions)					
Net interest income	\$ 10,065	\$ 8,977	\$ 8,366	\$ 7,915	\$ 7,459
Non-interest income	7,769	7,303	6,669	5,941	5,904
Total revenue	17,834	16,280	15,035	13,856	13,363
Provision for credit losses	870	829	1,051	771	937
Non-interest expenses	10,258	9,571	8,971	8,861	8,512
Income before income taxes	6,706	5,880	5,013	4,224	3,914
Income taxes	1,422	1,162	718	634	699
Net income	\$ 5,284	\$ 4,718	\$ 4,295	\$ 3,590	\$ 3,215
Net income (loss) attributable to non-controlling interests	17	19	20	14	(3)
Preferred shareholders	89	52	38	45	87
Common shareholders	5,178	4,647	4,237	3,531	3,131
Net income attributable to equity shareholders	\$ 5,267	\$ 4,699	\$ 4,275	\$ 3,576	\$ 3,218
Financial measures					
Reported efficiency ratio	57.5 %	58.8 %	59.7 %	63.9 %	63.7 %
Adjusted efficiency ratio ⁽¹⁾	55.6 %	57.2 %	58.0 %	59.6 %	59.0 %
Loan loss ratio ⁽²⁾	0.26 %	0.25 %	0.31 %	0.27 %	0.38 %
Reported return on common shareholders' equity	16.6 %	18.3 %	19.9 %	18.7 %	18.3 %
Adjusted return on common shareholders' equity ⁽¹⁾	17.4 %	18.1 %	19.0 %	19.9 %	20.9 %
Net interest margin	1.68 %	1.66 %	1.64 %	1.74 %	1.81 %
Net interest margin on average interest-earning assets	1.88 %	1.85 %	1.88 %	2.00 %	2.05 %
Return on average assets	0.88 %	0.87 %	0.84 %	0.79 %	0.78 %
Return on average interest-earning assets	0.99 %	0.97 %	0.96 %	0.91 %	0.89 %
Total shareholder return	4.70 %	18.30 %	5.19 %	1.96 %	20.87 %
Reported effective tax rate	21.2 %	19.8 %	14.3 %	15.0 %	17.9 %
Adjusted effective tax rate ⁽¹⁾	20.0 %	20.3 %	16.6 %	15.5 %	15.4 %
Common share information					
Per share (\$)					
– basic earnings	\$ 11.69	\$ 11.26	\$ 10.72	\$ 8.89	\$ 7.87
– reported diluted earnings	11.65	11.24	10.70	8.87	7.86
– adjusted diluted earnings ⁽¹⁾	12.21	11.11	10.22	9.45	8.94
– dividends	5.32	5.08	4.75	4.30	3.94
– book value	73.83	66.55	56.59	51.25	44.30
Share price (\$)					
– high	124.59	119.86	104.46	107.16	107.01
– low	110.11	97.76	83.33	86.00	85.49
– closing	113.68	113.56	100.50	100.28	102.89
Shares outstanding (thousands)					
– weighted-average basic ⁽³⁾	443,082	412,636 ⁽⁴⁾	395,389	397,213	397,620
– weighted-average diluted	444,627	413,563 ⁽⁴⁾	395,919	397,832	398,420
– end of period ⁽³⁾	442,826	439,313 ⁽⁴⁾	397,070	397,291	397,021
Market capitalization (\$ millions)	\$ 50,341	\$ 49,888	\$ 39,906	\$ 39,840	\$ 40,850
Value measures					
Dividend yield (based on closing share price)	4.7 %	4.5 %	4.7 %	4.3 %	3.8 %
Reported dividend payout ratio	45.5 %	45.6 %	44.3 %	48.4 %	50.0 %
Adjusted dividend payout ratio ⁽¹⁾	43.4 %	46.2 %	46.4 %	45.4 %	44.0 %
Market value to book value ratio	1.54	1.71	1.78	1.96	2.32
On- and off-balance sheet information (\$ millions)					
Cash, deposits with banks and securities	\$ 119,355	\$ 107,571	\$ 101,588	\$ 93,619	\$ 73,089
Loans and acceptances, net of allowance	381,661	365,558	319,781	290,981	268,240
Total assets	597,099	565,264	501,357	463,309	414,903
Deposits	461,015	439,706	395,647	366,657	325,393
Common shareholders' equity	32,693	29,238	22,472	20,360	17,588
Average assets	598,441	542,365	509,140	455,324	411,481
Average interest-earning assets	536,059	485,837	445,134	395,616	362,997
Average common shareholders' equity	31,184	25,393	21,275	18,857	17,067
Assets under administration (AUA) ⁽⁵⁾⁽⁶⁾	2,303,962	2,192,947	2,041,887	1,846,142	1,703,360
Assets under management (AUM) ⁽⁶⁾	225,379	221,571	183,715	170,465	151,913
Balance sheet quality (All-in basis) and liquidity measures					
Risk-weighted assets (RWA) (\$ millions)					
CET1 capital RWA	\$ 216,144	\$ 203,321	\$ 168,996	\$ 156,107	\$ 141,250
Tier 1 capital RWA	216,303	203,321	169,322	156,401	141,446
Total capital RWA	216,462	203,321	169,601	156,652	141,739
Capital ratios					
CET1 ratio	11.4 %	10.6 %	11.3 %	10.8 %	10.3 %
Tier 1 capital ratio	12.9 %	12.1 %	12.8 %	12.5 %	12.2 %
Total capital ratio	14.9 %	13.8 %	14.8 %	15.0 %	15.5 %
Basel III leverage ratio					
Leverage ratio exposure (\$ millions)	\$ 653,946	\$ 610,353	\$ 545,480	\$ 502,552	n/a
Leverage ratio	4.3 %	4.0 %	4.0 %	3.9 %	n/a
Liquidity coverage ratio (LCR) ⁽⁷⁾	128 %	120 %	124 %	119 %	n/a
Other information					
Full-time equivalent employees	44,220	44,928	43,213	44,201	44,424

(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 2018, 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 60,764 restricted shares as at October 31, 2018 (2017: 190,285).

(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 \$1,834.0 billion as at October 31, 2018 (2017: \$1,723.9 billion).

(6) AUM amounts are included in the amounts reported under AUA.

(7) Average for the three months ended October 31 for each respective year.

n/a Not applicable.

2018 Financial results

Reported net income for the year was \$5,284 million, compared with \$4,718 million in 2017. CIBC Bank USA contributed \$407 million to net income, compared with \$96 million in 2017. Last year only included the results of CIBC Bank USA following the acquisition on June 23, 2017.

Adjusted net income⁽¹⁾ for the year was \$5,541 million, compared with \$4,665 million in 2017.

Reported diluted EPS for the year was \$11.65, compared with \$11.24 in 2017.

Adjusted diluted EPS⁽¹⁾ for the year was \$12.21, compared with \$11.11 in 2017.

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 FirstCaribbean International Bank Limited (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.

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⁽²⁾ 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);
- \$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);
- \$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); and
- \$18 million (\$13 million after-tax) reduction in the portion of the collective allowance recognized in Corporate and Other⁽³⁾ 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.

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

(2) Transaction costs include legal and other advisory fees, financing costs associated with pre-funding the cash component of the merger consideration, and interest adjustments relating to 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.

(3) Relates to collective allowance (prior to the adoption of IFRS 9), except for: (i) residential mortgages greater than 90 days delinquent; (ii) personal loans and scored small business loans greater than 30 days delinquent; (iii) net write-offs for the card portfolio; and (iv) the collective allowance related to CIBC Bank USA, which are all reported in the respective SBUs.

Net interest income and margin

\$ millions, for the year ended October 31

	2018	2017	2016
Average interest-earning assets	\$ 536,059	\$ 485,837	\$ 445,134
Net interest income	10,065	8,977	8,366
Net interest margin on average interest-earning assets	1.88 %	1.85 %	1.88 %

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.

Net interest margin on average interest-earning assets was up three basis points due to higher net interest income. The impact of higher net interest income was partially offset by higher average interest-earning assets, mainly driven by growth across CIBC's businesses.

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	2018	2017	2016
Underwriting and advisory fees	\$ 420	\$ 452	\$ 446
Deposit and payment fees	877	843	832
Credit fees	851	744	638
Card fees	510	463	470
Investment management and custodial fees ⁽¹⁾⁽²⁾	1,247	1,034	882
Mutual fund fees ⁽²⁾	1,624	1,573	1,462
Insurance fees, net of claims	431	427	396
Commissions on securities transactions	357	349	342
Gains (losses) from financial instruments measured/designated at fair value through profit or loss (FVTPL), net (2017 and 2016: Trading income (loss) and designated at fair value (FVO) gains (losses), net) ⁽³⁾⁽⁴⁾	603	227	(71)
Gains (losses) from debt securities measured at fair value through other comprehensive income (FVOCI) and amortized cost, net (2017 and 2016: Available-for-sale (AFS) securities gains, net)	(35)	143	73
Foreign exchange other than trading	310	252	367
Income from equity-accounted associates and joint ventures ⁽¹⁾	121	101	96
Other	453	695	736
	\$ 7,769	\$ 7,303	\$ 6,669

(1) Custodial fees directly recognized by CIBC are included in Investment management and custodial fees, and 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) Prior period amounts were reclassified to conform to the presentation adopted in the current year.

(4) Includes \$46 million (2017: \$1 million) of income relating to non-trading financial instruments measured/designated at FVTPL.

Non-interest income was up \$466 million or 6% from 2017. 2017 only included the results of CIBC Bank USA following the acquisition on June 23, 2017.

Credit fees were up \$107 million or 14%, primarily due to higher commercial lending volumes.

Investment management and custodial fees were up \$213 million or 21%, primarily due to average AUM and AUA growth in our wealth management businesses.

Mutual fund fees were up \$51 million or 3%, mainly driven by market appreciation and net sales of mutual funds.

Gains (losses) from financial instruments measured/designated at FVTPL, net (2017 and 2016: Trading income (loss) and designated at fair value (FVO) gains (losses), net) was up \$376 million or 166%, primarily due to higher trading income. See the "Trading activities (TEB)" section which follows for further details.

Gains (losses) from debt securities measured at FVOCI and amortized cost, net (2017 and 2016: Available-for-sale (AFS) securities gains, net) were down \$178 million or 124%, primarily due to 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, and lower investment portfolio gains in Capital Markets.

Foreign exchange other than trading was up \$58 million or 23%, primarily due to higher revenue from hedging activities.

Other was down \$242 million or 35%, as the prior year included a gain on the sale and lease back of certain retail properties, shown as an item of note.

Trading activities (TEB)

\$ millions, for the year ended October 31	2018	2017	2016
Trading income (loss) consists of:			
Net interest income ⁽¹⁾	\$ 856	\$ 1,143	\$ 1,482
Non-interest income	557	226	(88)
	\$ 1,413	\$ 1,369	\$ 1,394
Trading income by product line:			
Interest rates	\$ 246	\$ 276	\$ 293
Foreign exchange	573	524	511
Equities	452	401	453
Commodities	94	111	106
Other	48	57	31
	\$ 1,413	\$ 1,369	\$ 1,394

(1) Includes taxable equivalent basis (TEB) adjustment of \$278 million (2017: \$298 million; 2016: \$474 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 (2017 and 2016: held-for-trading) 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 \$44 million or 3% from 2017, primarily due to higher equity and foreign exchange trading income, partially offset by lower interest rate and commodities trading income.

Provision for credit losses⁽¹⁾

\$ millions, for the year ended October 31

	2018	2017	2016
	In accordance with IFRS 9	In accordance with IAS 39	In accordance with IAS 39
Provision for (reversal of) credit losses – impaired			
Canadian Personal and Small Business Banking	\$ 760	\$ 760	\$ 728
Canadian Commercial Banking and Wealth Management	15	16	29
U.S. Commercial Banking and Wealth Management	67	37	(2)
Capital Markets	8	(4)	155
Corporate and Other	102	20	22
	952	829	932
Provision for (reversal of) credit losses – performing			
Canadian Personal and Small Business Banking	(19)	6	8
Canadian Commercial Banking and Wealth Management	(10)	n/a	n/a
U.S. Commercial Banking and Wealth Management	12	47	n/a
Capital Markets	(38)	n/a	n/a
Corporate and Other	(27)	(53)	111
	(82)	–	119
	\$ 870	\$ 829	\$ 1,051

(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 \$41 million or 5% from 2017. Provision for credit losses on impaired loans was up \$123 million, primarily due to higher loan losses in CIBC FirstCaribbean and CIBC Bank USA. The higher loan losses 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 has improved since our adoption of IFRS 9 on November 1, 2017, and the transfer of certain loans to the impaired portfolio.

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

	2018	2017	2016
Employee compensation and benefits			
Salaries	\$ 2,934	\$ 2,738	\$ 2,741
Performance-based compensation	1,966	1,745	1,580
Benefits	765	715	661
	5,665	5,198	4,982
Occupancy costs	875	822	804
Computer, software and office equipment	1,742	1,630	1,398
Communications	315	317	319
Advertising and business development	327	282	269
Professional fees	226	229	201
Business and capital taxes	103	96	68
Other	1,005	997	930
	\$ 10,258	\$ 9,571	\$ 8,971

Non-interest expenses increased by \$687 million or 7% from 2017, primarily due to the inclusion of the non-interest expenses of CIBC Bank USA for the full year of \$666 million (2017: \$244 million).

Employee compensation and benefits increased by \$467 million or 9%, primarily due to higher salaries and performance-based compensation, largely driven by the inclusion of employee compensation and benefits relating to CIBC Bank USA employees for the full year.

Computer, software and office equipment increased by \$112 million or 7%, primarily due to higher spending on strategic initiatives and the inclusion of expenses relating to CIBC Bank USA for the full year.

Taxes

\$ millions, for the year ended October 31	2018	2017	2016
Income taxes	\$ 1,422	\$ 1,162	\$ 718
Indirect taxes ⁽¹⁾			
Goods and Services Tax (GST), Harmonized Sales Tax (HST) and sales taxes	354	390	361
Payroll taxes	271	242	239
Capital taxes	68	61	38
Property and business taxes	77	72	71
Total indirect taxes	770	765	709
Total taxes	\$ 2,192	\$ 1,927	\$ 1,427
Reported effective tax rate	21.2 %	19.8 %	14.3 %
Total taxes as a percentage of net income before deduction of total taxes	29.3 %	29.0 %	24.9 %

(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 up \$265 million from 2017.

Income tax expense was \$1,422 million, 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.

Indirect taxes were up \$5 million, primarily due to the inclusion of the results of CIBC Bank USA for the full year, partially offset by lower sales taxes.

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. 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. The BEAT provision is applicable to CIBC in fiscal 2019. CIBC continues to evaluate the impact of BEAT 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 Tax Court of Canada trial on the deductibility of the Enron payments is set to commence in January 2019. Should we successfully defend our tax filing position in its entirety, we would recognize an additional accounting tax benefit of \$231 million and taxable refund interest of approximately \$210 million. Should we fail to defend our position in its entirety, we would incur an additional tax expense of approximately \$820 million and non-deductible interest of approximately \$157 million.

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 \$298 million of additional income tax by denying the tax deductibility of certain 2011 and 2012 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 June 2018, the CRA reassessed CIBC in respect of the 2013 taxation year for approximately \$229 million of additional taxes. 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.

The statutory income tax rate applicable to CIBC as a legal entity was 26.5% in 2018. The rate is expected to remain the same in future years.

For a reconciliation of our income taxes in the consolidated statement of income with the combined Canadian federal and provincial income tax rate, see Note 19 to 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	2018 vs. 2017	2017 vs. 2016	2016 vs. 2015
Estimated increase (decrease) in:			
Total revenue	\$ (55)	\$ (36)	\$ 117
Provision for credit losses	(2)	(1)	8
Non-interest expenses	(30)	(20)	61
Income taxes	(3)	(1)	–
Net income	(20)	(14)	48
Impact on EPS:			
Basic	\$ (0.05)	\$ (0.03)	\$ 0.12
Diluted	(0.05)	(0.03)	0.12
Average USD appreciation (depreciation) relative to CAD	(1.5) %	(1.3) %	5.6 %

Significant events

Launch of CIBC Innovation Banking and acquisition of Wellington Financial

On January 8, 2018, CIBC announced 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. As part of the launch of CIBC Innovation Banking, and to further deepen its capabilities and complement CIBC Bank USA's existing commercial banking team, on January 5, 2018, CIBC acquired the loan assets of Wellington Financial Fund V LP (Wellington Financial) and its management team for a combination of cash, common shares, and exchangeable shares. Based in Toronto with a U.S. presence in New York City and Menlo Park, Wellington Financial was a leading, privately-held provider of growth capital to early and mid-stage technology companies. 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. For additional information, see Note 3 to our consolidated financial statements.

Aeroplan developments

Air Canada announced on May 11, 2017, that it would not be renewing its exclusive Aeroplan partnership with Aimia Inc. (Aimia) upon the expiry of the contract on June 29, 2020. CIBC's Aeroplan clients would not be immediately impacted by this announcement, as Aeroplan members may continue to collect and redeem Aeroplan Miles for Air Canada travel until Aimia's contract with Air Canada expires. On August 21, 2018, Air Canada, The Toronto-Dominion Bank, CIBC and Visa Canada Corporation announced that an agreement in principle with Aimia had been reached for the purchase of the Aeroplan loyalty business for cash of \$450 million and the assumption of the Aeroplan Miles liability of approximately \$1.9 billion. Definitive agreements were signed on November 26, 2018, including credit card agreements securing CIBC's participation in Air Canada's new loyalty program for a period of 10 years, conditional upon completion of Air Canada's acquisition of the Aeroplan loyalty business. If finalized, this arrangement will allow our Aeroplan clients to transfer their Aeroplan Miles to Air Canada's new loyalty program, expected to launch in 2020. The agreements are subject to Aimia shareholder approval and certain other closing conditions, including receipt of applicable regulatory approvals. Upon closing, CIBC will contribute \$200 million plus applicable sales tax towards this transaction, which we expect to recognize as an expense in 2019. In addition, we will make a payment of \$92 million plus applicable sales tax to Air Canada, at closing, as a prepayment to be applied towards future monthly payments in respect of Aeroplan Miles. We expect to recognize this prepayment as a charge to net income over the term of the new credit card agreement with Air Canada as loyalty points are purchased.

Fourth quarter review

\$ millions, except per share amounts, for the three months ended

	2018				2017			
	Oct. 31	Jul. 31	Apr. 30	Jan. 31	Oct. 31	Jul. 31	Apr. 30	Jan. 31
Revenue								
Canadian Personal and Small Business Banking	\$ 2,201	\$ 2,176	\$ 2,090	\$ 2,138	\$ 2,093	\$ 2,039	\$ 1,937	\$ 2,303
Canadian Commercial Banking and Wealth Management	986	988	937	954	922	903	886	879
U.S. Commercial Banking and Wealth Management ⁽¹⁾	457	448	429	432	422	239	102	113
Capital Markets ⁽¹⁾	649	752	710	801	622	679	692	830
Corporate and Other ⁽¹⁾	159	183	210	134	210	244	81	84
Total revenue	\$ 4,452	\$ 4,547	\$ 4,376	\$ 4,459	\$ 4,269	\$ 4,104	\$ 3,698	\$ 4,209
Net interest income	\$ 2,539	\$ 2,577	\$ 2,476	\$ 2,473	\$ 2,464	\$ 2,276	\$ 2,095	\$ 2,142
Non-interest income	1,913	1,970	1,900	1,986	1,805	1,828	1,603	2,067
Total revenue	4,452	4,547	4,376	4,459	4,269	4,104	3,698	4,209
Provision for credit losses ⁽²⁾	264	241	212	153	229	209	179	212
Non-interest expenses	2,591	2,572	2,517	2,578	2,570	2,452	2,275	2,274
Income before income taxes	1,597	1,734	1,647	1,728	1,470	1,443	1,244	1,723
Income taxes	329	365	328	400	306	346	194	316
Net income	\$ 1,268	\$ 1,369	\$ 1,319	\$ 1,328	\$ 1,164	\$ 1,097	\$ 1,050	\$ 1,407
Net income attributable to:								
Non-controlling interests	\$ 2	\$ 4	\$ 6	\$ 5	\$ 5	\$ 4	\$ 5	\$ 5
Equity shareholders	1,266	1,365	1,313	1,323	1,159	1,093	1,045	1,402
EPS								
– basic	\$ 2.81	\$ 3.02	\$ 2.90	\$ 2.96	\$ 2.60	\$ 2.61	\$ 2.59	\$ 3.50
– diluted	2.80	3.01	2.89	2.95	2.59	2.60	2.59	3.50

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

(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 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.

Compared with Q4/17

Net income for the quarter was \$1,268 million, up \$104 million or 9% from the fourth quarter of 2017.

Net interest income was up \$75 million or 3%, primarily due to volume growth and wider spreads in personal and commercial products, partially offset by lower trading income.

Non-interest income was up \$108 million or 6%, primarily due to higher trading income and higher investment management and custodial fees driven by higher average AUM and AUA, partially offset by 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.

Provision for credit losses was up \$35 million or 15% from the same quarter last year, primarily due to higher loan losses in CIBC FirstCaribbean, which included losses on sovereign loans resulting from the Barbados government debt restructuring, shown as an item of note. Provision for credit losses on performing loans was down, as the same quarter last year included \$35 million relating to the establishment of a collective allowance (prior to our adoption of IFRS 9) for new loan originations and renewals of acquired loans relating to CIBC Bank USA, shown as an item of note. The current quarter included a reversal of credit losses on performing loans arising from model parameter updates related to CIBC FirstCaribbean, whereas the same quarter last year included a reduction in the collective allowance (prior to our adoption of IFRS 9).

Non-interest expenses were up \$21 million or 1%, primarily due to higher spending on strategic initiatives and higher performance-based compensation. The increase was partially offset as the same quarter last year included fees and charges related to the launch of Simplii Financial and the related wind-down of President's Choice Financial, as well as higher transaction and integration-related costs associated with the acquisition of The PrivateBank, both shown as items of note.

Income tax expense was up \$23 million or 8%, primarily due to higher income.

Compared with Q3/18

Net income for the quarter was down \$101 million or 7% from the prior quarter.

Net interest income was down \$38 million or 1%, primarily due to lower trading income partially offset by higher treasury revenue.

Non-interest income was down \$57 million or 3%, primarily due to incremental losses on debt securities measured at FVOCI as a result of the Barbados government debt restructuring noted above, and lower underwriting and advisory fees, partially offset by higher trading income.

Provision for credit losses was up \$23 million or 10% from the prior quarter, primarily due to a higher provision for credit losses on performing loans relating to CIBC Bank USA, as well as portfolio growth in the personal lending portfolio. The current quarter included negative credit migrations within the performing loan portfolio in CIBC Bank USA, whereas the prior quarter included a reversal of credit losses driven by positive credit migration and transfers to the impaired portfolio. The increase in provision for credit losses on performing loans was partially offset by a lower provision for credit losses on impaired loans in the personal lending and card portfolios, as well as the pre-existing U.S. real estate finance portfolio.

Non-interest expenses were up \$19 million or 1%, primarily due to higher spending on strategic initiatives, partially offset by lower performance-based and employee-related compensation.

Income tax expense was down \$36 million or 10%, 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 over the period. In 2017, strong volume growth was partially offset by narrower spreads attributable to a lower interest rate environment. Interest rates began to rise in the second half of 2017, contributing to a trend of slower volume growth and widening spreads that continued through 2018. The first quarter of 2017 included a gain on the sale and lease back of certain retail properties.

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 and positive net sales of long-term mutual funds. In 2017, volume growth was partially offset by a low interest rate environment. Increases in interest rates beginning in the latter half of 2017 contributed to improved margins beginning in the fourth quarter of 2017.

U.S. Commercial Banking and Wealth Management includes the revenue of CIBC Bank USA after the close of the acquisition on June 23, 2017.

U.S. Commercial Banking and Wealth Management has benefited from volume growth following the close of the acquisition.

Capital Markets revenue is influenced, to a large extent, by market conditions and activity in the equity derivatives business, which includes tax-exempt income. Tax-exempt income has been volatile over the periods shown above. The first quarters of 2017 and 2018 included higher trading revenue.

Corporate and Other includes the offset related to the TEB component of tax-exempt income reported in the revenue of Capital Markets and U.S. Commercial Banking and Wealth Management.

Provision for credit losses

In the first quarter of 2018, we adopted IFRS 9 and 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 is dependent upon the credit cycle in general, on the credit performance of the loan portfolios, and, following our adoption of IFRS 9, changes in economic outlook.

In Canadian Personal and Small Business Banking, the first quarter of 2018 included a reduction in allowance for performing loans, reflective of a relatively more positive economic outlook that improved in the first quarter of 2018.

In Canadian Commercial Banking and Wealth Management, the fourth quarters of 2017 and 2018 included higher losses in the commercial banking portfolio.

In U.S. Commercial Banking and Wealth Management, the loan losses of CIBC Bank USA have been included since the acquisition on June 23, 2017. The fourth quarter of 2017 included \$35 million relating to the establishment of a collective allowance (prior to our adoption of IFRS 9) for new loan originations and renewals of acquired loans relating to CIBC Bank USA. The third quarters of 2017 and 2018 included higher loan losses in our pre-existing U.S. real estate finance portfolio. The fourth quarter of 2018 included higher loan losses in CIBC Bank USA.

In Capital Markets, 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.

In Corporate and Other, the third and fourth quarters of 2018 included higher losses on impaired loans in CIBC FirstCaribbean resulting from the Barbados government debt restructuring. All quarters of 2017 included reductions in the collective allowance (prior to our adoption of IFRS 9).

Non-interest expenses

Non-interest expenses have fluctuated over the period largely due to changes in employee-related compensation and benefits, higher spending on strategic initiatives, and movement in foreign exchange rates. The fourth quarter of 2017 included fees and charges related to the launch of Simplii Financial and the related wind-down of the President's Choice Financial branded banking offer. The third quarter of 2017 included an increase in legal provisions in Corporate and Other, shown as an item of note. Non-interest expenses increased in the third quarter of 2017 and onward, as the results of CIBC Bank USA were included after the close of the acquisition on June 23, 2017.

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, partially offset by the resulting favourable impact on the effective tax rate in U.S. Commercial Banking and Wealth Management. Income taxes have increased beginning in the third quarter of 2017, primarily due to lower tax-exempt income and the inclusion of the results of CIBC Bank USA following the close of the acquisition on June 23, 2017.

Review of 2017 financial performance

\$ millions, for the year ended October 31		Canadian	Canadian	U.S. Commercial	Capital	Corporate	CIBC
		Personal and Small Business Banking	Commercial Banking and Wealth Management	Banking and Wealth Management ⁽¹⁾	Markets ⁽¹⁾	and Other ⁽¹⁾	Total
2017	Net interest income	\$ 5,752	\$ 984	\$ 545	\$ 1,647	\$ 49	\$ 8,977
	Non-interest income	2,193	3,045	331	1,164	570	7,303
	Intersegment revenue ⁽²⁾	427	(439)	–	12	–	–
	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	
2016	Net interest income	\$ 5,473	\$ 930	\$ 169	\$ 1,958	\$ (164)	\$ 8,366
	Non-interest income	1,896	2,732	216	787	1,038	6,669
	Intersegment revenue ⁽²⁾	379	(390)	–	11	–	–
	Total revenue	7,748	3,272	385	2,756	874	15,035
	Provision for (reversal of) credit losses	736	29	(2)	155	133	1,051
	Non-interest expenses	4,114	1,890	288	1,328	1,351	8,971
	Income (loss) before income taxes	2,898	1,353	99	1,273	(610)	5,013
	Income taxes	738	362	12	281	(675)	718
	Net income (loss)	\$ 2,160	\$ 991	\$ 87	\$ 992	\$ 65	\$ 4,295
	Net income (loss) attributable to:						
Non-controlling interests	\$ –	\$ –	\$ –	\$ –	\$ 20	\$ 20	
Equity shareholders	2,160	991	87	992	45	4,275	

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

(2) Intersegment revenue represents internal sales commissions and revenue allocations under the Manufacturer/Customer Segment/Distributor Management Model.

The following discussion provides a comparison of our results of operations for the years ended October 31, 2017 and 2016.

Overview

Net income for 2017 was \$4,718 million, compared with \$4,295 million in 2016. The increase in net income of \$423 million was due to higher revenue and a lower provision for credit losses, partially offset by higher non-interest expenses and income taxes.

Consolidated CIBC

Net interest income

Net interest income was up \$611 million or 7% from 2016, primarily due to volume growth across Canadian personal and commercial products, and the inclusion of the results of CIBC Bank USA following the close of the acquisition on June 23, 2017, which included \$45 million of accretion of the acquisition date fair value discount on the acquired loans, of which \$31 million was included as an item of note in the fourth quarter of 2017. These factors were partially offset by lower trading income and narrower Canadian personal and commercial spreads.

Non-interest income

Non-interest income was up \$634 million or 10% from 2016, primarily due to an increase in trading income, investment management and custodial fees, and mutual fund fees.

Provision for credit losses

Provision for credit losses was down \$222 million or 21% from 2016. In Canadian Personal and Small Business Banking, the provision was up primarily due to higher write-offs in the card and personal lending portfolios, and higher losses in the mortgage portfolio, partially offset by lower losses in the small business lending portfolio. In Canadian Commercial Banking and Wealth Management, the provision was down primarily due to lower losses in the commercial banking portfolio. In U.S. Commercial Banking and Wealth Management, 2017 included a provision for credit losses compared with a reversal of credit losses in 2016, primarily due to the establishment of a \$48 million collective allowance for new loan originations and renewals of acquired loans relating to CIBC Bank USA, of which \$35 million was shown as an item of note in the fourth quarter of 2017. In addition, 2017 included losses in the pre-existing U.S. real estate finance portfolio. In Capital Markets, 2017 included a reversal of credit losses compared with a provision for credit losses in 2016, primarily due to better performance in the oil and gas sector. 2016 also included losses in our exited European leveraged finance portfolio, shown as an item of note. In Corporate and Other, 2017 included a reversal of credit losses compared with a provision for credit losses in 2016. 2017 included a reduction in the collective allowance, shown as an item of note, which was net of a higher provision in the Caribbean region mainly due to the year's hurricanes. 2016 included increases in the collective allowance, shown as items of note.

Non-interest expenses

Non-interest expenses increased by \$600 million or 7% from 2016, primarily due to higher spending on strategic initiatives, the inclusion of the results of CIBC Bank USA and higher performance-based compensation. 2017 also included higher expenses arising from fees and charges related to the launch of Simplii Financial and the related wind-down of President's Choice Financial, and transaction and integration-related costs associated with the acquisition of The PrivateBank, both shown as items of note. The increase was partially offset by restructuring charges in 2016, primarily relating to employee severance, shown as an item of note.

Income taxes

Income tax expense was \$1,162 million, compared with \$718 million in 2016, largely due to substantially lower tax-exempt income and higher income in 2017. In addition, 2016 included income tax recoveries from the settlement of transfer pricing-related matters, and a change in our expected utilization of certain tax loss carryforwards, shown as items of note.

Revenue by segment

Canadian Personal and Small Business Banking

Revenue was up \$624 million or 8% from 2016, primarily due to volume growth, higher fees and a gain on the sale and lease back of certain retail properties, shown as an item of note, partially offset by narrower spreads and lower revenue from our exited FirstLine mortgage broker business.

Canadian Commercial Banking and Wealth Management

Revenue was up \$318 million or 10% from 2016. Commercial banking revenue was up primarily due to volume growth and higher fees, partially offset by narrower spreads. Wealth management revenue was up primarily due to higher investment management and custodial fees, and mutual fund fees from higher average AUM and AUA.

U.S. Commercial Banking and Wealth Management

Revenue was up \$491 million or 128% from 2016. Commercial banking revenue was up primarily due to the inclusion of the results of CIBC Bank USA and higher revenue in U.S. real estate finance. Wealth management revenue was up primarily due to the inclusion of the results of CIBC Bank USA, and growth in average AUM mainly due to the acquisition of Geneva Advisors. In addition, in 2017 this SBU included accretion of the acquisition date fair value discount on the acquired loans of The PrivateBank.

Capital Markets

Revenue was up \$67 million or 2% from 2016, primarily due to higher investment portfolio gains, higher debt underwriting activity, and higher revenue from corporate banking, partially offset by lower revenue from our equity derivatives, interest rate, and foreign exchange trading businesses.

Corporate and Other

Revenue was down \$255 million or 29% from 2016, as 2016 included a gain, net of transaction costs, on the sale of our minority investment in American Century Investments (ACI), and a gain on sale of a processing centre, both shown as items of note. The decrease was partially offset by a lower TEB adjustment and higher treasury revenue.

Outlook for calendar year 2019

Having reached full employment in most provinces, Canada's economy is likely to see a slight moderation in growth in 2019 as monetary policy aims at keeping inflation near 2% over the medium term. Real gross domestic product (GDP) growth is expected to decelerate in 2019 to just under 2%, with a further slowing to under 1.5% in 2020 as exports feel the impact of slower economic growth in the U.S. The economy is expected to continue operating at historically low unemployment rates in 2019. The Bank of Canada's overnight rate is expected to plateau at 2.25% in 2019, with inflation remaining moderate and the central bank seeking to keep the Canadian dollar range-bound to allow exports to advance. Housing construction should run at a slower pace, while capital spending by businesses should remain on a moderate growth path, with the energy sector awaiting greater assurance of pipeline access. Global crude oil benchmarks have weakened sharply on signs of slowing global growth, supply increases in the U.S., and a temporary easing of restraints on Iran. Global prices are likely to gradually recover if the Organization of the Petroleum Exporting Countries (OPEC) curtails supply and Iran sanctions re-tighten in 2019. Canadian heavy oil discounts are expected to remain wide by historical standards due to pipeline constraints, but could narrow somewhat as key U.S. refiners return to full production and some Canadian heavy oil producers reduce output.

The U.S. economy is expected to decelerate to just over 2% growth in 2019, and it is anticipated that tight labour markets will constrain Midwest regional growth to roughly that pace. A further slowing to 1.4% growth in 2020 is likely if fiscal policy tightens. The U.S. Federal Reserve is looking to moderate growth in order to hold inflation near 2%. The absence of fresh tax cut stimulus by 2020 and the potential for government spending restraints to tackle deficits should allow the U.S. Federal Reserve to let its benchmark rate plateau in 2019 near 3%, and open the door for an easing in policy in 2020.

Canadian Personal and Small Business Banking is expected to see a continuation of slow growth in consumer and mortgage lending, with demand constrained by higher interest rates, softer house price growth, and the past year's regulatory tightening.

Moderate growth in corporate earnings should support activity in Capital Markets and Canadian Commercial Banking and Wealth Management. Government bond issuance activity is anticipated to remain elevated due to provincial deficits and capital spending. Credit markets should remain healthy with low unemployment and moderate profit growth. Wealth management should benefit from ongoing growth in the pool of savings, but softer economic growth could constrain the extent to which assets under management benefit from equity price gains.

In U.S. Commercial Banking and Wealth Management, commercial banking should benefit from existing capacity constraints affecting many sectors as the need to expand capacity drives incremental financing requirements. Wealth management has benefited from the greater pool of after-tax savings, although a softer path for equity prices is expected to reduce the growth in assets under management. Interest rate hikes should remain mild enough to support growth in commercial lending activity, including real estate finance.

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 basis, 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 basis, 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		2018	2017	2016	2015	2014
Reported and adjusted diluted EPS						
Reported net income attributable to common shareholders	A	\$ 5,178	\$ 4,647	\$ 4,237	\$ 3,531	\$ 3,131
After-tax impact of items of note ⁽¹⁾		257	(53)	(191)	232	442
After-tax impact of items of note on non-controlling interests		(5)	–	–	(2)	(10)
Adjusted net income attributable to common shareholders ⁽²⁾	B	\$ 5,430	\$ 4,594	\$ 4,046	\$ 3,761	\$ 3,563
Diluted weighted-average common shares outstanding (thousands)	C	444,627	413,563	395,919	397,832	398,420
Reported diluted EPS (\$)	A/C	\$ 11.65	\$ 11.24	\$ 10.70	\$ 8.87	\$ 7.86
Adjusted diluted EPS (\$) ⁽²⁾	B/C	12.21	11.11	10.22	9.45	8.94
Reported and adjusted efficiency ratio						
Reported total revenue	D	\$ 17,834	\$ 16,280	\$ 15,035	\$ 13,856	\$ 13,363
Pre-tax impact of items of note ⁽¹⁾		(2)	(305)	(505)	(40)	(276)
TEB		280	300	474	482	421
Adjusted total revenue (TEB) ⁽²⁾	E	\$ 18,112	\$ 16,275	\$ 15,004	\$ 14,298	\$ 13,508
Reported non-interest expenses	F	\$ 10,258	\$ 9,571	\$ 8,971	\$ 8,861	\$ 8,512
Pre-tax impact of items of note ⁽¹⁾		(194)	(259)	(262)	(338)	(539)
Adjusted non-interest expenses ⁽²⁾	G	\$ 10,064	\$ 9,312	\$ 8,709	\$ 8,523	\$ 7,973
Reported efficiency ratio	F/D	57.5 %	58.8 %	59.7 %	63.9 %	63.7 %
Adjusted efficiency ratio ⁽²⁾	G/E	55.6 %	57.2 %	58.0 %	59.6 %	59.0 %
Reported and adjusted dividend payout ratio						
Dividends paid to common shareholders	H	\$ 2,356	\$ 2,121	\$ 1,879	\$ 1,708	\$ 1,567
Reported dividend payout ratio	H/A	45.5 %	45.6 %	44.3 %	48.4 %	50.0 %
Adjusted dividend payout ratio ⁽²⁾	H/B	43.4 %	46.2 %	46.4 %	45.4 %	44.0 %
Reported and adjusted return on common shareholders' equity						
Average common shareholders' equity	I	\$ 31,184	\$ 25,393	\$ 21,275	\$ 18,857	\$ 17,067
Reported return on common shareholders' equity	A/I	16.6 %	18.3 %	19.9 %	18.7 %	18.3 %
Adjusted return on common shareholders' equity ⁽²⁾	B/I	17.4 %	18.1 %	19.0 %	19.9 %	20.9 %
Reported and adjusted effective tax rate						
Reported income before income taxes	J	\$ 6,706	\$ 5,880	\$ 5,013	\$ 4,224	\$ 3,914
Pre-tax impact of items of note ⁽¹⁾		220	(29)	(94)	298	408
Adjusted income before income taxes ⁽²⁾	K	\$ 6,926	\$ 5,851	\$ 4,919	\$ 4,522	\$ 4,322
Reported income taxes	L	\$ 1,422	\$ 1,162	\$ 718	\$ 634	\$ 699
Tax impact of items of note ⁽¹⁾		(37)	24	97	66	(34)
Adjusted income taxes ⁽²⁾	M	\$ 1,385	\$ 1,186	\$ 815	\$ 700	\$ 665
Reported effective tax rate	L/J	21.2 %	19.8 %	14.3 %	15.0 %	17.9 %
Adjusted effective tax rate ⁽²⁾	M/K	20.0 %	20.3 %	16.6 %	15.5 %	15.4 %

\$ 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
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 ⁽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	\$ 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
2014	Reported net income (loss)	\$ 2,459	\$ 470	n/a	\$ 869	\$ (583)	\$ 3,215
	After-tax impact of items of note ⁽¹⁾	(64)	15	n/a	18	473	442
	Adjusted net income (loss) ⁽²⁾	\$ 2,395	\$ 485	n/a	\$ 887	\$ (110)	\$ 3,657

(1) Reflects impact of items of note described under "2018 Financial results" section and below.

(2) Non-GAAP measure.

n/a Not available.

Impact of items of note in prior years

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 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⁽¹⁾;
- \$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.

2014

Net income was affected by the following items of note:

- \$543 million (\$543 million after-tax) of charges relating to CIBC FirstCaribbean, comprising a goodwill impairment charge of \$420 million (\$420 million after-tax) and loan losses of \$123 million (\$123 million after-tax), reflecting revised expectations on the extent and timing of the anticipated economic recovery in the Caribbean region (Corporate and Other);
- \$190 million (\$147 million after-tax) gain in respect of the Aeroplan transactions with Aimia and The Toronto Dominion Bank (TD), net of costs relating to the development of our enhanced travel rewards program (\$87 million after-tax in Canadian Personal and Small Business Banking, and \$60 million after-tax in Corporate and Other);
- \$112 million (\$82 million after-tax) charge relating to the incorporation of funding valuation adjustments (FVA) into the valuation of our uncollateralized derivatives (Capital Markets);
- \$78 million (\$57 million after-tax) gain, net of associated expenses, on the sale of an equity investment in our exited European leveraged finance portfolio (Capital Markets);
- \$52 million (\$30 million after-tax) gain within an equity-accounted investment in our merchant banking portfolio (Capital Markets);
- \$36 million (\$28 million after-tax) amortization of acquisition-related intangible assets (\$4 million after-tax in Canadian Personal and Small Business Banking, \$15 million after-tax in Canadian Commercial Banking and Wealth Management, and \$9 million after-tax in Corporate and Other);
- \$26 million (\$19 million after-tax) reduction in the portion of the collective allowance recognized in Corporate and Other⁽¹⁾, including lower estimated credit losses relating to the Alberta floods (Corporate and Other);
- \$26 million (\$19 million after-tax) charge resulting from operational changes in the processing of write-offs in Canadian Personal and Small Business Banking;
- \$22 million (\$12 million after-tax) loan losses in our exited U.S. leveraged finance portfolio (Capital Markets); and
- \$15 million (\$11 million after-tax) loss from the structured credit run-off business (Capital Markets).

The above items of note increased revenue by \$276 million, provision for credit losses by \$145 million, non-interest expenses by \$539 million, and income taxes by \$34 million. In aggregate, these items of note decreased net income by \$442 million.

(1) 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 – Administration, Client Connectivity and Innovation, Finance, Human Resources and Communications, Internal Audit, Risk Management, and Technology and Operations, 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 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.

In 2018, we adopted IFRS 9. See the “External reporting change” section for additional details.

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 risk inherent in our client-driven assets and liabilities is transfer priced into Treasury, it is 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.

As part of our adoption of IFRS 9 on November 1, 2017, we now 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 basis. In order to arrive at the TEB amount, the SBUs gross up tax-exempt revenue on certain securities to a TEB basis, 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 by focusing on three key strategic priorities:

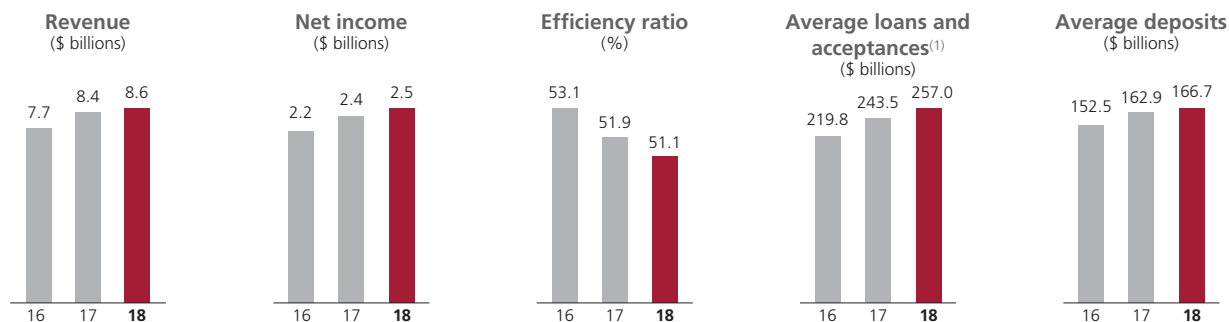
- Winning at relationships
- Delivering market-leading solutions
- Being easy to bank with

2018 progress

In 2018, we made good progress on our strategy.

Winning at relationships	Delivering market-leading solutions	Being easy to bank with
<ul style="list-style-type: none"> • For the fourth consecutive year, CIBC was ranked #1 in <i>Investment Executive</i> magazine's Report Card on Banks, as voted on by our advisors. • Introduced new specialized business advisor roles, focused on tailored advice and solutions for business owners, in addition to proactively connecting with thousands of existing and potential business clients through community outreach days. • Continued to invest in mobile advice for clients, bringing banking to our clients on their terms. • Launched an enhanced advisor capability program to further reinforce the existing capabilities of our Financial Advisors in our Imperial Service offer across Canada – including a focus on accreditation and financial planning. 	<ul style="list-style-type: none"> • Introduced a suite of U.S. banking solutions for Canadians transacting south of the border including the CIBC U.S. Personal Account, CIBC Bank USA Smart Account, and a U.S. Dollar Aventura Gold Visa Card. • Launched enhancements to our premium Aventura Visa card offer, including lounge access and Nexus card rebates. • For business owners and professionals in Canada, we introduced the CIBC Advanced Business Operating Account and CIBC Business Plus Credit Cards to help meet the diverse needs of our clients. 	<ul style="list-style-type: none"> • Launched Simplii Financial, CIBC's direct banking brand in Canada, and continued to invest in enhancing products and services for clients. • Earned the top score among the five largest Canadian banks for mobile banking for the fifth year in a row in Forrester Research's Mobile Banking benchmark study. • Won the Retail Banker International Best Branch Strategy award which aligns with our recently completed 150th banking centre transformation. This award recognizes the progress we have made in transforming our network to reflect evolving client needs. • Launched new digital credit card features to enhance the client experience, including features like Lock My Card which allows clients to lock their card remotely using their mobile device if they have lost it or suspect fraud. • Over the past year, continued to remove time spent on administration-related activities from our banking centres, including implementing cheque imaging and electronic processing, as well as reducing wait times. These efficiencies provide more time for our team members to serve clients.

2018 financial review



(1) Total average loans and acceptances includes FirstLine mortgages.

Our focus for 2019

We are continuing to deliver on our strategy with a clear focus on meeting the needs of our clients. Our priorities in 2019 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 the ease of managing their day-to-day banking.

Results⁽¹⁾

\$ millions, for the year ended October 31	2018	2017	2016
Revenue			
Personal and small business banking	\$ 8,556	\$ 8,033	\$ 7,675
Other	49	339	73
Total revenue	8,605	8,372	7,748
Provision for (reversal of) credit losses			
Impaired ⁽²⁾	760	760	728
Performing ⁽²⁾	(19)	6	8
Provision for credit losses	741	766	736
Non-interest expenses	4,395	4,348	4,114
Income before income taxes	3,469	3,258	2,898
Income taxes	922	838	738
Net income	\$ 2,547	\$ 2,420	\$ 2,160
Net income attributable to:			
Equity shareholders (a)	\$ 2,547	\$ 2,420	\$ 2,160
Efficiency ratio	51.1 %	51.9 %	53.1 %
Return on equity ⁽³⁾	67.2 %	64.3 %	58.7 %
Charge for economic capital ⁽³⁾ (b)	\$ (372)	\$ (367)	\$ (359)
Economic profit ⁽³⁾ (a+b)	\$ 2,175	\$ 2,053	\$ 1,801
Average assets (\$ billions)	\$ 259.1	\$ 246.3	\$ 222.6
Average loans and acceptances (\$ billions)	\$ 257.0	\$ 243.5	\$ 219.8
Average deposits (\$ billions)	\$ 166.7	\$ 162.9	\$ 152.5
Full-time equivalent employees	14,086	14,709	15,501

(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 up \$127 million or 5% from 2017, which included a gain on the sale and lease back of certain retail properties, shown as an item of note. Excluding the gain noted above, net income for the year was up primarily due to higher revenue, partially offset by higher non-interest expenses.

Revenue

Revenue was up \$233 million or 3% from 2017.

Personal and small business banking revenue was up \$523 million or 7%, primarily due to volume growth, wider spreads and higher fees.

Other revenue was down \$290 million or 86%, due to the gain noted above.

Provision for credit losses

Provision for credit losses was down \$25 million or 3% from 2017, primarily due to a reduction in allowance for performing loans in the current year, reflective of an economic outlook that has improved since our adoption of IFRS 9 on November 1, 2017.

Non-interest expenses

Non-interest expenses were up \$47 million or 1% from 2017, primarily due to higher spending on strategic initiatives that are supporting our transformation into a modern, convenient and relationship-focused bank, partially offset by reductions arising from our continued focus on expense management.

Income taxes

Income taxes were up \$84 million or 10% from 2017, primarily due to a lower effective tax rate on the gain in the prior year noted above and higher income in the current year.

Average assets

Average assets were up \$12.8 billion or 5% from 2017 due to growth across all products.

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. In addition, we provide 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:

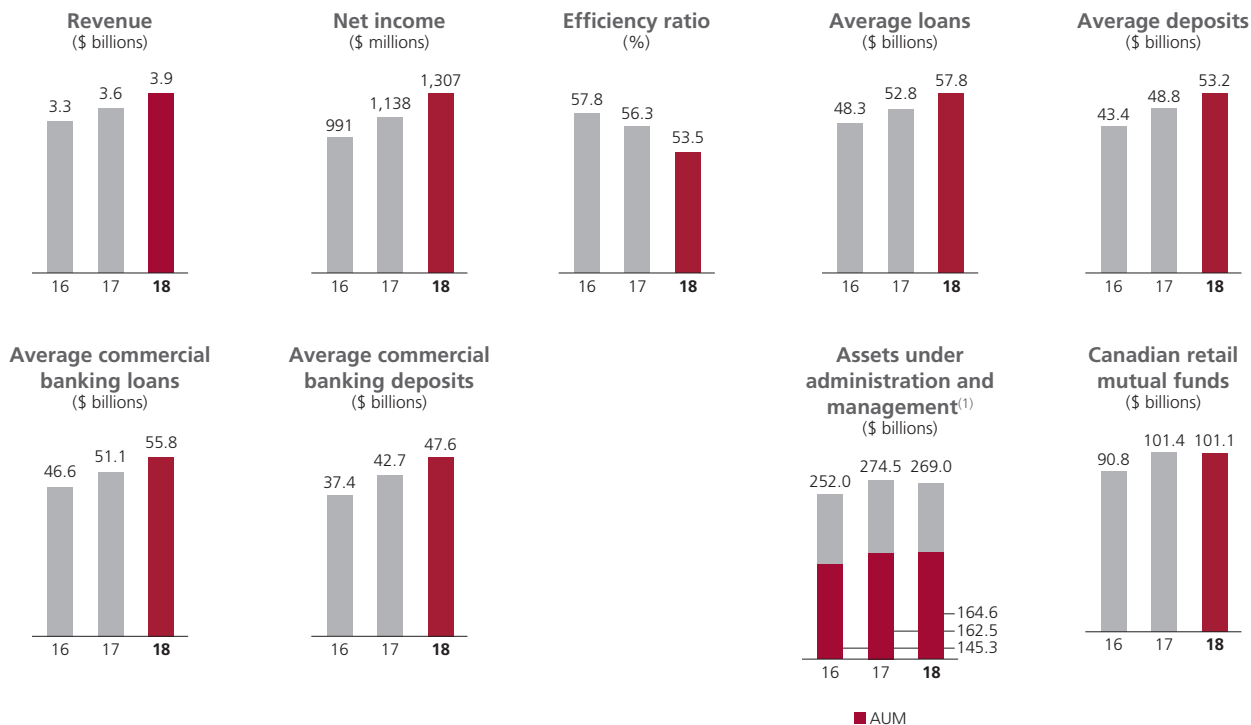
- Scaling commercial banking
- Increasing agility and efficiency in wealth management
- Deepening client relationships across our bank

2018 progress

In 2018, we made good progress on our strategy.

Scaling commercial banking	Increasing agility and efficiency in wealth management	Deepening client relationships across our bank
<ul style="list-style-type: none"> • Launched CIBC Innovation Banking, a business that delivers strategic advice and banking services to North American technology and innovation clients at each stage of their business cycle, from start-up to initial public offering and beyond. • Expanded our commercial banking team by adding cash management client service representatives, and allocated relationship managers to help meet the unique needs of public sector, professional services and not-for-profit companies. • Continued to meet clients' needs on both sides of the border through cross-border client referrals with CIBC Bank USA. 	<ul style="list-style-type: none"> • Launched the CIBC Multi-Asset Absolute Return Strategy, an alternative investment fund that aims to generate positive returns and manage volatility for clients in all market conditions. • Continued to focus on enhancing value for our clients by finding opportunities to simplify our product lineup and optimize costs. 	<ul style="list-style-type: none"> • Completed over 28,000 new financial plans for priority clients. • Co-located private bankers and commercial bankers in select locations across Canada to deliver a more integrated offer for clients. • Increased partnership referrals between private wealth management and commercial banking, deepening client relationships.

2018 financial review



(1) AUM amounts are included in the amounts reported under AUA.

Our focus for 2019

To build on our momentum across Canadian Commercial Banking and Wealth Management, we will continue to focus on client relationships 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;
- Investing in financial planning in support of our goal of being Canada's leader in financial advice; and
- Simplifying and optimizing our business to align with changing market dynamics, and to better meet the needs of our clients.

Results⁽¹⁾

\$ millions, for the year ended October 31	2018	2017	2016
Revenue			
Commercial banking	\$ 1,488	\$ 1,324	\$ 1,211
Wealth management	2,377	2,266	2,061
Total revenue	3,865	3,590	3,272
Provision for (reversal of) credit losses			
Impaired ⁽²⁾	15	16	29
Performing ⁽²⁾	(10)	n/a	n/a
Provision for credit losses	5	16	29
Non-interest expenses	2,068	2,021	1,890
Income before income taxes	1,792	1,553	1,353
Income taxes	485	415	362
Net income	\$ 1,307	\$ 1,138	\$ 991
Net income attributable to:			
Equity shareholders (a)	\$ 1,307	\$ 1,138	\$ 991
Efficiency ratio	53.5 %	56.3 %	57.8 %
Return on equity ⁽³⁾	39.8 %	37.6 %	34.5 %
Charge for economic capital ⁽³⁾ (b)	\$ (322)	\$ (295)	\$ (279)
Economic profit ⁽³⁾ (a+b)	\$ 985	\$ 843	\$ 712
Average assets (\$ billions)	\$ 55.7	\$ 50.8	\$ 46.6
Average loans (\$ billions)	\$ 57.8	\$ 52.8	\$ 48.3
Average deposits (\$ billions)	\$ 53.2	\$ 48.8	\$ 43.4
AUA (\$ billions)	\$ 269.0	\$ 274.5	\$ 252.0
AUM (\$ billions)	\$ 164.6	\$ 162.5	\$ 145.3
Full-time equivalent employees	4,999	5,081	4,986

(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 up \$169 million or 15% from 2017, primarily due to higher revenue, partially offset by higher non-interest expenses.

Revenue

Revenue was up \$275 million or 8% from 2017.

Commercial banking revenue was up \$164 million or 12%, primarily due to volume growth, wider spreads and higher fees.

Wealth management revenue was up \$111 million or 5%, 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.

Provision for credit losses

Provision for credit losses was down \$11 million or 69% from 2017, primarily due to a reduction in allowance for performing loans in the current year, driven by model parameter updates and an economic outlook that has improved since our adoption of IFRS 9 on November 1, 2017.

Non-interest expenses

Non-interest expenses were up \$47 million or 2% from 2017, primarily due to higher performance-based and employee-related compensation.

Income taxes

Income taxes were up \$70 million or 17% from 2017, primarily due to higher income.

Average assets

Average assets were up \$4.9 billion or 10% from 2017, primarily due to growth in commercial loans.

Assets under administration

AUA were down \$5.5 billion or 2% from 2017, primarily due to market conditions, in particular volatility in equity markets in the fourth quarter of 2018. 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 go-to 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 through long-term client relationships
- Enhancing our U.S. platform
- Investing to serve our clients

2018 progress

In 2018, we made strong progress on our strategy.

Growing organically through long-term client relationships	Enhancing our U.S. platform	Investing to serve our clients
<ul style="list-style-type: none"> • Achieved revenue growth, reflecting solid business performance and our continued focus on building full, profitable client relationships. • Generated solid 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 and added private banking services for wealth management clients, reflecting continued client development efforts. 	<ul style="list-style-type: none"> • Leveraged the combined strengths and resources of CIBC to better serve clients with cross-border banking needs and to expand relationships with U.S. large corporate clients. • Maintained focus on strong asset quality, which overall remained stable. • Unified the North American wealth business under the CIBC Private Wealth Management name to communicate the robust complement of investment management, wealth planning, trust and private banking services that we provide to our clients and their families. 	<ul style="list-style-type: none"> • Managed expenses while appropriately investing in our growth, with an efficiency ratio of 57.9% for 2018. • Introduced the CIBC Bank USA Smart Account, giving Canadian clients a U.S. based account that links to their Canadian accounts, and the CIBC Agility online savings account for U.S. clients, providing an important granular deposit-generating and brand-building platform. • Opened three new commercial banking offices and added private bankers to existing CIBC Private Wealth Management offices, adding a full complement of solutions in key markets.

2018 financial review

- Strong loan and deposit growth of 11% and 12%, respectively, reflecting our continued focus on building client relationships
- Asset quality remained stable, with non-performing assets representing 0.64% of total assets at October 31, 2018
- Year-over-year growth of 8% in AUA and 2% in AUM
- Four CIBC Private Wealth Management Advisors were ranked in *Barron's* 2018 Top Women Financial Advisors List

Our focus for 2019

We are building a relationship-focused bank. To build on our momentum, we will continue to align our focus in 2019 to CIBC's overall strategy and priorities. We will do this by:

- 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, while managing expenses; and
- Ensuring we maintain our risk discipline through selective evaluation of new opportunities, portfolio diversification, and quality of funding sources.

Results⁽¹⁾

\$ millions, for the year ended October 31	2018	2017 ⁽²⁾	2016
Revenue			
Commercial banking	\$ 1,197	\$ 532	\$ 166
Wealth management	563	324	217
Other	6	20	2
Total revenue ⁽³⁾⁽⁴⁾	1,766	876	385
Provision for (reversal of) credit losses			
Impaired ⁽⁵⁾	67	37	(2)
Performing ⁽⁵⁾	12	47	n/a
Provision for (reversal of) credit losses	79	84	(2)
Non-interest expenses	1,023	534	288
Income before income taxes	664	258	99
Income taxes ⁽³⁾	99	55	12
Net income	\$ 565	\$ 203	\$ 87
Net income attributable to:			
Equity shareholders (a)	\$ 565	\$ 203	\$ 87
Efficiency ratio	57.9 %	61.0 %	74.8 %
Return on equity ⁽⁶⁾	8.1 %	7.5 %	17.6 %
Charge for economic capital ⁽⁶⁾ (b)	\$ (664)	\$ (256)	\$ (48)
Economic profit ⁽⁶⁾ (a+b)	\$ (99)	\$ (53)	\$ 39
Average assets (\$ billions)	\$ 42.0	\$ 19.9	\$ 8.4
Average loans (\$ billions)	\$ 30.4	\$ 15.9	\$ 8.0
Average deposits (\$ billions)	\$ 22.3	\$ 7.6	\$ 0.1
AUA (\$ billions)	\$ 80.0	\$ 74.0	\$ 44.1
AUM (\$ billions)	\$ 60.0	\$ 58.7	\$ 38.0
Full-time equivalent employees	1,947	1,753	310

(1) For additional segmented information, see Note 30 to the consolidated financial statements.

(2) Certain information has been reclassified to conform to the funds transfer pricing methodology adopted in the current year relating to CIBC Bank USA.

(3) Revenue and income taxes are reported on a TEB basis. Accordingly, revenue and income taxes include a TEB adjustment of \$2 million (2017: \$2 million; 2016: nil). The equivalent amounts are offset in the revenue and income taxes of Corporate and Other.

(4) Included \$55 million of accretion of the acquisition date fair value discount on the acquired loans of The PrivateBank, shown as an item of note (2017: \$45 million, of which \$31 million was included as an item note in the fourth quarter of 2017).

(5) 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.

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

n/a Not applicable.

Financial overview

Net income was up \$362 million or 178% from 2017, primarily due to the inclusion of the results of CIBC Bank USA for the full year of \$407 million (2017: \$96 million). The prior year only included the results of CIBC Bank USA following the acquisition on June 23, 2017.

Revenue

Revenue was up \$890 million or 102% from 2017. CIBC Bank USA contributed \$1,257 million to revenue during the year (2017: \$448 million).

Commercial banking revenue was up \$665 million or 125%, 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.

Wealth management revenue was up \$239 million or 74%, 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, and growth in average AUA mainly due to the acquisition of Geneva Advisors in the fourth quarter of 2017.

Other revenue was down \$14 million or 70%, primarily due to the treasury activities of CIBC Bank USA.

Provision for credit losses

Provision for credit losses was down \$5 million or 6% from 2017. Provision for credit losses on impaired loans was up due to higher loan losses in CIBC Bank USA, partially offset by lower loan losses in the pre-existing U.S. real estate finance portfolio. Provision for credit losses on performing loans was down, primarily due to the establishment of a collective allowance (prior to our adoption of IFRS 9) for new loan originations and renewals of acquired loans relating to CIBC Bank USA in the prior year, of which \$35 million was shown as an item of note in the fourth quarter of 2017.

Non-interest expenses

Non-interest expenses were up \$489 million or 92% from 2017, primarily due to the inclusion of the non-interest expenses of CIBC Bank USA for the full year of \$666 million (2017: \$244 million), which included compensation expenses of \$32 million (2017: \$40 million) related to the retention of key employees.

Income taxes

Income taxes were up \$44 million or 80% from 2017, primarily due to higher income from the inclusion of the results of CIBC Bank USA for the full year, partially offset by a lower effective tax rate due to the U.S. tax reforms enacted in the first quarter of 2018.

Average assets

Average assets were up \$22.1 billion or 111% from 2017 due to the inclusion of the balances of CIBC Bank USA for the full year and growth in commercial loans.

Assets under administration

AUA were up \$6.0 billion or 8% from 2017, primarily due to the favourable 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 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:

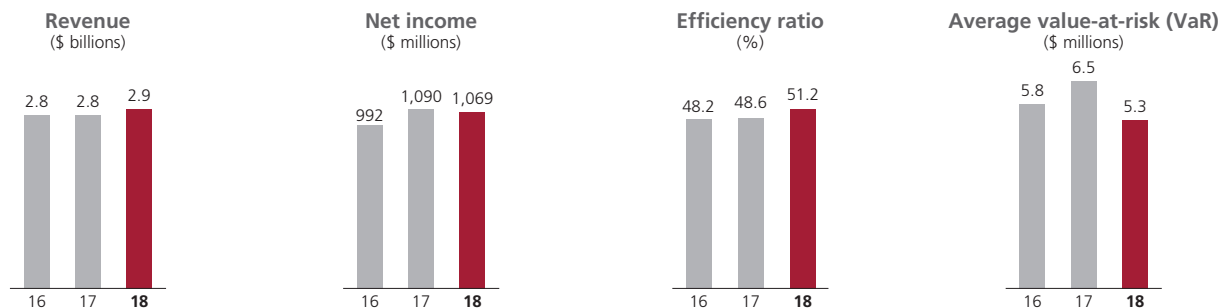
- Becoming the leading capital markets platform in Canada for our core clients
- Building a North American client platform with global capabilities
- Increasing connectivity across CIBC to deliver better service for clients

2018 progress

In 2018, we made good progress on our strategy.

Becoming 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
<ul style="list-style-type: none"> • Continued to hold leadership positions in syndicated loans, debt and equity underwriting, advisory services, equity trading, commodities and foreign exchange. • Supported our clients by investing in our talent, further developing our proprietary technology, expanding our structuring expertise and advice, and leveraging our market expertise. • 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. • Continued to shape our business around the new economy, building out dedicated teams in areas such as renewable energy, private capital, innovation, and infrastructure. 	<ul style="list-style-type: none"> • Completed the systems integration of U.S. based clients into our Chicago-based capital markets platform, enabling us to offer broader products and services to U.S. and cross-border clients. • Expanded our investment banking leadership and debt and equity capital markets and advisory talent to support commercial and corporate clients. • Launched our new 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. 	<ul style="list-style-type: none"> • Strengthened our no-fee CIBC Global Money Transfer service by increasing the number of countries to 75 and launching Remi, a chatbot making it easier for clients to send money abroad. • Digitalized our Foreign Cash offering enabling online check-out with flexible delivery options to a home address, a CIBC Banking Centre, or Toronto Pearson Airport, increasing convenience for our clients. • Launched our International Student Banking Offer providing international students with access to essential financial solutions to support their new lives in Canada including bank accounts and GICs. • Restructured our client teams to enhance partnerships with Commercial Banking and Wealth Management to bring our suite of wealth and capital markets solutions to small businesses, family offices, ultra high-net-worth clients, foundations and endowments.

2018 financial review



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

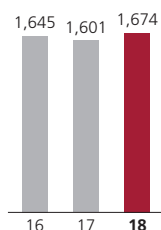
- Financial advisor to the shareholders of GFL Environmental Inc. on a transaction whereby BC Partners, Ontario Teachers' Pension Plan and other investors agreed to recapitalize the company's ownership at an implied enterprise value of \$5.1 billion;
- Financial advisor, co-lead arranger and joint bookrunner to Metro Inc. on the \$4.5 billion acquisition of the Jean Coutu Group Inc., \$3.4 billion committed bank facilities and \$1.2 billion senior unsecured notes offering;
- Joint lead manager and joint bookrunner on the inaugural \$1.5 billion green bond offering for CPPIB Capital Inc., which was the largest-ever Canadian dollar green bond;
- Bookrunner on a US\$650 million First Mortgage Bond offering for Public Service Electric & Gas representing CIBC's first active bookrunner role for the PSEG family and the third joint bookrunner title;

- Lead manager and joint bookrunner on \$405 million offering of subscription receipts and flow-through shares for NuVista Energy Ltd. in support of its acquisition of assets from Cenovus Energy Inc. with CIBC acting as exclusive financial advisor;
- Financial advisor to Superior Plus LP on its \$900 million acquisition of NGL Energy's Retail propane distribution business, as well as joint bookrunner on a concurrent \$400 million subscription receipt offering and a \$150 million high-yield note offering, and acted as co-underwriter of a \$400 million secured bridge loan facility. CIBC also executed related capital markets hedge transactions;
- Lead manager and joint bookrunner on \$288 million subscription receipts offering, co-lead arranger, joint bookrunner and administrative agent on \$1.4 billion in credit facilities for Transcontinental Inc. in support of its acquisition of Coveris Americas; and
- Lead manager and joint bookrunner on \$242 million initial public offering of common shares for MAV Beauty Brands Inc.

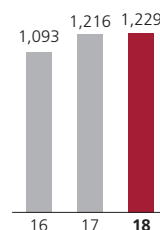
Capital Markets awards and recognition

- The Leader in Canadian Equity Trading – #1 in Volume, Value and Number of Trades, TSX and ATS Market Share Report, 2009 – present (IRESS Market Technology)
- Share Leader by *Greenwich Associates* in:
 - Overall Canadian Fixed Income Market Share Canadian Equity Trading Share (2018)
 - Canadian Equity Algo Trading Share (2018)
 - Canadian Equity Research/Advisory Vote Share (2017 – 2018)
 - Canadian Equity Trading Share (2017 – 2018)
- Quality Leader in Canadian Foreign Exchange Services Quality (2017 – 2018) by *Greenwich Associates*
- Multi-deal winner at the 2018 *IJGlobal Americas Deals of the Year Awards*:
 - North America Project Bond Deal of the Year – Indiana Toll Road Concession Company
 - North America Transmission Deal of the Year – Alberta Powerline, Fort McMurray West 500 kV Transmission Project
 - North America Social Infrastructure Deal of the Year – Ohio State University Utility System
 - North America Airport Deal of the Year – Bermuda Skyport
- CIBC Capital Markets was the #1 initial public offering underwriter in Canada by *Bloomberg* (2000 – 2018)
- Top Canadian Prime Broker, by *Alternative IQ* (2016 – 2018)

Revenue – Global markets
(\$ millions)



Revenue – Corporate and investment banking
(\$ millions)



Our focus for 2019

To support our bank's long-term objectives, Capital Markets remains focused on driving client-focused growth and collaborating with our partners across our bank to deepen and enhance client relationships. We will continue to do this by:

- Strengthening our leadership positions in Canada through our focused approach to client coverage;
- Growing our North American platform by further expanding our U.S. reach and broadening the services offered to clients, including the rollout of our U.S. Prime Service business, continued collaboration across teams in the U.S. to meet the needs of cross-border and U.S. domiciled clients across corporate and commercial markets; and
- Strengthening our connectivity, technology and innovation efforts to bring more of our bank's offering to our clients, including leveraging dedicated resources to drive growth and deepen relationships with personal banking, high-net-worth, and commercial banking clients.

Results⁽¹⁾

\$ millions, for the year ended October 31	2018	2017	2016
Revenue			
Global markets	\$ 1,674	\$ 1,601	\$ 1,645
Corporate and investment banking	1,229	1,216	1,093
Other	9	6	18
Total revenue ⁽²⁾	2,912	2,823	2,756
Provision for (reversal of) credit losses			
Impaired ⁽³⁾	8	(4)	155
Performing ⁽³⁾	(38)	n/a	n/a
Provision for (reversal of) credit losses	(30)	(4)	155
Non-interest expenses	1,492	1,373	1,328
Income before income taxes	1,450	1,454	1,273
Income taxes ⁽²⁾	381	364	281
Net income	\$ 1,069	\$ 1,090	\$ 992
Net income attributable to:			
Equity shareholders (a)	\$ 1,069	\$ 1,090	\$ 992
Efficiency ratio	51.2 %	48.6 %	48.2 %
Return on equity ⁽⁴⁾	39.4 %	35.5 %	30.6 %
Charge for economic capital ⁽⁴⁾ (b)	\$ (266)	\$ (299)	\$ (314)
Economic profit ⁽⁴⁾ (a+b)	\$ 803	\$ 791	\$ 678
Average assets (\$ billions)	\$ 166.2	\$ 156.4	\$ 154.8
Full-time equivalent employees	1,396	1,314	1,260

(1) For additional segmented information, see Note 30 to the consolidated financial statements.

(2) Revenue and income taxes are reported on a TEB basis. Accordingly, revenue and income taxes include a TEB adjustment of \$278 million (2017: \$298 million; 2016: \$474 million). The equivalent amounts are offset in the revenue and income taxes of Corporate and Other.

(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 SBU. In prior years, provision for credit losses on performing loans was recognized in Corporate and Other.

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

n/a Not applicable.

Financial overview

Net income was down \$21 million or 2% from 2017, primarily due to higher non-interest expenses and a higher effective tax rate, partially offset by higher revenue and a higher reversal of credit losses.

Revenue

Revenue was up \$89 million or 3% from 2017.

Global markets revenue was up \$73 million or 5%, primarily due to higher revenue from our foreign exchange and equity derivatives trading businesses and global markets financing activities, partially offset by lower revenue from the movement in reserves related to derivative client exposure and our commodities trading business.

Corporate and investment banking revenue was up \$13 million or 1%, primarily due to higher corporate banking and advisory revenue, partially offset by lower investment portfolio gains and lower revenue from equity and debt underwriting.

Other revenue was comparable with the prior year.

Provision for (reversal of) credit losses

Reversal of credit losses was up \$26 million from 2017, primarily due to a reduction in allowance for performing loans in the current year, driven by improvements in the oil and gas sector and an economic outlook that has improved since our adoption of IFRS 9 on November 1, 2017. The current year also included a provision for credit losses on impaired loans compared with a reversal of credit losses on impaired loans in the prior year due to recoveries in the oil and gas sector.

Non-interest expenses

Non-interest expenses were up \$119 million or 9% from 2017, primarily due to higher performance-based and employee-related compensation and spending on strategic initiatives.

Income taxes

Income taxes were up \$17 million or 5% from 2017, primarily due to the impact of changes in the proportion of income subject to varying rates of tax in different jurisdictions.

Average assets

Average assets were up \$9.8 billion or 6% from 2017, primarily due to an increase in securities purchased under resale agreement and loan balances, partially offset by lower trading securities.

Corporate and Other

Corporate and Other includes the following functional groups – Administration, Client Connectivity and Innovation, Finance, Human Resources and Communications, Internal Audit, Risk Management, and Technology and Operations, 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 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	2018	2017	2016
Revenue			
International banking	\$ 663	\$ 723	\$ 722
Other	23	(104)	152
Total revenue ⁽²⁾	686	619	874
Provision for (reversal of) credit losses			
Impaired ⁽³⁾	102	20	22
Performing ⁽³⁾	(27)	(53)	111
Provision for (reversal of) credit losses	75	(33)	133
Non-interest expenses	1,280	1,295	1,351
Loss before income taxes	(669)	(643)	(610)
Income taxes ⁽²⁾	(465)	(510)	(675)
Net income (loss)	\$ (204)	\$ (133)	\$ 65
Net income (loss) attributable to:			
Non-controlling interests	\$ 17	\$ 19	\$ 20
Equity shareholders	(221)	(152)	45
Full-time equivalent employees	21,792	22,071	21,156

(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 basis. 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 \$280 million (2017: \$300 million; 2016: \$474 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 up \$71 million or 53% from 2017, primarily due to a provision for credit losses compared with a reversal of credit losses in 2017 and a lower income tax benefit, partially offset by higher revenue and lower non-interest expenses.

Revenue

Revenue was up \$67 million or 11% from 2017.

International banking revenue was down \$60 million or 8% from 2017, primarily due to 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.

Other revenue was up \$127 million or 122% from 2017, primarily due to higher treasury revenue.

Provision for (reversal of) credit losses

Provision for credit losses was \$75 million, compared with a reversal of credit losses of \$33 million in 2017. Provision for credit losses on impaired loans was up due to higher loan losses 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. Reversal of credit losses on performing loans was down, as the prior year included reductions in the collective allowance (prior to our adoption of IFRS 9), while the current year included a reduction in allowance driven by model parameter updates relating to CIBC FirstCaribbean and the transfer of certain sovereign loans to the impaired portfolio as a result of the Barbados government debt restructuring noted above.

Non-interest expenses

Non-interest expenses were down \$15 million or 1% from 2017, primarily due to lower corporate support costs and an increase in legal provisions in 2017, shown as an item of note. The decrease was partially offset by higher spending on strategic initiatives and higher performance-based compensation.

Income taxes

Income tax benefit was down \$45 million, 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, partially offset by a \$19 million tax recovery relating to realized losses arising from the Barbados government debt restructuring, shown as an item of note, and a \$16 million tax recovery relating to the utilization of certain tax loss carryforwards.

Financial condition

Review of condensed consolidated balance sheet

\$ millions, as at October 31	2018	2017
Assets		
Cash and deposits with banks	\$ 17,691	\$ 14,152
Securities	101,664	93,419
Securities borrowed or purchased under resale agreements	48,938	45,418
Loans and acceptances	381,661	365,558
Derivative instruments	21,431	24,342
Other assets	25,714	22,375
	\$ 597,099	\$ 565,264
Liabilities and equity		
Deposits	\$ 461,015	\$ 439,706
Obligations related to securities lent or sold short or under repurchase agreements	47,353	43,708
Derivative instruments	20,973	23,271
Acceptances	10,296	8,828
Other liabilities	18,266	15,305
Subordinated indebtedness	4,080	3,209
Equity	35,116	31,237
	\$ 597,099	\$ 565,264

Assets

Total assets as at October 31, 2018 were up \$31.8 billion or 6% from 2017, of which approximately \$3 billion was the result of appreciation of the U.S. dollar.

Cash and deposits with banks increased by \$3.5 billion or 25%, mainly due to higher short-term placements in Treasury.

Securities increased by \$8.2 billion or 9%, comprised primarily of an increase in debt securities issued or guaranteed by Canadian governments, partially offset by a decrease in corporate equity and mortgage-backed securities. 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 \$3.5 billion or 8%, primarily due to client-driven activities.

Net loans and acceptances increased by \$16.1 billion or 4%, due to an increase in business and government loans and personal 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 decreased by \$2.9 billion or 12%, largely driven by a decrease in interest rate and foreign exchange derivatives valuation, partially offset by an increase in other commodity derivatives valuation.

Other assets increased by \$3.3 billion or 15%, primarily due to an increase in broker receivables, collateral pledged for derivatives and current tax receivable.

Liabilities

Total liabilities as at October 31, 2018 were up \$28.0 billion or 5% from 2017, of which approximately \$3 billion was the result of appreciation of the U.S. dollar.

Deposits increased by \$21.3 billion or 5%, primarily due to increased wholesale funding, and domestic retail volume growth. 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 \$3.6 billion or 8%, primarily due to client-driven activities.

Derivative instruments decreased by \$2.3 billion or 10%, largely driven by a decrease in foreign exchange and interest rate derivatives valuation, partially offset by an increase in equity derivatives valuation.

Acceptances increased by \$1.5 billion or 17%, driven by changes in client activities.

Other liabilities increased by \$3.0 billion or 19%, primarily due to an increase in broker payables, accounts payable and collateral received for derivatives.

Subordinated indebtedness increased by \$0.9 billion or 27%, mainly due to the issuance in the second quarter of 2018, net of redemptions in the third quarter of 2018. For further details see the "Capital resources" section.

Equity

Equity as at October 31, 2018 increased \$3.9 billion or 12% from 2017, primarily due to a net increase in retained earnings, which includes an opening equity charge of \$0.1 billion related to the adoption of IFRS 9, and the issuance of common and preferred shares.

Capital resources

Our capital strength protects our depositors and creditors from risks inherent in our businesses, allows us to absorb unexpected losses, and enables us to take advantage of attractive business opportunities. It also enables us to maintain a favourable credit standing and to raise additional capital or other funding on attractive terms. Our objective is to maintain a strong and efficient capital base. Capital needs to be monitored and rebalanced continually; we manage and monitor our capital to maximize risk-adjusted return to shareholders and to maintain a sufficient capital buffer to ensure that we meet regulatory requirements.

Regulatory capital requirements under Basel III

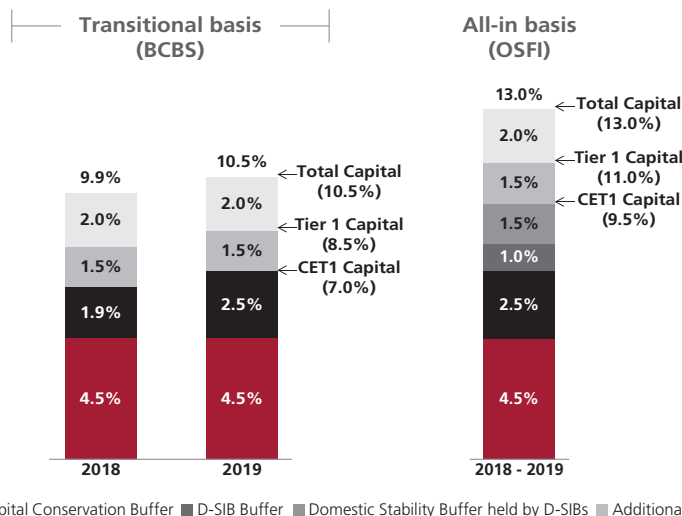
Our regulatory capital requirements are determined in accordance with guidelines issued by OSFI, which are based upon the risk-based capital standards developed by the Basel Committee on Banking Supervision (BCBS).

Regulatory capital consists of CET1, Tier 1 and Tier 2 capital. OSFI requires all institutions to achieve target capital ratios that meet or exceed the 2019 all-in minimum ratios plus a conservation buffer. "All-in" is defined by OSFI as capital calculated to include all of the regulatory adjustments that will be required by 2019, but retaining the phase-out rules for non-qualifying capital instruments. Certain deductions from CET1 capital that were phased in at a rate of 20% per year from 2014 for the calculation of capital under the transitional rules are now fully deducted, and therefore beginning in the first quarter of 2018, there is no longer a determination of transitional capital.

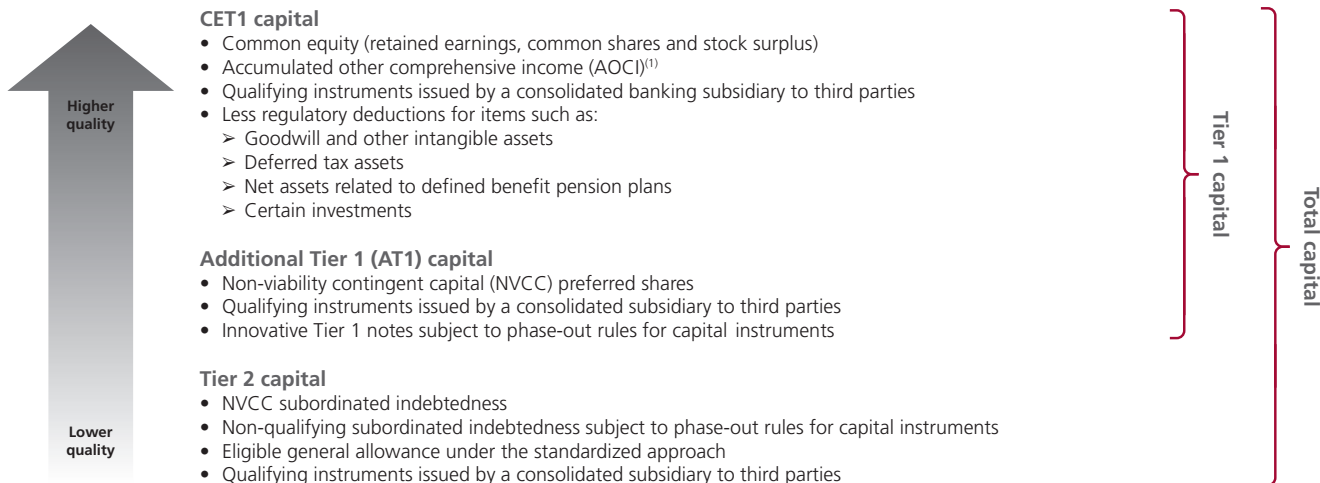
CIBC, along with Bank of Montreal, Bank of Nova Scotia, National Bank of Canada, Royal Bank of Canada, and the Toronto-Dominion Bank, have been designated by OSFI as domestic systemically important banks (D-SIBs) in Canada. D-SIBs are subject to a CET1 surcharge equal to 1.0% of RWAs. In June 2018, OSFI publicly disclosed a 1.5% Domestic Stability Buffer requirement for D-SIBs. See the "Continuous enhancement to regulatory capital requirements" section for additional details. This results in current targets, including all buffer requirements, for CET1, Tier 1 and Total capital ratios of 9.5%, 11.0%, and 13.0%, respectively, for D-SIBs. These targets may be higher for certain institutions at OSFI's discretion. 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. The countercyclical capital buffer applicable to CIBC is insignificant as at October 31, 2018.

Capital adequacy requirements are applied on a consolidated basis consistent with our financial statements, except for our insurance subsidiaries (CIBC Reinsurance Company 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. Starting January 2018, CIBC Life Insurance Company Limited is subject to OSFI's Life Insurance Capital Adequacy Test.

A comparison of the BCBS transitional capital ratio requirements and the OSFI all-in target capital ratio requirements is as follows:



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:



(1) Excluding accumulated other comprehensive income (AOCI) relating to cash flow hedges and changes to FVO liabilities attributable to changes in own credit risk.

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⁾	<p>Basel provides three approaches for calculating credit risk capital requirements – standardized, foundation and 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.</p> <p>Basel provides three approaches for calculating counterparty credit risk for derivatives and repo-style transactions – current exposure method, standardized approach and internal model method.</p> <p>Permitted approaches for equity positions in the banking book (which includes equity investments in funds) include a standardized approach, a market-based approach, a look-through approach, a mandate-based approach and a fall-back approach.</p> <p>Basel provides two approaches for calculating credit risk capital requirements for securitization positions in the banking book – standardized and internal ratings-based (IRB) approaches.</p>	<p>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.</p> <p>We use the current exposure method for counterparty credit risk which reflects the current fair value of the exposure, plus an estimate of the maximum potential future exposure due to changes in market conditions.</p> <p>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.</p> <p>We use the IRB approach for securitization exposures, which comprises several calculation approaches (ratings-based, supervisory formula, and the internal assessment approach).</p>
Market risk	<p>Market risk capital requirements can be determined under the standardized or internal models approaches. The latter involves 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.</p>	<p>We use the internal models approach to calculate market risk capital. Our internal market risk models comprise VaR, stressed VaR, and IRC. We also use the IRB approach for trading book securitization positions.</p>
Operational risk	<p>Operational risk capital requirements can be determined under the basic indicator approach, standardized approach or advanced measurement approach (AMA).</p>	<p>We use AMA and standardized approaches based on OSFI rules to calculate operational risk capital.</p>

(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.

Effective in the second quarter of 2018, 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 compared with the floor factor (currently set at 75%) applied to the capital requirements under the Basel II standardized approach is added to RWAs. Prior to the second quarter of 2018, the capital floor for banks using the AIRB approach for credit risk was determined by reference to the Basel I instead of the Basel II standardized approach calculation. See the "Continuous enhancement to regulatory capital requirements" section for additional details.

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	2018	2017
Common Equity Tier 1 (CET1) capital: instruments and reserves		
Directly issued qualifying common share capital plus related stock surplus	\$ 13,379	\$ 12,685
Retained earnings	18,537	16,101
AOCI (and other reserves)	777	452
Common share capital issued by subsidiaries and held by third parties (amount allowed in group CET1)	118	109
CET1 capital before regulatory adjustments	32,811	29,347
CET1 capital: regulatory adjustments		
Prudential valuation adjustments	27	62
Goodwill (net of related tax liabilities)	5,489	5,284
Other intangibles other than mortgage-servicing rights (net of related tax liabilities)	1,661	1,654
Deferred tax assets excluding those arising from temporary differences (net of related tax liabilities)	38	18
Defined benefit pension fund net assets (net of related tax liabilities)	284	160
Other	671	551
Total regulatory adjustments to CET1 capital	8,170	7,729
CET1 capital	24,641	21,618
Additional Tier 1 (AT1) capital: instruments		
Directly issued qualifying AT1 instruments plus related stock surplus ⁽¹⁾	2,250	1,797
Directly issued capital instruments subject to phase out from AT1 ⁽²⁾	1,003	1,253
AT1 instruments issued by subsidiaries and held by third parties (amount allowed in AT1)	14	14
AT1 capital	3,267	3,064
Tier 1 capital (T1 = CET1 + AT1)	27,908	24,682
Tier 2 capital: instruments and provisions		
Directly issued qualifying Tier 2 instruments plus related stock surplus ⁽³⁾	3,430	1,961
Directly issued capital instruments subject to phase out from Tier 2	579	1,204
Tier 2 instruments issued by subsidiaries and held by third parties (amount allowed in Tier 2)	20	19
General allowances (2017: Collective allowance under IAS 39)	293	263
Tier 2 capital (T2)	4,322	3,447
Total capital (TC = T1 + T2)	\$ 32,230	\$ 28,129
CET1 capital RWA⁽⁴⁾	\$ 216,144	\$ 203,321
Tier 1 capital RWA⁽⁴⁾	216,303	203,321
Total capital RWA⁽⁴⁾	216,462	203,321
Capital ratios		
CET1 ratio	11.4 %	10.6 %
Tier 1 capital ratio	12.9 %	12.1 %
Total capital ratio	14.9 %	13.8 %

(1) Comprises non-cumulative Class A Preferred Shares Series 39, 41, 43, 45 and 47 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).

(3) Comprises Debentures due on October 28, 2024, January 26, 2026 and April 4, 2028 which are treated as NVCC in accordance with OSFI's capital adequacy guidelines.

(4) RWAs as at October 31, 2017 include a capital floor adjustment. See the "Risk-weighted assets" section for additional details.

The CET1 ratio at October 31, 2018 increased 0.8% from October 31, 2017, primarily due to an increase in CET1 capital resulting from internal capital generation (net income less dividends and share repurchases) and common share issuance, net of a reduction due to the impact of our adoption of IFRS 9. The increase in CET1 capital was partially offset by the impact of an increase in CET1 capital RWAs.

The Tier 1 capital ratio at October 31, 2018 increased 0.8% from October 31, 2017 primarily for the reasons noted above for the CET1 ratio, as well as the issuance of eligible preferred shares during the year, partially offset by an increase in the phase-out of the Innovative Tier 1 Notes from AT1 capital.

The Total capital ratio at October 31, 2018 increased 1.1% from October 31, 2017 for the reasons discussed for the Tier 1 capital ratio, as well as the issuance, net of redemptions, of Tier 2 eligible subordinated indebtedness.

We hold regulatory capital against the underlying exposures associated with our credit card securitization trust, CARDS II Trust, as we have in the past provided non-contractual support to the trust. Relative to the securitization framework, holding regulatory capital against the underlying exposures resulted in a reduction of our 2018 CET1, Tier 1 and Total capital ratios by approximately 0.15%, 0.16% and 0.18%, respectively (2017: 0.12%, 0.14% and 0.15%, respectively). We will be permitted to apply the securitization framework effective November 1, 2018 as the conditions outlined in OSFI's 2019 CAR Guideline have been met.

Components of risk-weighted assets

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

	2018		2017	
	RWA	Minimum total capital required ⁽¹⁾	RWA ⁽²⁾	Minimum total capital required ⁽¹⁾⁽²⁾
Credit risk ⁽³⁾				
Standardized approach				
Corporate	\$ 32,443	\$ 2,595	\$ 28,029	\$ 2,242
Sovereign	2,319	185	1,597	128
Banks	470	38	488	39
Real estate secured personal lending	2,764	221	2,735	219
Other retail	903	72	933	75
Trading book	247	20	187	15
Equity	436	35	472	38
	39,582	3,166	34,441	2,756
AIRB approach ⁽⁴⁾				
Corporate	68,402	5,472	64,924	5,194
Sovereign ⁽⁵⁾	2,144	171	2,093	167
Banks	3,547	284	3,215	257
Real estate secured personal lending	16,072	1,286	14,738	1,179
Qualifying revolving retail	18,071	1,446	17,355	1,388
Other retail	7,773	622	7,579	606
Equity	299	24	314	25
Trading book	3,982	319	3,345	268
Securitization	1,050	84	1,341	107
Adjustment for scaling factor	7,280	582	6,884	551
	128,620	10,290	121,788	9,742
Other credit RWA ⁽⁶⁾	10,697	856	11,427	914
Total credit risk (before adjustment for CVA phase-in) ⁽⁷⁾	178,899	14,312	167,656	13,412
Market risk (Internal Models and IRB Approach)				
VaR	868	70	935	75
Stressed VaR	2,084	167	2,058	165
Incremental risk charge	2,865	229	1,843	147
Securitization and other	566	45	556	44
Total market risk	6,383	511	5,392	431
Operational risk	26,626	2,130	24,664	1,973
Total RWA before adjustments for CVA phase-in and capital floor	\$ 211,908	\$ 16,953	\$ 197,712	\$ 15,816
CVA capital charge ⁽⁷⁾				
CET1 RWA	\$ 4,236	\$ 339	\$ 3,498	\$ 280
Tier 1 RWA	4,395	352	3,741	299
Total RWA	4,554	364	3,935	315
Capital floor adjustment ⁽⁷⁾				
CET1 RWA	n/a	n/a	\$ 2,111	\$ 169
Tier 1 RWA	n/a	n/a	1,868	150
Total RWA	n/a	n/a	1,674	134
Total RWA after adjustments for CVA phase-in and capital floor ⁽⁷⁾				
CET1 capital RWA	\$ 216,144	\$ 17,292	\$ 203,321	\$ 16,265
Tier 1 capital RWA	216,303	17,305	203,321	16,265
Total capital RWA	216,462	17,317	203,321	16,265

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

(3) 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.

(4) Includes RWAs 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 RWAs 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 which are risk-weighted at 100%, significant investments in the capital of non-financial institutions which are risk-weighted at 1250%, settlement risk, and amounts below the thresholds for deduction which are risk-weighted at 250%.

(7) Before any capital floor requirement as applicable, there are three different levels of RWAs for the calculation of the CET1, Tier 1, and Total capital ratios arising from the option CIBC has chosen for the phase-in of the credit valuation adjustment (CVA) capital charge. RWAs as at October 31, 2017 included a capital floor adjustment. See the "Continuous enhancement to regulatory capital requirements" section for additional details.

n/a Not applicable.

The increase in CET1 capital RWAs was primarily due to organic growth and net foreign exchange movement, partially offset by capital methodology changes, including removal of the Basel I capital floor adjustment (see the "Continuous enhancement to regulatory capital requirements" section for additional details), the impact of portfolio upgrades and migrations, and capital model updates.

The increase in credit risk RWAs was primarily due to organic growth across our businesses and net foreign exchange movement, partially offset by portfolio upgrades and migrations.

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

The increase in operational risk RWAs was primarily driven by movement in risk levels under the advanced measurement approach, which reflects changes in loss experience, changes in the business environment, internal control factors and gross income, as defined by the BCBS.

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	2018	2017
CET1 capital		
Balance at beginning of year	\$ 21,618	\$ 19,148
Issue of common shares pursuant to the acquisition of The PrivateBank	194	3,443
Issue of common shares pursuant to the acquisition of Geneva Advisors	–	126
Issue of common shares pursuant to the acquisition of Wellington Financial	47	–
Shares issued in lieu of cash dividends	337	749
Other issue of common shares	218	208
Purchase of common shares for cancellation	(104)	–
Premium on purchase of common shares for cancellation	(313)	–
Net income attributable to equity shareholders	5,267	4,699
Preferred and common share dividends	(2,445)	(2,173)
Change in AOCI balances included in regulatory capital		
Net foreign currency translation adjustments	286	(376)
Net change in securities measured at FVOCI	(191)	(101)
Net change in cash flow hedges	(51)	10
Net change in post-employment defined benefit plans	226	139
Change in shortfall of allowance to expected losses	(173)	(191)
Change in goodwill and other intangible assets	(212)	(4,219)
Other, including change in regulatory adjustments ⁽¹⁾	(63)	156
CET1 capital balance at end of year	\$ 24,641	\$ 21,618
AT1 capital		
Balance at beginning of year	\$ 3,064	\$ 2,518
AT1 eligible capital issues	450	800
Phase-out of innovative Tier 1 notes	(251)	(251)
Other, including change in regulatory adjustments ⁽¹⁾	4	(3)
AT1 capital balance at end of year	\$ 3,267	\$ 3,064
Tier 2 capital		
Balance at beginning of year	\$ 3,447	\$ 3,417
New Tier 2 eligible capital issues	1,500	–
Redeemed	(600)	–
Other, including change in regulatory adjustments ⁽¹⁾	(25)	30
Tier 2 capital balance at end of year	\$ 4,322	\$ 3,447
Total capital balance at end of year	\$ 32,230	\$ 28,129

(1) Includes the net impact on retained earnings and AOCI as at November 1, 2017 from our adoption of IFRS 9. For additional details, see Note 1 to the consolidated financial statements.

Leverage ratio

The Basel III requirements 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	2018	2017
Tier 1 capital	A \$ 27,908	\$ 24,682
Leverage ratio exposure	B 653,946	610,353
Leverage ratio	A/B 4.3 %	4.0 %

The leverage ratio at October 31, 2018 increased 0.3% from October 31, 2017, primarily due to an increase in Tier 1 capital (see the "Regulatory capital and ratios" section for additional details), partially offset by an increase in leverage ratio exposure. The increase in leverage ratio exposure was primarily driven by an increase in on- and off-balance sheet assets.

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 BCBS and OSFI publications that have been issued since the beginning of the fiscal year, as well as publications issued in previous fiscal years that are not yet effective, other than those discussed in separate sections of the document.

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 RWAs 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;
- The Basel III capital output floor will ensure that banks' RWAs generated by internal models are not lower than 72.5% of RWAs 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 January 2018, OSFI issued a letter outlining revisions to the existing capital floor requirements. Since the introduction of Basel II in 2008, OSFI has prescribed a capital floor requirement for institutions that use the AIRB approach for credit or operational risk. Effective in the second quarter of 2018, the capital floor is determined by comparing a capital requirement calculated by reference to the Basel II standardized approach against the Basel III calculation. Any shortfall in the Basel III capital requirement compared with the floor factor applied to the capital requirements under the Basel II standardized approach is added to RWAs. A 70% floor factor was applied in the second quarter of 2018 and was increased to 72.5% in the third quarter of 2018 and to the final 75% floor factor in the fourth quarter of 2018. Prior to the second quarter of 2018, the capital floor for banks using the AIRB approach for credit risk was determined by reference to the Basel I instead of the Basel II standardized approach calculation.

In March 2018, the BCBS issued for consultation "Revisions to the minimum capital requirements for market risk", which aims to address issues related to implementation of the market risk standard published in January 2016. In acknowledgment of ongoing challenges related to implementation, the BCBS also extended the implementation date of the market risk standard to January 1, 2022.

In May 2018, the BCBS published the final standard "Capital treatment for simple, transparent and comparable short-term securitisations", setting out additional guidance and requirements for eligibility to apply preferential regulatory capital treatment for banks that act as investors in, or sponsors of, simple, transparent and comparable short-term securitisations.

In June 2018, OSFI issued a letter advising of disclosure requirements for the Domestic Stability Buffer held by D-SIBs. This buffer requirement is intended to address Pillar 2 risks that are not adequately captured in the Pillar 1 capital requirements described in OSFI's Capital Adequacy Requirements (CAR) Guideline including systemic vulnerabilities related to Canadian consumer and institutional indebtedness, and asset imbalances in the Canadian market. OSFI will undertake a review of the buffer semi-annually, and any changes to the buffer will be made public. Increased transparency of this Pillar 2 capital requirement is intended to support a bank's ability to use this capital buffer in times of stress. The buffer will range from 0% to 2.5% of RWAs and is currently set at 1.5%. Increases in the buffer requirement will be phased in while decreases will take effect immediately. While breaches of the Domestic Stability Buffer will not result in automatic constraints on capital distributions, OSFI will require a remediation plan, and supervisory intervention pursuant to OSFI's Guide to Intervention would occur in cases where a remediation plan is not executed in a timely manner satisfactory to OSFI.

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:

- Accelerating the implementation of the revised operational risk framework to 2021;
- Calibrating 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 October 2018, OSFI issued proposed 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 proposed implementation date for the OSFI guideline is January 1, 2020.

In October 2018, OSFI also released revisions to the CAR Guideline for implementation in the first quarter of 2019. The revisions include:

- Implementation of the revised standardized approach to counterparty credit risk and central counterparties (CCPs);
- Implementation of the revised securitization framework;
- Clarification of the capital treatment for right-of-use assets, effective upon institutions' adoption of IFRS 16 "Leases" (IFRS 16), which for CIBC will be November 1, 2019; and
- The removal of the CVA phase-in and other transitional arrangements that conclude at the end of 2018.

The revisions also codify in the CAR Guideline changes to the capital floor, which were announced in January 2018 and implemented in the second quarter of 2018.

In October 2018, OSFI issued revisions to the leverage ratio framework. The changes align the leverage ratio guideline with certain changes to the CAR Guideline in respect of securitization and counterparty credit risk. These changes include the requirement to use the standardized approach to counterparty credit risk for determining derivatives exposures, clarifications to the treatment of securitized assets that meet the requirements for recognition of significant risk transfer, and revisions to the credit conversion factors for certain off-balance sheet securitization exposures. In November 2018, OSFI issued revisions to the leverage ratio disclosure requirements guideline to reflect the necessary changes resulting from the revisions to the leverage ratio framework. The revisions to both the leverage ratio framework and the leverage ratio disclosure requirements are effective November 1, 2018.

Prior to this fiscal year, in October 2017, the BCBS issued the final guideline on the identification and management of step-in risk, with an expected implementation timeline of no later than 2020. 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.

Bank recapitalization (Bail-in) conversion regulations

On April 18, 2018, the Department of Finance formally published final bail-in regulations, which became effective September 23, 2018. These regulations provide certain statutory powers to the Canada Deposit Insurance Corporation (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 overarching policy objective is to strengthen financial stability while protecting taxpayers in the event of a D-SIB failure by ensuring that the D-SIB emerges from conversion adequately capitalized. These objectives are also consistent with those of the Financial Stability Board's Total Loss Absorbing Capacity (TLAC) standard applicable to G-SIBs.

The Superintendent of Financial Institutions (the Superintendent) is responsible for designating D-SIBs, setting minimum TLAC requirements, and determining that a bank is non-viable. Senior debt issued 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.

On April 18, 2018, OSFI issued the final guidelines on TLAC for Canada's D-SIBs. D-SIBs will be required to maintain a minimum risk-based TLAC ratio and a minimum TLAC leverage ratio set out by the Superintendent. On August 21, 2018, the Superintendent issued an order requiring D-SIBs to maintain a minimum of 23% of TLAC-eligible instruments⁽¹⁾ relative to their RWAs (including the 1.5% Domestic Stability Buffer) and 6.75% relative to their leverage exposures. Liabilities that count towards TLAC must be bail-in eligible and have a residual maturity greater than 365 days, among other requirements. D-SIBs have until the first quarter of 2022 to meet the minimum TLAC requirements. In May 2018, OSFI issued a final guideline on TLAC disclosure requirements which requires D-SIBs to begin disclosing their TLAC ratios in the first quarter of 2019. OSFI also released the final version of the Capital Disclosure Requirements in May 2018, updated to reflect the TLAC regime.

OSFI made further amendments to the CAR Guideline, also on April 18, 2018, in respect of the treatment of D-SIBs' holdings of TLAC instruments. The changes are in line with the BCBS' TLAC holdings standard finalized in October 2016. Under the requirements, our investments in certain liabilities issued by other G-SIBs and Canadian D-SIBs are to be deducted from our own Tier 2 capital if our aggregate holdings, together with investments in capital instruments of other financial institutions, exceeds certain thresholds in relation to our own CET1 capital or meets certain other conditions set out in the CAR Guideline. There is also a separate, limited capacity provided to banks to hold certain liabilities issued by G-SIBs and Canadian D-SIBs in their trading books.

(1) The sum of a D-SIB's TLAC, subject to certain adjustments, including Tier 1 capital, Tier 2 capital, and prescribed shares and liabilities that are subject to conversion into common shares and meet the eligibility criteria set out in OSFI's TLAC guideline.

Revised Pillar 3 disclosure requirements

In January 2015, the BCBS issued "Revised Pillar 3 disclosure requirements", which set 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 February 2018, the BCBS issued for consultation "Pillar 3 disclosure requirements – updated framework", a standard establishing the third phase of the project. This consultative document includes enhancements to the January 2015 and March 2017 requirements, and the introduction of several new disclosure requirements.

OSFI has not yet released its requirements for the second and third phases of the Pillar 3 framework, but has provided separate guidance regarding the TLAC disclosure requirements contemplated in the second phase. See the "Bank recapitalization (Bail-in) conversion regulations" section for additional details.

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.

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

Capital management and planning

Basel establishes a framework for a bank's Internal Capital Adequacy Assessment Process (ICAAP), which includes oversight by the CIBC Board of Directors (the Board). Our capital management policy is reviewed and approved by the Board in support of the 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 are 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 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, and they encompass all material elements of capital including earnings, dividends, business growth, and corporate initiatives, as well as maturities, redemptions, and new issuances of capital instruments. The annual capital plan establishes targets for the coming year and business plans to achieve those targets. The capital plan also relates the level of capital to our level of risk in a stressed environment as a part of the enterprise-wide stress testing discussed below.

Capital initiatives

The following main capital initiatives were undertaken in 2018:

Normal course issuer bid

On May 31, 2018, we announced that the 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, 2019. During the year, we purchased and cancelled 3,500,000 common shares under this bid at an average price of \$119.22 for a total amount of \$417 million. See Note 15 to the consolidated financial statements for additional information.

Common share issuance pursuant to the acquisition of The PrivateBank

During the first quarter of 2018, CIBC delivered to third parties 1,689,450 common shares that were issued and outstanding as of October 31, 2017, but which had not yet been delivered to third parties in connection with our acquisition of The PrivateBank. In addition, during the second quarter of 2018, we cancelled 316,390 shares as it was determined that these shares will not be required for future delivery to third parties. For further details, see Note 3 and Note 15 to the consolidated financial statements.

Common share issuance pursuant to the acquisition of Wellington Financial

On January 5, 2018, we completed the acquisition of Wellington Financial, and in connection therewith, we issued 378,848 CIBC common shares. For further details, see Note 3 and Note 15 to the consolidated financial statements.

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 2,880,782 common shares for consideration of \$337 million for the year ended October 31, 2018.

Dividends

Our quarterly common share dividend was increased from \$1.33 per share to \$1.36 per share for the quarter ended October 31, 2018, and from \$1.30 per share to \$1.33 per share for the quarter ended April 30, 2018.

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 18, 2018, we issued 18 million Non-cumulative Rate Reset Class A Preferred Shares Series 47 (NVCC) with a par value of \$25.00 per share, for gross proceeds of \$450 million. See the "Outstanding share data" section below and Note 15 to the consolidated financial statements for further details.

Subordinated indebtedness

On June 6, 2018, we redeemed all \$600 million of our 6.00% Debentures due June 6, 2023. In accordance with their terms, the Debentures were redeemed at 100% of their principal amount, plus accrued and unpaid interest thereon.

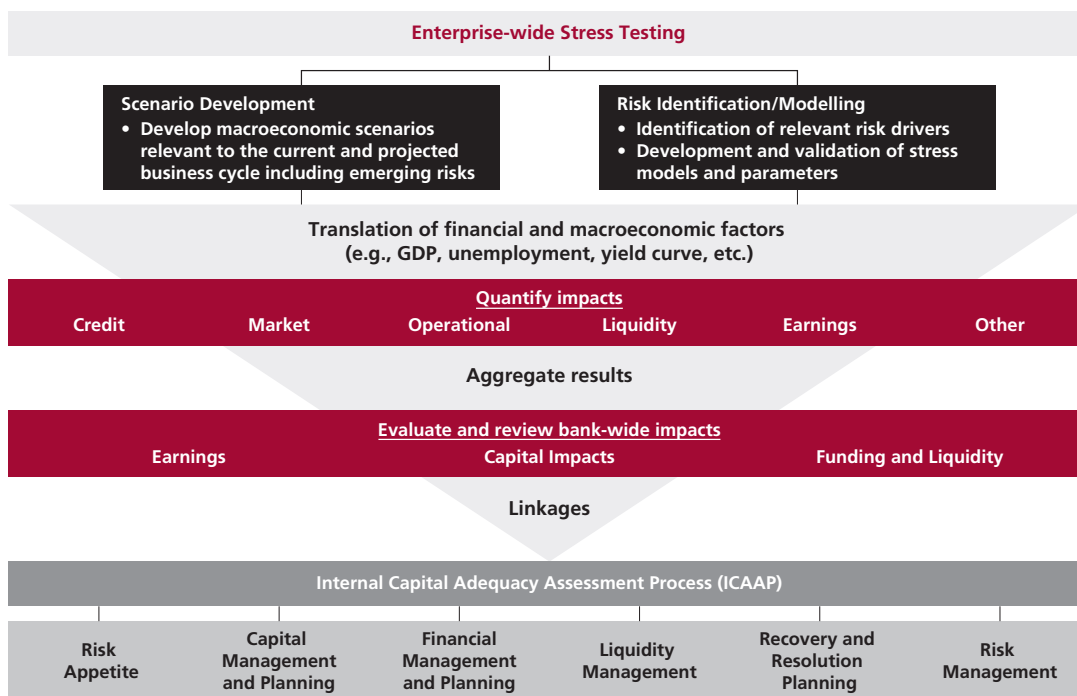
On April 4, 2018, we issued \$1.5 billion principal amount of 3.45% Debentures due April 4, 2028 (NVCC) (subordinated indebtedness). The Debentures bear interest at a fixed rate of 3.45% per annum (paid semi-annually) until April 4, 2023, and at the three-month bankers' acceptance rate plus 1.00% thereafter (paid quarterly) until maturity on April 4, 2028.

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 constraints.

A key objective of the enterprise-wide stress tests is to identify 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.

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:

	Shares outstanding		Minimum conversion price per common share	Maximum number of common shares issuable on conversion/exercise
	Number of shares	Amount		
\$ millions, except number of shares and per share amounts, as at November 23, 2018				
Common shares	442,908,235	\$ 13,252		
Treasury shares – common shares	7,869	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
Treasury shares – preferred shares⁽¹⁾⁽²⁾	–	–		
Subordinated indebtedness⁽²⁾⁽³⁾				
3.00% Debentures due October 28, 2024 (NVCC)	n/a	\$ 1,000	\$ 5.00	300,000,000
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
Stock options outstanding				4,712,482

(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 77% based on the number of CIBC common shares outstanding as at October 31, 2018. 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.

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

For the initial five-year period to the earliest redemption date of July 31, 2019, the Series 39 shares pay quarterly cash dividends, if declared, at a rate of 3.90%. On July 31, 2019, 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 will have the right to convert their shares on a one-for-one basis into Non-cumulative Floating Rate Class A Preferred Shares Series 40 (NVCC) (Series 40 shares), subject to certain conditions, on July 31, 2019 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 Series 40 shares may convert their shares on a one-for-one basis into Series 39 shares, subject to certain conditions, on July 31, 2024 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, 2019, 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, 2024, 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.

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 with the exception of the commercial mortgage securitization trust.

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 \$55 million in 2018 (2017: \$45 million). All fees earned in respect of activities with the conduits are on a market basis.

As at October 31, 2018, the amount funded for the various asset types in the multi-seller conduits amounted to \$7.0 billion (2017: \$5.7 billion). The estimated weighted-average life of these assets was 1.7 years (2017: 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 \$9 million (2017: nil). Our committed backstop liquidity facilities to these conduits were \$8.8 billion (2017: \$8.7 billion). We also provided credit facilities of \$50 million (2017: \$40 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 (2017: \$130 million). As at October 31, 2018, we funded \$93 million (2017: \$94 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.

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	2018			2017		
	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	\$ 102	\$ 7,136 ⁽³⁾	\$ –	\$ 94	\$ 5,741 ⁽³⁾	\$ –
Third-party structured vehicles – continuing	3,347	1,656	–	3,025	2,259	–
Structured vehicles run-off	3	13	157	109	13	179
Other	298	114	–	528	94	–

(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 (2017: \$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 \$131 million (2017: \$148 million). Notional of \$141 million (2017: \$161 million) was hedged with credit derivatives protection from third parties. The fair value of these hedges net of CVA was \$115 million (2017: \$130 million). An additional notional of \$16 million (2017: \$18 million) was hedged through a limited recourse note.

(3) Excludes an additional \$1.7 billion (2017: \$3.0 billion) relating to our backstop liquidity facilities provided to the multi-seller conduits as part of their commitment to fund purchases of additional assets and \$9 million (2017: nil) relating to 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, except in very limited circumstances. 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" 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 and legal risk", and "Regulatory compliance risk" sections.

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50 Risks arising from business activities	64 Process and control	77 Reputation and legal risk
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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:

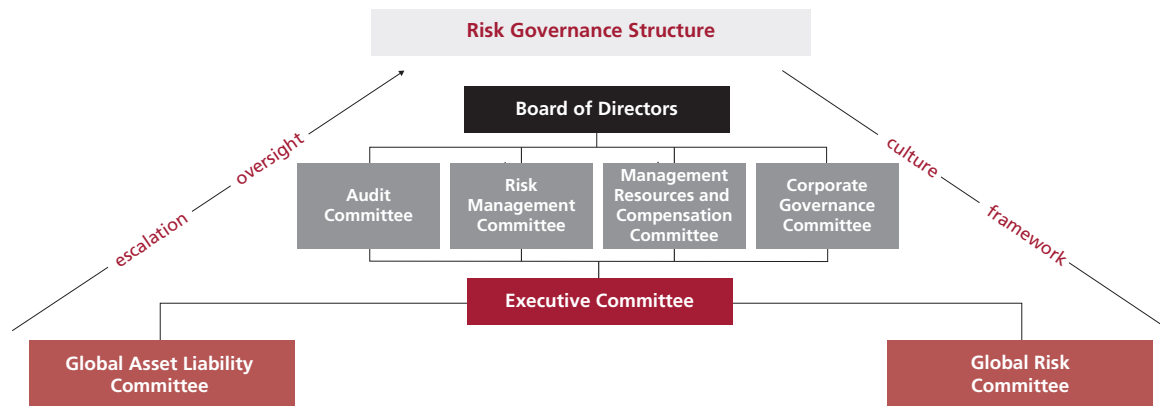
- CIBC's lines of business and functional groups own the risk and are responsible for managing all risks associated with their activities, including identifying, assessing, mitigating and controlling them – this is the first line of defence;
- As the second line of defence, CIBC's Risk Management, and other functional groups are responsible for providing guidance and effective independent oversight and challenge of the enterprise-wide risks inherent in CIBC's business activities; and
- As the third line of defence, CIBC's internal audit function provides an independent assessment of the design and operating effectiveness of risk management controls, processes and systems.

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 their global oversight of CIBC's human capital strategy, including talent strategy, succession planning and total rewards and their 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 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:



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.

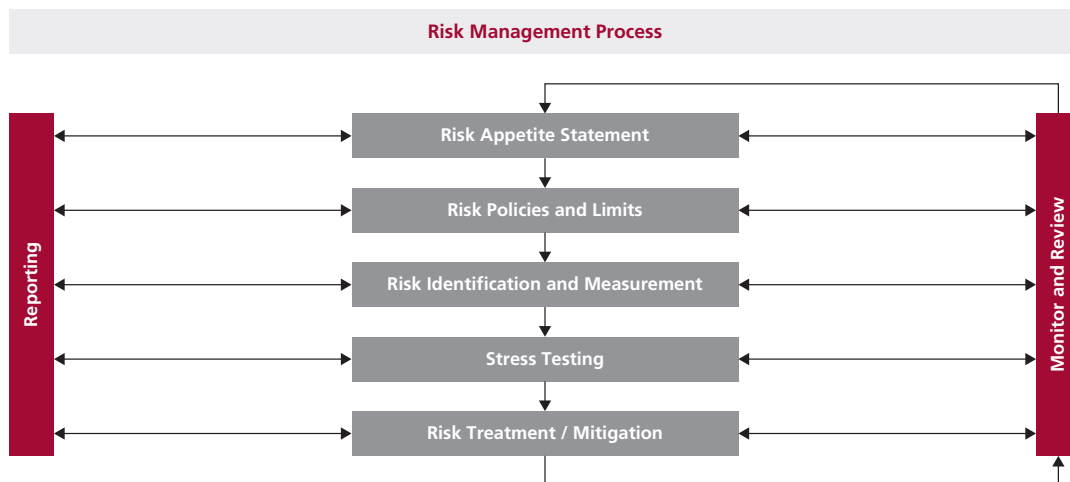
The following key groups within Risk Management, independent of the originating businesses, contribute to our management of risk:

- *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 social risk⁽¹⁾) associated with our commercial, wholesale 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.
- *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, recovery and resolution planning, 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* – This group is responsible for enterprise conduct risk, including sales practice and compensation plan oversight and non-transactional reputation risk.
- *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 CIBC's U.S. Commercial Banking and Wealth Management SBU. In addition, the CRO also oversees, through a joint oversight structure, the U.S. CRO, to ensure the relevant aspects of the U.S. Risk Management group are consistent with the above-noted practices.

(1) See the "Environmental and social risk" section for further details, including oversight of non-transaction specific environmental and 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

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.

The MRCC oversees the performance management and compensation process. The MRCC is responsible for assisting the Board in their global oversight of CIBC's human capital strategy, including talent strategy, succession planning and total rewards. 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 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:

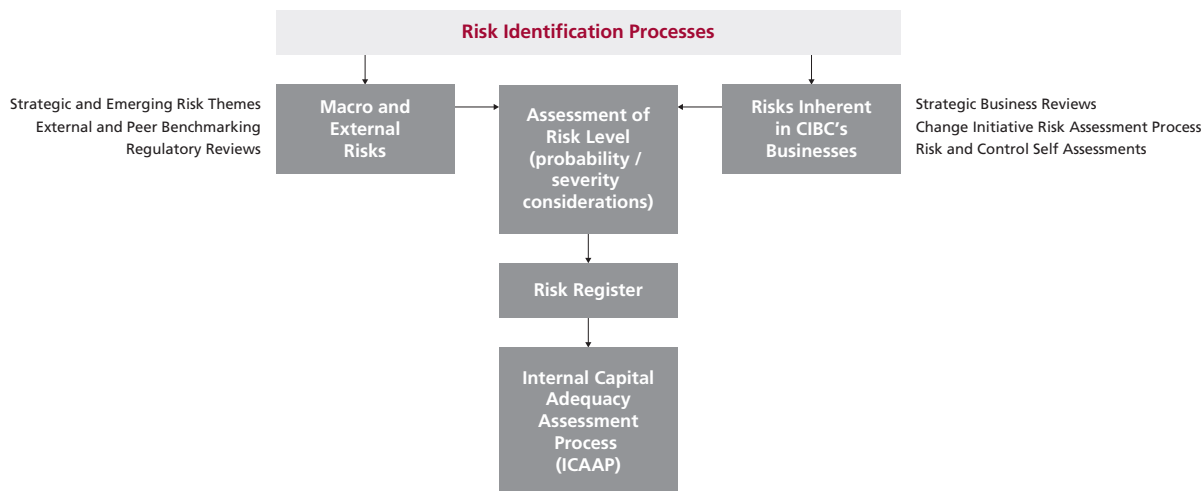
Risk Management Framework			
Risk Appetite Statement and Risk Appetite Framework			
Risk	Overarching Framework / Policy	Risk Limits	Management Oversight
Credit	Credit Risk Management Policy	Credit Concentration Limits Delegated Credit Approval Authorities	Credit Committee Personal and Small Business 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
Reputation	Reputation Risk Management Framework and Policy	Key Risk Indicators	Reputation and Legal Risks 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

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 has developed 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 as an input for 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 materiality, 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 resources" 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 sub-committee of the Global Risk Committee and is responsible for reviewing and approving proposals for new and/or modified regulatory and economic capital models and provides oversight of CIBC's regulatory and economic capital 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. This section describes the top and emerging risks that we consider to have potential negative implications, 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 continually 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, CIBC and its related third parties may not be able to fully mitigate all risks associated with the increased complexity and high rate of change in the threat landscape. CIBC continuously 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.

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, 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 which 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 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.

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. Although Canada is unlikely to be directly subject to geo-political risk, the indirect impact of reduced economic growth, as well as potential impacts on commodity prices and the recent rise of protectionism, could have serious negative implications for general economic and banking activities.

Currently, there are several areas of concern which have raised the level of uncertainty in global financial markets. These include: heightened tensions in the Middle East in the aftermath of the decision by the U.S. to exit the Joint Comprehensive Plan of Action relating to Iran's nuclear program and recent diplomatic turmoil regarding Saudi Arabia; the U.S. decision to withdraw from the Intermediate-Range Nuclear Forces Treaty with Russia; Brexit negotiations; and continued uncertainty surrounding global trade tensions, especially between the U.S. and China. Moreover, ratification of the renegotiated U.S.-Mexico-Canada (USMCA) deal to replace the North American Free Trade Agreement (NAFTA) may be delayed or prevented in the U.S. House of Representatives following the U.S. mid-term elections. In addition, there remains the potential for U.S. tax reforms to have a negative impact on the competitiveness of the Canadian economy. 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 recent and potential further increases in interest rates, 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.

OSFI revised its B-20 guidelines on mortgage lending, which came into effect January 1, 2018. See the "Credit risk" section for further details. While we believe that the probability of a severe housing crash that generates significant losses for mortgage portfolios remains low, increases in interest rates and the new regulatory measures put in place elevate the risk associated with an inflated housing market, along with high levels of consumer debt that 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.

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.

U.S. banking regulation

In conjunction with our acquisition of The PrivateBank (subsequently rebranded as CIBC Bank USA), completed on June 23, 2017, our wholly-owned subsidiary, CIBC Bancorp USA Inc. (CIBC Bancorp), became a bank holding company registered under the U.S. Bank Holding Company Act of 1956, as amended, and is subject to regulation as a bank holding company by the U.S. Board of Governors of the Federal Reserve System (Federal Reserve). CIBC Bank USA, as a state-chartered bank with greater than \$10 billion of total assets, is subject to regulation by the U.S. Federal Deposit Insurance Corporation (FDIC), the U.S. Bureau of Consumer Financial Protection Board (BCFP), and the Illinois Department of Financial and Professional Regulation.

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 operation, whether through acquisitions or organically, if, among other things, they have supervisory concerns about risk management, anti-money laundering or compliance programs and practices, governance and controls, and/or capital and liquidity adequacy at CIBC Bancorp or CIBC Bank USA.

In October 2018, the Federal Reserve issued a notice of proposed rulemaking that, consistent with the U.S. regulatory relief legislation enacted in May 2018, would establish a revised framework for applying enhanced prudential standards to large U.S. banking organizations based on their risk profile and asset size. The proposed rules generally would exempt U.S. banking organizations with less than \$100 billion of consolidated assets from most enhanced prudential standards, and those with between \$100 billion and \$250 billion of consolidated assets would be exempt from the more stringent standards. The proposed rules, however, expressly do not apply to U.S. banks controlled by foreign banking organizations, although the Federal Reserve has indicated that it intends to issue separate guidance on the applicability of enhanced prudential standards to foreign banking organizations, which may impact CIBC Bancorp given that it has consolidated assets less than \$100 billion. Until such further regulations are proposed, however, there is uncertainty as to whether the revised asset thresholds will be applied to foreign banking organizations in a manner similar to U.S. banking organizations. If they are not, CIBC Bancorp could be subject to more significant regulatory compliance burdens, particularly as we seek to grow the size of our U.S. operations, as compared to other similarly-sized U.S. banking organizations that are not owned by a foreign parent.

Anti-money laundering

Recognizing the threat of money laundering, terrorist financing activities and other related crimes to the stability and integrity of a country's financial sector and its broader economy, the international community has made the fight against these illegal activities a priority. Several laws and regulations have been enacted by governments and regulatory bodies globally. As a potential conduit for illegal operations, financial institutions bear a significant responsibility in mitigating the risks associated with these activities.

CIBC is committed to adhering to all regulatory requirements pertaining to Anti-Money Laundering (AML) and Anti-Terrorist Financing (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

Global economic growth is projected to remain relatively healthy in 2019, providing continued support to industrial demand for commodities. While oil prices have been declining recently, with West Texas Intermediate prices dropping below US\$60/barrel, of greater concern to the Canadian industry is the significant drop in Canada's heavy oil benchmark, Western Canada Select, which at under \$17/barrel, is near the lows set in 2016. However, should OPEC reverse some of the production increases introduced to offset declines in Iranian and Venezuelan output, global crude prices could recover some of the current weakness.

CIBC's overall commodity exposure continues to perform within our risk appetite, with losses in our oil and gas portfolio down significantly 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.

Environmental and social governance

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

Regulatory developments

See the "Taxes", "Capital resources", "Credit risk", "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 RWAs and economic capital as at October 31, 2018:

	CIBC				Corporate and Other
SBU	Canadian Personal and Small Business Banking	Canadian Commercial Banking and Wealth Management	U.S. Commercial Banking and Wealth Management	Capital Markets	
Business activities	<ul style="list-style-type: none"> Deposits Residential mortgages Personal loans Credit cards Small business lending Insurance 	<ul style="list-style-type: none"> Commercial banking Full service brokerage Asset management Private wealth management 	<ul style="list-style-type: none"> Commercial banking Asset management Private wealth management Personal and small business banking 	<ul style="list-style-type: none"> Credit products Global markets Investment banking Investment portfolios 	<ul style="list-style-type: none"> International banking Investment portfolios Joint ventures Functional and support groups (see page 28)
Balance sheet	(\$ millions)	(\$ millions)	(\$ millions)	(\$ millions)	(\$ millions)
	Average assets 259,130	Average assets 55,713	Average assets 42,028	Average assets 166,231	Average assets 75,339
	Average deposits 166,703	Average deposits 53,209	Average deposits 22,309	Average deposits 31,387	Average deposits 181,827
CET1 RWA (All-in basis)	(\$ millions)	(\$ millions)	(\$ millions)	(\$ millions)	(\$ millions)
	Credit risk 47,217	Credit risk 40,596	Credit risk ⁽¹⁾ 35,835	Credit risk ⁽²⁾ 41,467	Credit risk ⁽³⁾ 18,020
	Market risk –	Market risk –	Market risk 29	Market risk 6,035	Market risk 319
	Operational risk 11,398	Operational risk 5,742	Operational risk 2,660	Operational risk 6,051	Operational risk 775
Economic capital ⁽⁴⁾	(%)	(%)	(%)	(%)	(%)
	Proportion of total CIBC 19	Proportion of total CIBC 16	Proportion of total CIBC 33	Proportion of total CIBC 13	Proportion of total CIBC 19
	Comprising:	Comprising:	Comprising:	Comprising:	Comprising:
	Credit risk ⁽⁵⁾ 56	Credit risk ⁽⁵⁾ 62	Credit risk ⁽⁵⁾ 35	Credit risk ⁽⁵⁾ 73	Credit risk ⁽⁵⁾ 22
	Market risk 34	Market risk 3	Market risk 2	Market risk 13	Market risk 17
	Operational/Strategic risks 10	Operational/Strategic risks 35	Operational/Strategic risks 63	Operational/Strategic risks 14	Operational/Strategic risks 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 and legal, regulatory compliance and environmental risks.				

- (1) Includes counterparty credit risk of \$83 million, which comprises derivatives and repo-style transactions.
 (2) Includes counterparty credit risk of \$10,956 million, which comprises derivatives and repo-style transactions.
 (3) Includes counterparty credit risk of \$545 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 own the risks and are responsible for identifying and assessing risks inherent in line of business activities, establishing controls to mitigate those risks, and ensuring the ongoing design and operating effectiveness of controls – this is the first line of defence.

The second line of defence is Risk Management and other functional groups, which provide guidance and effective independent challenge of the adjudication and oversight of credit risks associated with CIBC's commercial, wholesale 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 on the effectiveness of governance practices, risk management processes and internal controls.

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 trading credit risk, 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.

Global Credit Risk Management: This group is responsible for the adjudication and oversight of credit risks (including transaction specific environmental and social risk) associated with our commercial, wholesale and wealth management activities, 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, recovery and resolution planning, 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.

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 United States.

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 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. An appropriate level of loan loss provision by portfolio segment is then established.

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 referred to the Credit Committee, a subcommittee of the GRC, 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 exposure at default 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 exposure at default 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

	2018			2017		
	AIRB approach ⁽¹⁾	Standardized approach	Total	AIRB approach ⁽¹⁾	Standardized approach	Total
Business and government portfolios						
Corporate						
Drawn	\$ 85,899	\$ 27,018	\$ 112,917	\$ 78,312	\$ 23,390	\$ 101,702
Undrawn commitments	43,180	4,885	48,065	39,078	4,085	43,163
Repo-style transactions	91,970	2	91,972	76,899	39	76,938
Other off-balance sheet	14,496	827	15,323	13,484	697	14,181
OTC derivatives	9,440	35	9,475	8,990	64	9,054
	244,985	32,767	277,752	216,763	28,275	245,038
Sovereign						
Drawn	51,703	12,047	63,750	41,439	11,827	53,266
Undrawn commitments	6,576	–	6,576	5,642	–	5,642
Repo-style transactions	16,929	–	16,929	14,374	–	14,374
Other off-balance sheet	753	–	753	533	–	533
OTC derivatives	3,454	–	3,454	2,660	–	2,660
	79,415	12,047	91,462	64,648	11,827	76,475
Banks						
Drawn	13,697	1,868	15,565	10,422	2,021	12,443
Undrawn commitments	1,041	5	1,046	840	8	848
Repo-style transactions	28,860	–	28,860	21,469	–	21,469
Other off-balance sheet	65,253	–	65,253	64,176	–	64,176
OTC derivatives	8,727	286	9,013	7,527	232	7,759
	117,578	2,159	119,737	104,434	2,261	106,695
Gross business and government portfolios						
Less: collateral held for repo-style transactions	125,368	–	125,368	101,315	–	101,315
Net business and government portfolios						
	316,610	46,973	363,583	284,530	42,363	326,893
Retail portfolios						
Real estate secured personal lending						
Drawn	224,501	3,743	228,244	223,291	3,423	226,714
Undrawn commitments	19,572	2	19,574	18,922	3	18,925
	244,073	3,745	247,818	242,213	3,426	245,639
Qualifying revolving retail						
Drawn	22,469	–	22,469	21,982	–	21,982
Undrawn commitments	51,836	–	51,836	49,140	–	49,140
Other off-balance sheet	277	–	277	293	–	293
	74,582	–	74,582	71,415	–	71,415
Other retail						
Drawn	12,158	1,239	13,397	10,755	1,158	11,913
Undrawn commitments	2,546	26	2,572	2,396	28	2,424
Other off-balance sheet	9	–	9	37	–	37
	14,713	1,265	15,978	13,188	1,186	14,374
Total retail portfolios						
	333,368	5,010	338,378	326,816	4,612	331,428
Securitization exposures⁽²⁾						
	13,661	–	13,661	14,174	–	14,174
Gross credit exposure						
	789,007	51,983	840,990	726,835	46,975	773,810
Less: collateral held for repo-style transactions	125,368	–	125,368	101,315	–	101,315
Net credit exposure⁽³⁾						
	\$ 663,639	\$ 51,983	\$ 715,622	\$ 625,520	\$ 46,975	\$ 672,495

(1) Includes exposures subject to the supervisory slotting approach.

(2) Under IRB approach.

(3) Excludes exposures arising from derivative and repo-style transactions which 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 which are risk-weighted at 100%, significant investments in the capital of non-financial institutions which are risk-weighted at 1250%, settlement risk, and amounts below the thresholds for deduction which are risk-weighted at 250%.

Net credit exposure increased by \$43.1 billion in 2018, primarily due to business growth in our North American lending portfolios.

Exposures subject to the standardized approach

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							2018	2017
	0%	20%	35%	50%	75%	100%	150%	Total	Total
Corporate	\$ –	\$ –	\$ –	\$ –	\$ –	\$ 32,653	\$ 114	\$ 32,767	\$ 28,275
Sovereign	6,454	4,314	–	107	–	711	461	12,047	11,827
Banks	–	1,729	–	101	–	320	9	2,159	2,261
Real estate secured personal lending	–	–	–	–	3,552	185	8	3,745	3,426
Other retail	–	–	–	–	1,193	65	7	1,265	1,186
	\$ 6,454	\$ 6,043	\$ –	\$ 208	\$ 4,745	\$ 33,934	\$ 599	\$ 51,983	\$ 46,975

We use credit ratings from S&P and Moody's to calculate credit risk RWAs 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 RWAs calculated using credit ratings from these agencies represents 1.9% of credit risk RWAs 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	2018		2017	
	Exposure ⁽¹⁾			
Investment grade	\$ 6.78	87.3 %	\$ 7.19	84.1 %
Non-investment grade	0.97	12.5	1.33	15.6
Watch list	0.01	0.1	0.02	0.2
Default	0.01	0.1	0.01	0.1
	\$ 7.77	100.0 %	\$ 8.55	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

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, 2018	Canada	U.S.	Europe	Other	Total
Drawn	\$ 100,788	\$ 35,190	\$ 6,278	\$ 9,043	\$ 151,299
Undrawn commitments	37,989	8,992	2,272	1,544	50,797
Repo-style transactions	7,364	2,961	1,014	1,052	12,391
Other off-balance sheet	57,217	14,570	8,175	540	80,502
OTC derivatives	10,484	6,198	3,516	1,423	21,621
	\$ 213,842	\$ 67,911	\$ 21,255	\$ 13,602	\$ 316,610
October 31, 2017	\$ 183,627	\$ 70,580	\$ 17,057	\$ 13,266	\$ 284,530

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	2018 Total	2017 Total
Commercial mortgages	\$ 621	\$ 4	\$ –	\$ –	\$ –	\$ 625	\$ 1,065
Financial institutions	39,080	5,664	11,232	72,587	13,868	142,431	129,106
Retail and wholesale	5,253	2,765	–	277	65	8,360	7,532
Business services	7,158	2,719	35	670	76	10,658	9,769
Manufacturing – capital goods	2,680	2,085	–	532	110	5,407	4,694
Manufacturing – consumer goods	3,341	1,644	–	222	31	5,238	4,909
Real estate and construction	32,216	7,518	113	1,108	73	41,028	36,067
Agriculture	5,803	1,447	–	23	46	7,319	6,936
Oil and gas	7,909	8,470	–	1,002	2,877	20,258	18,104
Mining	1,593	3,275	–	720	80	5,668	5,253
Forest products	448	522	–	159	16	1,145	1,083
Hardware and software	878	429	–	39	7	1,353	1,420
Telecommunications and cable	1,145	952	–	434	136	2,667	2,850
Broadcasting, publishing and printing	604	111	–	–	6	721	504
Transportation	3,767	2,362	–	384	570	7,083	6,729
Utilities	4,226	5,408	–	1,963	498	12,095	12,062
Education, health, and social services	2,627	981	21	122	132	3,883	3,921
Governments	31,950	4,441	990	260	3,030	40,671	32,526
	\$ 151,299	\$ 50,797	\$ 12,391	\$ 80,502	\$ 21,621	\$ 316,610	\$ 284,530

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, 2018, we had credit protection purchased totalling \$158 million (2017: \$155 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	EAD			2018	2017
Obligor grade	Corporate	Sovereign	Banks	Total	Total
Investment grade	\$ 94,312	\$ 63,120	\$ 91,599	\$ 249,031	\$ 225,722
Non-investment grade	64,279	556	1,138	65,973	56,226
Watch list	724	–	–	724	1,173
Default	257	–	–	257	344
Total risk-rated exposure	\$ 159,572	\$ 63,676	\$ 92,737	\$ 315,985	\$ 283,465
LGD estimate	Corporate	Sovereign	Banks	Total	Total
Less than 10%	\$ 10,616	\$ 53,664	\$ 64,709	\$ 128,989	\$ 111,751
10% – 25%	47,656	5,757	9,950	63,363	54,440
26% – 45%	76,027	4,090	17,377	97,494	87,679
46% – 65%	24,209	106	454	24,769	28,310
66% – 100%	1,064	59	247	1,370	1,285
	\$ 159,572	\$ 63,676	\$ 92,737	\$ 315,985	\$ 283,465
Strong				499	899
Good				99	131
Satisfactory				25	30
Weak				1	–
Default				1	5
Total slotted exposure				\$ 625	\$ 1,065
Total business and government portfolios				\$ 316,610	\$ 284,530

The total exposures increased by \$32.1 billion from October 31, 2017, largely attributable to growth in our North American lending portfolios. The investment grade category increased by \$23.3 billion from October 31, 2017, while the non-investment grade category was up \$9.7 billion. The decrease in watch list and default exposures was largely attributable to an improvement in the corporate lending portfolios, including 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.

Risk level	EAD			2018	2017
	Real estate secured personal lending	Qualifying revolving retail	Other retail	Total	Total
Exceptionally low	\$ 195,324	\$ 41,331	\$ 4,650	\$ 241,305	\$ 234,716
Very low	25,887	9,063	1,156	36,106	36,506
Low	18,926	14,649	5,112	38,687	38,351
Medium	3,129	8,250	2,984	14,363	14,436
High	521	1,245	743	2,509	2,466
Default	286	44	68	398	341
	\$ 244,073	\$ 74,582	\$ 14,713	\$ 333,368	\$ 326,816

Securitization exposures

The following table provides details on securitization exposures in our banking book, by credit ratings, under the IRB approach.

S&P rating equivalent	2018	2017
	EAD ⁽¹⁾	
AAA to BBB-	\$ 11,394	\$ 11,196
BB+ to BB-	–	–
Below BB-	–	13
Unrated	2,261	2,960
	\$ 13,655	\$ 14,169

(1) EAD under IRB approach is net of financial collateral of \$6 million (2017: \$5 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 tables provide details on our residential mortgage and HELOC portfolios:

\$ billions, as at October 31, 2018	Residential mortgages		HELOC ⁽¹⁾		Total					
	Insured	Uninsured	Uninsured	Insured	Uninsured					
Ontario ⁽²⁾	\$ 34.7	34 %	\$ 68.5	66 %	\$ 11.7	100 %	\$ 34.7	30 %	\$ 80.2	70 %
British Columbia and territories ⁽³⁾	12.3	29	30.5	71	4.5	100	12.3	26	35.0	74
Alberta	14.6	57	11.1	43	2.7	100	14.6	51	13.8	49
Quebec	6.5	44	8.2	56	1.5	100	6.5	40	9.7	60
Central prairie provinces	4.2	56	3.3	44	0.9	100	4.2	50	4.2	50
Atlantic provinces	4.7	56	3.7	44	0.8	100	4.7	51	4.5	49
Canadian portfolio ⁽⁴⁾⁽⁵⁾	77.0	38	125.3	62	22.1	100	77.0	34	147.4	66
U.S. portfolio ⁽⁴⁾	–	–	1.2	100	0.1	100	–	–	1.3	100
Other international portfolio ⁽⁴⁾	–	–	2.5	100	–	–	–	–	2.5	100
Total portfolio	\$ 77.0	37 %	\$ 129.0	63 %	\$ 22.2	100 %	\$ 77.0	34 %	\$ 151.2	66 %
October 31, 2017	\$ 89.2	44 %	\$ 115.7	56 %	\$ 21.8	100 %	\$ 89.2	39 %	\$ 137.5	61 %

(1) We did not have any insured HELOCs as at October 31, 2018 and 2017.

(2) Includes \$17.0 billion (2017: \$20.4 billion) of insured residential mortgages, \$45.9 billion (2017: \$41.5 billion) of uninsured residential mortgages, and \$6.9 billion (2017: \$6.6 billion) of HELOCs in the Greater Toronto Area (GTA).

(3) Includes \$5.6 billion (2017: \$6.9 billion) of insured residential mortgages, \$22.0 billion (2017: \$21.1 billion) of uninsured residential mortgages, and \$2.8 billion (2017: \$2.7 billion) of HELOCs in the Greater Vancouver Area (GVA).

(4) Geographic location is based on the address of the property.

(5) 73% (2017: 74%) 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 during the year are provided in the following table. We did not acquire uninsured residential mortgages or HELOCs from a third party for the years presented in the table below.

For the year ended October 31	2018		2017	
	Residential mortgages	HELOC	Residential mortgages	HELOC
Ontario ⁽²⁾	63 %	67 %	64 %	67 %
British Columbia and territories ⁽³⁾	60	63	60	64
Alberta	68	72	68	72
Quebec	68	72	68	72
Central prairie provinces	69	73	69	73
Atlantic provinces	72	74	72	73
Canadian portfolio ⁽⁴⁾	64 %	67 %	64 %	67 %
U.S. portfolio ⁽⁴⁾	68	67	71	69
Other international portfolio ⁽⁴⁾	73 %	n/m	73 %	n/m

(1) LTV ratios for newly originated 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 61% (2017: 62%).

(3) Average LTV ratios for our uninsured GVA residential mortgages originated during the year were 56% (2017: 58%).

(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, 2018 ⁽¹⁾⁽²⁾	54 %	53 %
October 31, 2017 ⁽¹⁾⁽²⁾	54 %	53 %

(1) LTV ratios for residential mortgages are calculated based on weighted average. The house price estimates for October 31, 2018 and 2017 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, 2018 and 2017, 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 51% (2017: 49%). Average LTV ratio on our uninsured GVA residential mortgage portfolio was 43% (2017: 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

	Less than 5 years	5 – 10 years	10 – 15 years	15 – 20 years	20 – 25 years	25 – 30 years	30 – 35 years	35 years and above
Canadian portfolio								
October 31, 2018	– %	1 %	2 %	4 %	44 %	48 %	1 %	– %
October 31, 2017	– %	1 %	2 %	5 %	37 %	53 %	2 %	– %
U.S. portfolio								
October 31, 2018	1 %	1 %	4 %	2 %	10 %	80 %	2 %	– %
October 31, 2017 ⁽¹⁾	– %	2 %	6 %	2 %	9 %	79 %	2 %	– %
Other international portfolio								
October 31, 2018	8 %	16 %	26 %	22 %	17 %	11 %	– %	– %
October 31, 2017	8 %	15 %	26 %	23 %	17 %	10 %	1 %	– %

(1) Certain information has been restated.

Current customer payment basis

	Less than 5 years	5 – 10 years	10 – 15 years	15 – 20 years	20 – 25 years	25 – 30 years	30 – 35 years	35 years and above
Canadian portfolio								
October 31, 2018	2 %	4 %	6 %	11 %	36 %	33 %	5 %	3 %
October 31, 2017	2 %	4 %	7 %	11 %	35 %	36 %	5 %	– %
U.S. portfolio								
October 31, 2018	2 %	4 %	13 %	12 %	13 %	53 %	2 %	1 %
October 31, 2017 ⁽¹⁾	– %	4 %	13 %	12 %	12 %	57 %	1 %	1 %
Other international portfolio								
October 31, 2018	7 %	16 %	25 %	22 %	17 %	11 %	1 %	1 %
October 31, 2017	8 %	15 %	26 %	23 %	17 %	9 %	1 %	1 %

(1) Certain information has been restated.

In April 2017, the Government of Ontario introduced a number of housing-related regulations, including a 15% foreign buyers' tax in the GTA and surrounding regions. In February 2018, the Government of British Columbia raised the property transfer tax on the purchase of real estate in the GVA and surrounding regions for foreign buyers to 20%.

On January 1, 2018, new OSFI B-20 guidelines became effective and included changes to qualifying interest rates for uninsured mortgages, more prescriptive guidance around the definitions of non-conforming loans, and enhancements to adjudication procedures.

Reflective of the government and regulatory measures noted above, in addition to changes in consumer behaviour, we expect our insured mortgage mix as a proportion of total mortgages to continue to decrease. We also anticipate that the changes in rules may make it more difficult for certain Canadians to qualify for mortgages, which could result in fewer and/or smaller originations going forward.

CIBC will continue to closely monitor government actions which impact the Canadian housing market and the performance of our Canadian credit portfolios, and will take risk mitigation action as required.

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, 2018, our Canadian condominium mortgages were \$24.1 billion (2017: \$23.8 billion), of which 38% (2017: 44%) were insured. Our drawn developer loans were \$1.6 billion (2017: \$0.9 billion), or 1.3% (2017: 0.9%) of our business and government portfolio, and our related undrawn exposure was \$3.0 billion (2017: \$2.4 billion). The condominium developer exposure is diversified across 103 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, 2018, total loans and acceptances after allowance for credit losses were \$381.7 billion (2017: \$365.6 billion). Consumer loans (comprising residential mortgages, credit cards, and personal loans, including student loans) constitute 69% (2017: 71%) of the portfolio, and business and government loans (including acceptances) constitute the remainder of the portfolio.

Consumer loans were up by \$2.9 billion or 1% from the prior year, primarily due to an increase in personal loans of \$2.1 billion. Business and government loans (including acceptances) were up \$13.2 billion or 12% from the prior year, mainly attributable to the financial institutions, and real estate and construction sectors.

Impaired loans

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

	2018			2017		
	Business and government loans	Consumer loans	Total	Business and government loans	Consumer loans	Total
\$ millions, as at or for the year ended October 31						
Gross impaired loans						
Balance at beginning of year under IAS 39	\$ 626	\$ 684	\$ 1,310	\$ 951	\$ 707	\$ 1,658
Impact of adopting IFRS 9 at November 1, 2017	27	195	222	n/a	n/a	n/a
Balance at beginning of year under IFRS 9	653	879	1,532	n/a	n/a	n/a
Classified as impaired during the year	559	1,907	2,466	346	1,368	1,714
Transferred to performing during the year	(110)	(463)	(573)	(42)	(157)	(199)
Net repayments	(190)	(532)	(722)	(406)	(310)	(716)
Amounts written off	(116)	(934)	(1,050)	(131)	(926)	(1,057)
Recoveries of loans and advances previously written off	-	-	-	-	-	-
Disposals of loans ⁽¹⁾	(182)	-	(182)	(169)	-	(169)
Purchased credit-impaired loans	-	-	-	93	12	105
Foreign exchange and other	7	2	9	(16)	(10)	(26)
Balance at end of year	\$ 621	\$ 859	\$ 1,480	\$ 626	\$ 684	\$ 1,310
Allowance for credit losses – impaired loans ⁽²⁾						
Balance at beginning of year under IAS 39	\$ 191	\$ 286	\$ 477	\$ 259	\$ 313	\$ 572
Impact of adopting IFRS 9 at November 1, 2017	13	(25)	(12)	n/a	n/a	n/a
Balance at beginning of year under IFRS 9	204	261	465	n/a	n/a	n/a
Amounts written off	(116)	(934)	(1,050)	(131)	(926)	(1,057)
Recoveries of amounts written off in previous years	12	178	190	20	173	193
Charge to income statement	188	764	952	78	751	829
Interest accrued on impaired loans	(10)	(13)	(23)	(18)	(8)	(26)
Disposals of loans ⁽¹⁾	(48)	-	(48)	-	-	-
Transfers	-	-	-	-	-	-
Foreign exchange and other	-	(4)	(4)	(17)	(17)	(34)
Balance at end of year	\$ 230	\$ 252	\$ 482	\$ 191	\$ 286	\$ 477
Net impaired loans ⁽³⁾						
Balance at beginning of year under IAS 39	\$ 435	\$ 398	\$ 833	\$ 692	\$ 394	\$ 1,086
Impact of adopting IFRS 9 at November 1, 2017	14	220	234	n/a	n/a	n/a
Balance at beginning of year under IFRS 9	449	618	1,067	n/a	n/a	n/a
Net change in gross impaired	(32)	(20)	(52)	(325)	(23)	(348)
Net change in allowance	(26)	9	(17)	68	27	95
Balance at end of year	\$ 391	\$ 607	\$ 998	\$ 435	\$ 398	\$ 833
Net impaired loans as a percentage of net loans and acceptances			0.26 %			0.23 %

(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. See the "Exposure to certain countries and regions" section for additional information.

(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) 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 was 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, 2018, gross impaired loans were \$1,480 million, up \$170 million from the prior year, primarily due to our adoption of IFRS 9, and increases in the financial institutions and retail sectors, partially offset by repayments in the oil and gas sector, write-offs in the U.S. real estate and construction sector, and reductions in residential mortgages relating to CIBC FirstCaribbean.

52% of gross impaired loans related to Canada, of which the residential mortgages and personal lending portfolios accounted for the majority.

25% of gross impaired loans related to CIBC FirstCaribbean, of which the residential mortgages, personal lending, and real estate and construction sectors accounted for the majority.

The remaining gross impaired loans related to the U.S., of which the real estate and construction, education, health and social services, financial institutions, and oil and gas 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 \$482 million, which is comparable with the prior year.

Increases in allowance arose from the Canadian residential mortgage portfolio primarily as a result of our adoption of IFRS 9, as well as from the financial institutions, business services, and education, health and social services sectors. These increases were largely offset by reductions in allowance related to the Canadian personal lending portfolio as a result of our adoption of IFRS 9, and write-offs in residential mortgages relating to CIBC FirstCaribbean and in the U.S. real estate and construction sector.

Exposure to certain countries and regions

Europe

The following tables provide 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 (2017: individual allowance), if any), deposits with banks (stated at amortized cost net of stage 3 allowance for credit losses (2017: individual allowance), 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 (2017: individual allowance), 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 46% (2017: 39%) 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:

\$ millions, as at October 31, 2018	Direct exposures							
	Funded				Unfunded			
	Corporate	Sovereign	Banks	Total funded (A)	Corporate	Banks	Total unfunded (B)	
Austria	\$ –	\$ 349	\$ 79	\$ 428	\$ –	\$ 1	\$ 1	
Belgium	6	–	3	9	–	–	–	
Finland	–	1	13	14	61	–	61	
France	195	24	85	304	132	14	146	
Germany	181	1,010	698	1,889	166	36	202	
Ireland	49	–	174	223	15	13	28	
Italy	–	–	1	1	–	–	–	
Latvia	–	–	–	–	–	–	–	
Luxembourg	7	–	1,080	1,087	7	37	44	
Netherlands	284	398	372	1,054	93	55	148	
Spain	4	–	13	17	–	17	17	
Total Eurozone	\$ 726	\$ 1,782	\$ 2,518	\$ 5,026	\$ 474	\$ 173	\$ 647	
Czech Republic	\$ –	\$ –	\$ 7	\$ 7	\$ –	\$ –	\$ –	
Denmark	8	–	28	36	–	47	47	
Guernsey	–	–	–	–	–	–	–	
Norway	–	71	246	317	613	–	613	
Poland	–	–	3	3	–	–	–	
Sweden	2	421	165	588	78	–	78	
Switzerland	277	–	47	324	35	–	35	
Turkey	–	–	55	55	–	1	1	
United Kingdom	808	412	580	1,800	3,272	261	3,533	
Total non-Eurozone	\$ 1,095	\$ 904	\$ 1,131	\$ 3,130	\$ 3,998	\$ 309	\$ 4,307	
Total Europe	\$ 1,821	\$ 2,686	\$ 3,649	\$ 8,156	\$ 4,472	\$ 482	\$ 4,954	
October 31, 2017	\$ 1,649	\$ 2,025	\$ 1,348	\$ 5,022	\$ 3,885	\$ 367	\$ 4,252	

Direct exposures (continued)

\$ millions, as at October 31, 2018	Derivative MTM receivables and repo-style transactions							Total direct exposure (A)+(B)+(C)
	Corporate	Sovereign	Banks	Gross exposure ⁽¹⁾	Collateral held ⁽²⁾	Net exposure (C)		
Austria	\$ –	\$ 5	\$ –	\$ 5	\$ –	\$ 5	\$ 434	
Belgium	–	–	6	6	5	1	10	
Finland	1	–	30	31	27	4	79	
France	33	–	2,406	2,439	2,404	35	485	
Germany	7	–	672	679	641	38	2,129	
Ireland	–	–	3,233	3,233	3,180	53	304	
Italy	–	–	2	2	1	1	2	
Latvia	–	2	–	2	–	2	2	
Luxembourg	–	–	119	119	80	39	1,170	
Netherlands	40	–	79	119	76	43	1,245	
Spain	–	–	44	44	35	9	43	
Total Eurozone	\$ 81	\$ 7	\$ 6,591	\$ 6,679	\$ 6,449	\$ 230	\$ 5,903	
Czech Republic	\$ –	\$ 1,252	\$ –	\$ 1,252	\$ 1,193	\$ 59	\$ 66	
Denmark	–	–	8	8	7	1	84	
Guernsey	–	–	1	1	1	–	–	
Norway	–	–	–	–	–	–	930	
Poland	–	–	–	–	–	–	3	
Sweden	7	–	59	66	58	8	674	
Switzerland	3	–	4,572	4,575	4,328	247	606	
Turkey	–	–	–	–	–	–	56	
United Kingdom	595	309	9,531	10,435	9,234	1,201	6,534	
Total non-Eurozone	\$ 605	\$ 1,561	\$ 14,171	\$ 16,337	\$ 14,821	\$ 1,516	\$ 8,953	
Total Europe	\$ 686	\$ 1,568	\$ 20,762	\$ 23,016	\$ 21,270	\$ 1,746	\$ 14,856	
October 31, 2017	\$ 714	\$ 1,954	\$ 14,403	\$ 17,071	\$ 15,905	\$ 1,166	\$ 10,440	

(1) The amounts shown are net of CVA.

(2) Collateral on derivative MTM receivables was \$0.8 billion (2017: \$1.0 billion), collateral on repo-style transactions was \$20.5 billion (2017: \$14.9 billion), and both are composed of cash and investment grade debt securities.

In previous years, in addition to the European exposure identified above, we had indirect exposure which comprised the European portion of the exposure to an asset-backed security in our trading book. This exposure in the current year is nil (2017: \$1 million). Our gross exposure before subordination was stated at carrying value.

We also have \$465 million (2017: \$181 million) of indirect exposure to European entities, as we hold debt or equity securities issued by European entities as collateral for our securities lending and borrowing activity, from counterparties that are not in Europe.

Barbados

On June 1, 2018, the newly elected Barbados government announced its intention to restructure its public debt and that debt payments to foreign creditors would be suspended and payments to domestic creditors would be made on a best-efforts basis while the government finalized a comprehensive economic reform plan. Pursuant to a comprehensive debt restructuring agreement between the domestic creditors and the Government of Barbados, on October 31, 2018 we exchanged (i) securities measured at FVOCI with a par value of \$467 million and expected credit losses of \$99 million; and (ii) loans measured at amortized cost with a par value of \$116 million and expected credit losses of \$48 million; for (i) longer-dated securities with a par value of \$522 million measured as originated credit-impaired amortized cost securities at an initial 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 (ii) shorter-dated securities measured as stage 1 amortized cost securities with a par and carrying value of \$61 million, with expected credit losses of \$1 million.

The comprehensive debt restructuring agreement excluded U.S. dollar denominated loans and securities with a net carrying value of approximately \$56 million, of which \$31 million were classified as impaired and \$25 million were classified as performing.

The expected credit losses and estimated fair values for these exposures are subject to significant management judgment.

Our performing loans and deposits in Barbados were \$1.0 billion and \$2.1 billion, respectively, as at October 31, 2018.

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 which offers credit to mid-market clients. 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, 2018, the portfolio of permanent financing exposures was \$41 million (2017: \$95 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 these transactions, we retain credit risk on the exposures that we hold and 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 the IRB approach. The IRB approach for securitization comprises several calculation approaches: ratings-based, supervisory formula, and internal assessment.

The internal assessment approach (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. 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 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.

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:

	2018				2017				
	Subject to market risk			Not subject to market risk	Subject to market risk			Not subject to market risk	Non-traded risk primary risk sensitivity
Consolidated balance sheet	Trading	Non-trading	Consolidated balance sheet		Trading	Non-trading	Consolidated balance sheet		
Cash and non-interest-bearing deposits with banks	\$ 4,380	\$ –	\$ 2,340	\$ 2,040	\$ 3,440	\$ –	\$ 1,940	\$ 1,500	Foreign exchange
Interest-bearing deposits with banks	13,311	96	13,215	–	10,712	426	10,286	–	Interest rate
Securities	101,664	49,784	51,880	–	93,419	48,900	44,519	–	Equity, interest rate
Cash collateral on securities borrowed	5,488	–	5,488	–	5,035	–	5,035	–	Interest rate
Securities purchased under resale agreements	43,450	–	43,450	–	40,383	–	40,383	–	Interest rate
Loans									
Residential mortgages	207,749	–	207,749	–	207,271	–	207,271	–	Interest rate
Personal	43,058	–	43,058	–	40,937	–	40,937	–	Interest rate
Credit card	12,673	–	12,673	–	12,378	–	12,378	–	Interest rate
Business and government	109,555	15,730 ⁽¹⁾	93,825	–	97,766	13,809 ⁽¹⁾	83,957	–	Interest rate
Allowance for credit losses	(1,639)	–	(1,639)	–	(1,618)	–	(1,618)	–	Interest rate
Derivative instruments	21,431	19,132 ⁽²⁾	2,299	–	24,342	21,120 ⁽²⁾	3,222	–	Interest rate, foreign exchange
Customers' liability under acceptances	10,265	–	10,265	–	8,824	–	8,824	–	Interest rate
Other assets ⁽³⁾	25,714	561	15,474	9,679	22,375	478	12,888	9,009	Interest rate, equity, foreign exchange
	\$ 597,099	\$ 85,303	\$ 500,077	\$ 11,719	\$ 565,264	\$ 84,733	\$ 470,022	\$ 10,509	
Deposits	\$ 461,015	\$ 507 ⁽⁴⁾	\$ 414,051	\$ 46,457	\$ 439,706	\$ 510 ⁽⁴⁾	\$ 391,831	\$ 47,365	Interest rate
Obligations related to securities sold short	13,782	13,731	51	–	13,713	13,682	31	–	Interest rate
Cash collateral on securities lent	2,731	–	2,731	–	2,024	–	2,024	–	Interest rate
Obligations related to securities sold under repurchase agreements	30,840	–	30,840	–	27,971	–	27,971	–	Interest rate
Derivative instruments	20,973	19,013 ⁽²⁾	1,960	–	23,271	21,029 ⁽²⁾	2,242	–	Interest rate, foreign exchange
Acceptances	10,296	–	10,296	–	8,828	–	8,828	–	Interest rate
Other liabilities ⁽³⁾	18,266	2,051	8,527	7,688	15,305	1,237	7,108	6,960	Interest rate
Subordinated indebtedness	4,080	–	4,080	–	3,209	–	3,209	–	Interest rate
	\$ 561,983	\$ 35,302	\$ 472,536	\$ 54,145	\$ 534,027	\$ 36,458	\$ 443,244	\$ 54,325	

(1) Excludes \$39 million (2017: \$95 million) of loans that are warehoused for future securitization purposes. These are considered non-trading for market risk purposes.

(2) Excludes derivatives relating to the structured credit and other run-off businesses which are considered non-trading for market risk purposes.

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

(4) 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

	2018				2017			
	High	Low	As at	Average	High	Low	As at	Average
Interest rate risk	\$ 7.6	\$ 2.9	\$ 3.5	\$ 4.5	\$ 6.9	\$ 1.8	\$ 3.9	\$ 4.1
Credit spread risk	2.0	0.5	1.6	1.0	3.8	0.7	0.9	2.1
Equity risk	8.4	1.7	3.7	2.8	18.5	1.8	3.1	3.3
Foreign exchange risk	4.6	0.5	1.3	1.6	10.3	0.8	1.2	3.2
Commodity risk	4.7	1.0	1.5	1.8	5.1	1.3	3.2	2.6
Debt specific risk	2.7	0.9	1.3	1.5	2.0	0.7	1.6	1.3
Diversification effect ⁽¹⁾	n/m	n/m	(7.9)	(7.9)	n/m	n/m	(8.8)	(10.1)
Total VaR (one-day measure)	\$ 10.4	\$ 4.0	\$ 5.0	\$ 5.3	\$ 22.2	\$ 3.7	\$ 5.1	\$ 6.5

(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, 2018 was down \$1.2 million from the prior year. The decrease was driven by a decrease in foreign exchange, credit spread, commodity and equity risks, partially offset by an increase in interest rate and debt specific 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

	2018				2017			
	High	Low	As at	Average	High	Low	As at	Average
Interest rate risk	\$ 33.8	\$ 6.8	\$ 14.2	\$ 17.4	\$ 32.2	\$ 6.4	\$ 25.2	\$ 15.1
Credit spread risk	17.9	4.0	17.9	9.6	13.8	4.1	5.6	7.9
Equity risk	7.8	0.8	6.3	3.4	11.3	0.8	1.9	2.2
Foreign exchange risk	15.5	0.5	2.7	5.3	28.2	0.6	1.8	7.1
Commodity risk	7.9	1.3	2.5	2.5	9.2	1.4	3.4	4.3
Debt specific risk	6.7	2.6	6.3	4.6	5.0	2.3	4.4	3.4
Diversification effect ⁽¹⁾	n/m	n/m	(33.4)	(30.4)	n/m	n/m	(35.6)	(27.9)
Stressed total VaR (one-day measure)	\$ 22.6	\$ 3.7	\$ 16.5	\$ 12.4	\$ 35.0	\$ 5.4	\$ 6.7	\$ 12.1

(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, 2018 was up \$0.3 million from the prior year. The increase was driven by an increase in interest rate, credit spread, equity and debt specific risks, partially offset by a reduction in foreign exchange and commodity risks.

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

	2018				2017			
	High	Low	As at	Average	High	Low	As at	Average
Default risk	\$ 214.2	\$ 71.5	\$ 176.1	\$ 143.2	\$ 329.1	\$ 69.4	\$ 69.5	\$ 110.5
Migration risk	155.5	33.3	53.1	57.6	145.1	27.3	77.9	64.0
IRC (one-year measure) ⁽¹⁾	\$ 291.5	\$ 147.8	\$ 229.2	\$ 200.8	\$ 387.8	\$ 122.2	\$ 147.4	\$ 174.5

(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, 2018 was up \$26.3 million from the prior year due to increases in inventory size in the trading 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.

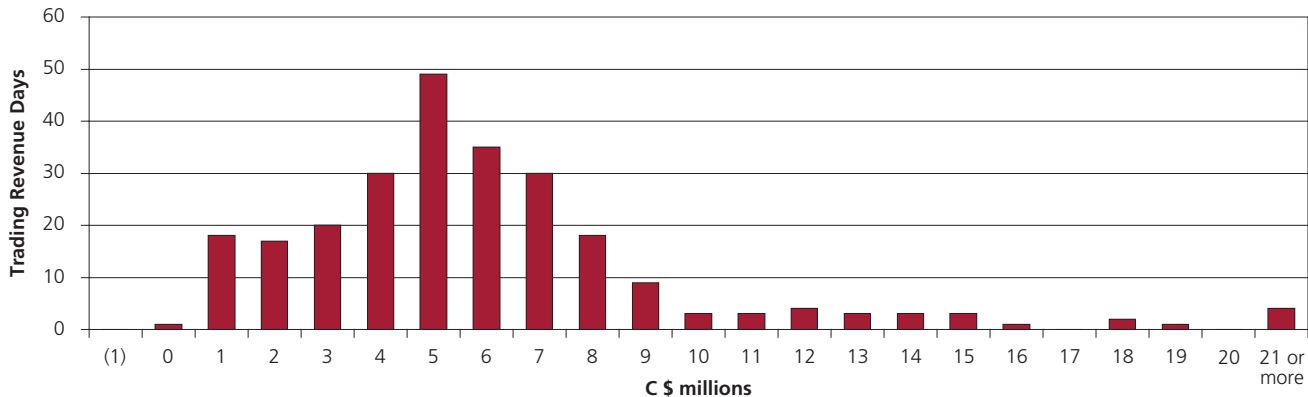
Trading revenue

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 \$26.5 million occurred on May 31, 2018. It was attributable to the normal course of business within our global markets line of business, notably in equity derivatives. The largest loss of \$0.3 million occurred on March 22, 2018, driven by fixed income inventory. Average daily trading revenue (TEB) was \$5.5 million during the year, and the average daily TEB was \$1.1 million.

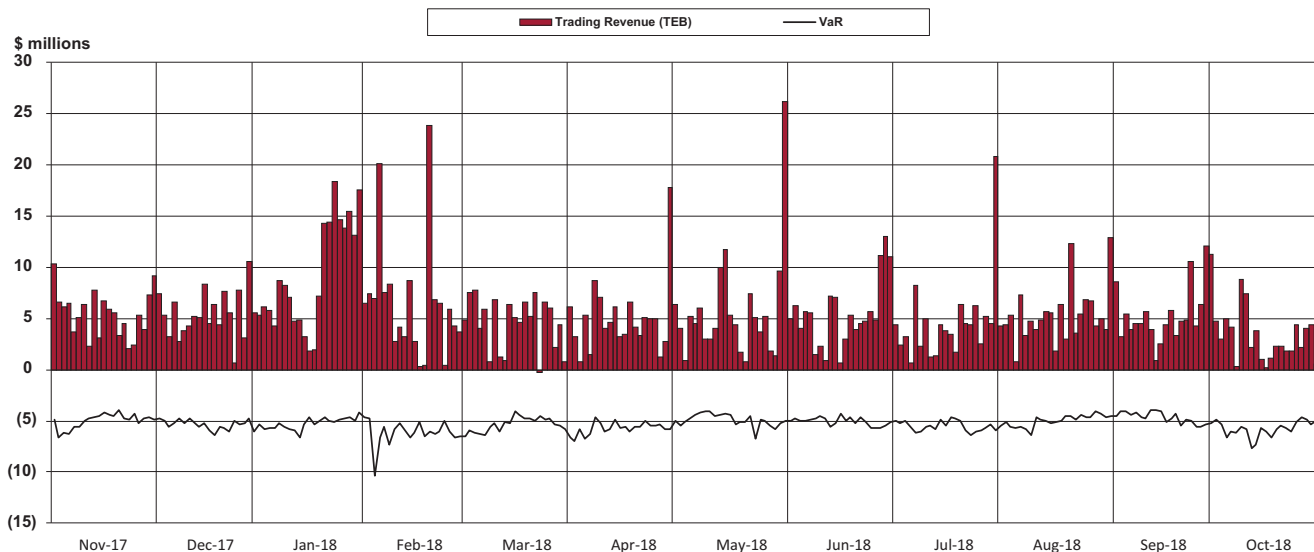
Frequency distribution of daily 2018 trading revenue (TEB)⁽¹⁾

The histogram below presents the frequency distribution of daily trading revenue (TEB) for 2018.



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 February 2018, a quantitative easing (QE) tapering and asset price correction scenario was introduced, which considers a potential economic slowdown as a result of combined rate hikes and QE tapering by the U.S. Federal Reserve, Bank of Canada, Bank of England, and the European Central Bank. In June 2018, an oil shock and equity correction scenario was introduced based on a constriction of supply with a rising "political premium", which includes the reinstatement of oil sanctions against Iran by the U.S., the proxy conflict between Saudi Arabia and Iran over Yemen, and the collapse of Venezuela's oil industry.

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 and Lehman collapse – 2008
- U.S. Federal Reserve tightening – 1994
- U.S. sovereign debt default and downgrade
- Chinese hard landing
- Canada market crisis
- U.S. protectionism
- Eurozone bank crisis
- Korean War – base
- QE tapering and asset price correction
- Oil shock and equity correction

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, 2018	Positive	Negative	Net
Maturity less than 1 year	\$ 1,174	\$ 327	\$ 847
Maturity 1 – 3 years	856	428	428
Maturity 4 – 5 years	151	93	58
Maturity in excess of 5 years	409	19	390
	\$ 2,590	\$ 867	\$ 1,723

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 and 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.

Beginning in 2018, CIBC has made modelling improvements which enhance the measurement of structural interest rate risk.

Structural interest rate sensitivity – measures

\$ millions (pre-tax), as at October 31

	2018		2017 ⁽¹⁾	
	CAD ⁽²⁾	USD	CAD ⁽²⁾	USD
100 basis point increase in interest rates				
Increase (decrease) in net interest income	\$ 170	\$ 32	\$ 225	\$ 58
Increase (decrease) in present value of shareholders' equity	(396)	(230)	(354)	(84)
100 basis point decrease in interest rates				
Increase (decrease) in net interest income	(246)	(58)	(289)	(118)
Increase (decrease) in present value of shareholders' equity	316	269	276	(6)

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

(2) Includes CAD and other currency exposures.

Foreign exchange risk

Non-trading foreign exchange risk, also referred to as 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 RMC, 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, 2018 by approximately \$130 million (2017: \$120 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. Thus, 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 \$8 million (2017: \$12 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 in the consolidated statement of 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
2018	Equity securities designated at FVOCI	\$ 468	\$ 562
	Equity-accounted investments in associates ⁽¹⁾	63	101
		\$ 531	\$ 663
2017	AFS securities	\$ 364	\$ 469
	Equity-accounted investments in associates ⁽¹⁾	313	356
		\$ 677	\$ 825

(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, 2018, our consolidated defined benefit pension plans were in a net asset position of \$311 million, compared with \$134 million as at October 31, 2017. 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 the management of investment strategies for our pension plans utilizing a holistic framework which ensures that the plans are sustainably maintained within manageable risk tolerances and shareholder 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 (CFP).

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, including the measurement, monitoring and control of liquidity risk, as the second line of defence.

Internal Audit provides the third line of defence, with independent assessment of the design and operating effectiveness of liquidity risk management controls, processes and systems.

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 aligned with our operating regulatory requirements. The Liquidity Risk Management Committee, a subcommittee of GALCO, is responsible for supporting GALCO to ensure 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 for a minimum time period as measured by CIBC's Liquidity Horizon. CIBC subsidiaries possessing unique liquidity characteristics, due to distinct business or jurisdictional requirements, maintain local liquidity policies 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. Pledged asset limits ensure unencumbered liquid assets are available for liquidity purposes.

We maintain a detailed global CFP 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 and invocation, articulates implementation and escalation procedures, and is aligned to CIBC's risk appetite. In order to reflect CIBC's organizational complexity, regional and subsidiary CFPs 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 measures 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. Contractual and behavioural on- and off-balance sheet cash flows under normal and stressed conditions are modelled and used to determine liquidity levels against the prescribed management target.

Our liquidity measurement system provides liquidity risk exposure reports that include the calculation of the Liquidity Horizon 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 GALCO-approved management limits, which are more stringent than the limits established by the RMC.

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, and expected contingent liquidity utilization, as well as liquid asset marketability. Results from stress testing are also incorporated as input into the CFP review process.

Beginning in 2018, CIBC has made changes to the tables below which enhance the presentation of liquid assets and asset encumbrance.

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⁾
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
2017 ⁽³⁾					
Cash and deposits with banks	\$ 14,152	\$ –	\$ 14,152	\$ 555	\$ 13,597
Securities issued or guaranteed by sovereigns, central banks, and multilateral development banks	51,196	65,923	117,119	67,806	49,313
Other debt securities	8,227	1,549	9,776	1,461	8,315
Equities	31,798	16,786	48,584	24,951	23,633
Canadian government guaranteed National Housing Act mortgage-backed securities	35,009	1,023	36,032	8,278	27,754
Other liquid assets ⁽²⁾	5,796	2,258	8,054	5,346	2,708
	\$ 146,178	\$ 87,539	\$ 233,717	\$ 108,397	\$ 125,320

(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.

(3) Certain information has been restated to conform to the presentation adopted in the current year.

The following table summarizes unencumbered liquid assets held by CIBC (parent) and its domestic and foreign subsidiaries:

\$ millions, as at October 31	2018	2017 ⁽¹⁾
CIBC (parent)	\$ 99,486	\$ 84,183
Domestic subsidiaries	15,988	11,454
Foreign subsidiaries	25,441	29,683
	\$ 140,915	\$ 125,320

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

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 \$15.6 billion from October 31, 2017, 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:

\$ millions, as at October 31	Encumbered		Unencumbered		Total assets
	Pledged as collateral	Other ⁽¹⁾	Available as collateral	Other ⁽²⁾	
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
2017 ⁽⁴⁾					
Cash and deposits with banks	\$ –	\$ 555	\$ 13,597	\$ –	\$ 14,152
Securities	95,321	971	86,882	–	183,174
Loans, net of allowance ⁽³⁾	1,450	42,202	31,550	281,582	356,784
Other assets	4,419	–	186	50,936	55,541
	\$ 101,190	\$ 43,728	\$ 132,215	\$ 332,518	\$ 609,651

(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 available to existing non-central bank lending programs.

(3) Loans included as available as collateral represent National Housing Act MBS (reported as loans on our consolidated balance sheet) and Federal Home Loan Banks eligible loans.

(4) Certain information has been restated to conform to the presentation adopted in the current year.

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 separate regulatory 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, 2018

		Total unweighted value ⁽¹⁾	Total weighted value ⁽²⁾
HQLA			
1	HQLA	n/a	\$ 110,318
Cash outflows			
2	Retail deposits and deposits from small business customers, of which:	\$ 145,672	9,626
3	Stable deposits	70,581	2,117
4	Less stable deposits	75,091	7,509
5	Unsecured wholesale funding, of which:	127,979	60,231
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks	53,439	12,963
7	Non-operational deposits (all counterparties)	55,510	28,238
8	Unsecured debt	19,030	19,030
9	Secured wholesale funding	n/a	8,688
10	Additional requirements, of which:	88,559	23,865
11	Outflows related to derivative exposures and other collateral requirements	10,098	6,876
12	Outflows related to loss of funding on debt products	4,153	4,153
13	Credit and liquidity facilities	74,308	12,836
14	Other contractual funding obligations	2,731	2,731
15	Other contingent funding obligations	277,718	5,163
16	Total cash outflows	n/a	110,304
Cash inflows			
17	Secured lending (e.g. reverse repos)	68,331	9,789
18	Inflows from fully performing exposures	15,625	7,748
19	Other cash inflows	6,824	6,824
20	Total cash inflows	\$ 90,780	\$ 24,361
21	Total HQLA	n/a	Total adjusted value \$ 110,318
22	Total net cash outflows	n/a	\$ 85,943
23	LCR	n/a	128 %

\$ millions, average of the three months ended July 31, 2018

			Total adjusted value
24	Total HQLA	n/a	\$ 105,255
25	Total net cash outflows	n/a	\$ 83,656
26	LCR	n/a	126 %

(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, 2018 increased to 128% from 126% in the prior quarter, mainly due to 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's Treasury function, 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 balance sheet with deposits primarily raised from personal and commercial banking channels. Personal deposits accounted for \$163.9 billion as at October 31, 2018 (2017: \$159.3 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, 2018	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⁾	\$ 3,207	\$ 13	\$ –	\$ 49	\$ 3,269	\$ –	\$ –	\$ 3,269
Certificates of deposit and commercial paper	8,589	11,373	15,822	18,692	54,476	2,926	399	57,801
Bearer deposit notes and bankers' acceptances	819	743	1,557	292	3,411	–	–	3,411
Asset-backed commercial paper	–	–	–	–	–	–	–	–
Legacy senior unsecured medium-term notes ⁽²⁾	200	1,335	120	6,488	8,143	6,976	23,986	39,105
Senior unsecured medium-term notes ⁽³⁾	–	–	–	9	9	59	122	190
Senior unsecured structured notes	–	–	–	283	283	–	–	283
Covered bonds/asset-backed securities								
Mortgage securitization	–	2,732	574	1,091	4,397	2,015	12,262	18,674
Covered bonds	–	2,012	1,103	1,496	4,611	3,316	11,857	19,784
Cards securitization	–	–	1,316	724	2,040	2,109	–	4,149
Subordinated liabilities	–	–	–	–	–	–	4,080	4,080
Other	–	–	3	43	46	20	5	71
	\$ 12,815	\$ 18,208	\$ 20,495	\$ 29,167	\$ 80,685	\$ 17,421	\$ 52,711	\$ 150,817
Of which:								
Secured	\$ –	\$ 4,744	\$ 2,993	\$ 3,311	\$ 11,048	\$ 7,440	\$ 24,119	\$ 42,607
Unsecured	12,815	13,464	17,502	25,856	69,637	9,981	28,592	108,210
	\$ 12,815	\$ 18,208	\$ 20,495	\$ 29,167	\$ 80,685	\$ 17,421	\$ 52,711	\$ 150,817
October 31, 2017	\$ 8,981	\$ 17,125	\$ 27,147	\$ 23,503	\$ 76,756	\$ 24,207	\$ 41,513	\$ 142,476

(1) Includes non-negotiable term deposits from banks.

(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. See the "Capital resources" section for additional details.

(3) Comprises liabilities which are subject to conversion under the bail-in regulations.

CIBC's wholesale funding is diversified by currency as demonstrated in the table that follows:

\$ billions, as at October 31	2018		2017	
CAD	\$ 49.6	33 %	\$ 53.2	37 %
USD	80.8	54	72.6	51
Other	20.4	13	16.7	12
	\$ 150.8	100 %	\$ 142.5	100 %

Our funding volumes increased relative to 2017 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. 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. On April 19, 2018, DBRS downgraded the ratings of subordinated indebtedness issued by the big six Canadian banks without an NVCC provision by one notch, including CIBC, and also revised its outlook from negative to stable for CIBC. On July 16, 2018, Moody's upgraded the senior debt and subordinated indebtedness – NVCC ratings of CIBC and the other big six Canadian banks. The outlook for CIBC and the other big six Canadian banks was also revised to stable from negative. These changes result from the finalization of the bail-in regulations on April 18, 2018, which became effective on September 23, 2018. See the "Capital resources" section for additional details. As a result of the implementation of the bail-in regime, CIBC now has two classes of senior debt: legacy senior debt (not subject to the bail-in regulations) and senior debt (subject to bail-in regulations). On October 22, 2018, Fitch revised the outlook for CIBC to stable from negative, reflecting CIBC's reduced rate of growth in Canadian residential mortgages. We do not expect a material impact on our funding costs or ability to access funding as a result of these changes.

Our credit ratings are summarized in the following table:

As at October 31, 2018	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 available.

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	2018	2017
One-notch downgrade	\$ 0.1	\$ –
Two-notch downgrade	0.1	0.1
Three-notch downgrade	0.1	0.3

Regulatory developments concerning liquidity

OSFI's LAR guideline became effective in 2015. It is driven by the BCBS' global liquidity requirements, and includes the LCR, net stable funding ratio (NSFR) and other liquidity monitoring tools. It is further supplemented by 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 October 2017, OSFI provided updated draft NSFR guidance and is engaging industry participants to review its NSFR implementation plans and to clarify details of the NSFR and its application to the Canadian financial industry. In February 2018, OSFI announced that the implementation of the NSFR for deposit-taking institutions will be extended to January 2020.

Consistent with the requirements above, we submit the LCR and NCCF reports to OSFI on a monthly basis and the NSFR report on a quarterly basis. We provide the LCR and NSFR reports 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, 2018	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	\$ 4,380	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –	\$ 4,380
Interest-bearing deposits with banks	13,311	–	–	–	–	–	–	–	–	13,311
Securities	2,286	2,755	2,104	3,046	1,971	6,265	32,386	24,935	25,916	101,664
Cash collateral on securities borrowed	5,488	–	–	–	–	–	–	–	–	5,488
Securities purchased under resale agreements	20,820	11,774	2,432	6,180	242	2,002	–	–	–	43,450
Loans										
Residential mortgages	2,540	4,774	9,269	11,657	11,165	53,597	106,293	7,807	647	207,749
Personal	556	643	1,159	1,106	975	226	1,560	2,263	34,570	43,058
Credit card	266	532	798	798	798	3,194	6,287	–	–	12,673
Business and government	11,177	3,474	4,894	4,625	3,507	15,658	36,545	12,802	16,873	109,555
Allowance for credit losses	–	–	–	–	–	–	–	–	(1,639)	(1,639)
Derivative instruments	1,926	3,128	1,550	1,070	1,173	2,463	4,107	6,014	–	21,431
Customers' liability under acceptances	9,169	1,014	67	13	2	–	–	–	–	10,265
Other assets	–	–	–	–	–	–	–	–	25,714	25,714
	\$ 71,919	\$ 28,094	\$ 22,273	\$ 28,495	\$ 19,833	\$ 83,405	\$ 187,178	\$ 53,821	\$ 102,081	\$ 597,099
October 31, 2017	\$ 68,633	\$ 19,284	\$ 19,148	\$ 24,660	\$ 19,187	\$ 77,767	\$ 185,148	\$ 50,473	\$ 100,964	\$ 565,264
Liabilities										
Deposits ⁽¹⁾	\$ 21,817	\$ 29,161	\$ 34,584	\$ 31,806	\$ 26,432	\$ 27,414	\$ 52,888	\$ 8,467	\$ 228,446	\$ 461,015
Obligations related to securities sold short	13,782	–	–	–	–	–	–	–	–	13,782
Cash collateral on securities lent	2,731	–	–	–	–	–	–	–	–	2,731
Obligations related to securities sold under repurchase agreements	29,227	1,483	130	–	–	–	–	–	–	30,840
Derivative instruments	1,501	2,275	1,618	957	1,292	2,365	3,905	7,060	–	20,973
Acceptances	9,200	1,014	67	13	2	–	–	–	–	10,296
Other liabilities	–	–	–	–	–	–	–	–	18,266	18,266
Subordinated indebtedness	–	–	–	–	–	–	–	4,080	–	4,080
Equity	–	–	–	–	–	–	–	–	35,116	35,116
	\$ 78,258	\$ 33,933	\$ 36,399	\$ 32,776	\$ 27,726	\$ 29,779	\$ 56,793	\$ 19,607	\$ 281,828	\$ 597,099
October 31, 2017	\$ 71,445	\$ 34,910	\$ 40,912	\$ 23,237	\$ 23,940	\$ 36,809	\$ 49,836	\$ 17,197	\$ 266,978	\$ 565,264

(1) Comprises \$163.9 billion (2017: \$159.3 billion) of personal deposits of which \$153.2 billion (2017: \$149.5 billion) are in Canada and \$10.7 billion (2017: \$9.8 billion) are in other countries; \$282.7 billion (2017: \$266.6 billion) of business and government deposits and secured borrowings of which \$211.9 billion (2017: \$192.7 billion) are in Canada and \$70.8 billion (2017: \$73.9 billion) are in other countries; and \$14.4 billion (2017: \$13.8 billion) of bank deposits of which \$5.9 billion (2017: \$6.6 billion) are in Canada and \$8.5 billion (2017: \$7.2 billion) are in other countries.

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, 2018	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⁾	\$ 39,931	\$ 5,883	\$ 5,736	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –	\$ 51,550
Unutilized credit commitments	1,147	5,278	2,844	2,718	3,122	10,886	46,306	2,306	150,139	224,746
Backstop liquidity facilities	–	8,750	630	726	92	309	–	13	–	10,520
Standby and performance letters of credit	1,940	2,586	2,108	3,261	1,651	427	1,139	130	–	13,242
Documentary and commercial letters of credit	35	90	49	11	14	–	–	–	–	199
	\$ 43,053	\$ 22,587	\$ 11,367	\$ 6,716	\$ 4,879	\$ 11,622	\$ 47,445	\$ 2,449	\$ 150,139	\$ 300,257
October 31, 2017	\$ 39,287	\$ 21,865	\$ 10,724	\$ 7,042	\$ 4,083	\$ 14,976	\$ 37,280	\$ 1,920	\$ 143,182	\$ 280,359

(1) Includes \$116.5 billion (2017: \$111.7 billion) of personal, home equity and credit card lines, which are unconditionally cancellable at our discretion.

(2) Excludes securities lending of \$2.7 billion (2017: \$2.0 billion) for cash because it is reported on the consolidated balance sheet.

Other contractual obligations

The following table provides the contractual maturities of other contractual obligations affecting our funding needs:

\$ millions, as at October 31, 2018	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	\$ 41	\$ 83	\$ 124	\$ 124	\$ 122	\$ 472	\$ 1,289	\$ 3,505	\$ 5,760
Purchase obligations ⁽¹⁾	97	185	198	174	167	496	672	66	2,055
Pension contributions ⁽²⁾	16	32	48	49	49	–	–	–	194
Underwriting commitments	176	–	–	–	–	–	–	–	176
Investment commitments	1	4	–	–	4	2	3	180	194
	\$ 331	\$ 304	\$ 370	\$ 347	\$ 342	\$ 970	\$ 1,964	\$ 3,751	\$ 8,379
October 31, 2017	\$ 625	\$ 405	\$ 386	\$ 324	\$ 330	\$ 973	\$ 1,805	\$ 3,477	\$ 8,325

(1) 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.

(2) 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, as well as each having 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. Frontline businesses form our first line of defence. Their primary responsibility is the day-to-day management of operational risk inherent in their products and activities.

The second line of defence includes Risk Management and other oversight functions, which are responsible for monitoring and providing independent oversight of operational risk matters in their respective risk types and for providing effective challenges to business lines' operational risk assessments and mitigation activities.

Internal Audit, our third line of defence, assesses and provides an independent opinion on the design and operating effectiveness of CIBC's management of operational risk and the strength of the internal control environment.

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 oversight functions and experts independently 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 independently challenged by GORM and other oversight functions as the second line of defence 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.

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 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.

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 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 Global Reputation and Legal Risks Policy sets standards for safeguarding our reputation through pro-active identification, measurement and management of potential reputation and legal risks. The policy is 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 and compliance 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 Chief Compliance Officer 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 social risk

Environmental and 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.

Given the growing importance of environmental risk to our bank, on November 1, 2018, we aligned responsibility of our environmental policy and governance into our Senior Vice-President, Enterprise and Conduct Risk who reports into our CRO on environmental governance. 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 social risk management standards and procedures in place for all sectors. In addition, environmental and 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. Two proposed transactions were escalated to the Reputation and Legal Risks Committee in 2018 through this process.

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 TCFD, which aims to develop voluntary, consistent climate-related risk disclosures. We continue to evaluate the potential for further climate-related disclosures that align with the TCFD recommendations and to engage with peers in a variety of industries in an effort to ensure that any methodology developed to support such disclosures is reasonable and appropriate and can be applied on a consistent basis. In addition, we are a member of the United Nations Environment Programme-Finance Initiative (UNEP-FI), which has a mission to promote sustainable finance.

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/cibcpublish/en/about-cibc/corporate-responsibility.html>. The information 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 9 "Financial Instruments" (IFRS 9) in place of IAS 39 "Financial Instruments: Recognition and Measurement" (IAS 39) 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, which are reported under IAS 39 and are therefore not comparable to the information presented for 2018. 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 include, 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 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. Independent validation of fair value is performed at least on a monthly basis. Valuation inputs are verified 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.

	2018		2017	
	Level 3	Total ⁽¹⁾	Level 3	Total ⁽¹⁾
Assets				
Securities mandatorily measured and designated at FVTPL and loans mandatorily measured at FVTPL (2017: Trading securities and loans)	\$ 833	1.2 %	\$ 232	0.4 %
Debt securities measured at FVOCI and equity securities designated at FVOCI (2017: AFS securities)	285	0.8	1,967	4.9
Derivative instruments	222	1.0	196	0.8
	\$ 1,340	1.0 %	\$ 2,395	1.8 %
Liabilities				
Deposits and other liabilities ⁽²⁾	\$ 423	5.3 %	\$ 369	5.5 %
Derivative instruments	359	1.7	245	1.1
	\$ 782	1.8 %	\$ 614	1.4 %

(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 and the determination of the amount of write-downs involve estimates that are based on accounting processes and judgments by management. We evaluate the adequacy of the fair value adjustments and the amount of write-downs on an ongoing basis. The levels of fair value adjustments and the amount of the write-downs could change as events warrant and may not reflect ultimate realizable amounts.

The following table summarizes our valuation adjustments:

	2018	2017
\$ millions, as at October 31		
Securities		
Market risk	\$ 1	\$ 2
Derivatives		
Market risk	165	111
Credit risk	72	66
Administration costs	5	5
Total valuation adjustments	\$ 243	\$ 184

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 pertain 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 changes 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, the ECL model eliminates the threshold or trigger event required to recognize lifetime credit losses under the incurred loss model, and lifetime ECL are recognized earlier under IFRS 9.

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, while the performing portion of our collective allowances have generally been replaced by either stage 1 or stage 2 allowances under IFRS 9.

Key drivers of expected credit loss

The new 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 considers 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 is 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 now recognize provision for credit losses on both impaired (stage 3) and performing (stages 1 and 2) loans in the respective 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 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 will retain the IAS 39 hedge accounting requirements. However, we have adopted the new hedge accounting disclosure requirements under amendments to IFRS 7.

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 SEs that have purchased and securitized our own assets including Cards II Trust, Broadway 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.

In addition, we sell and derecognize commercial mortgages through a pass-through arrangement with a trust that securitizes these mortgages into ownership certificates held by various external investors. We continue to perform special servicing of the mortgages in exchange for a market-based fee and do not consolidate the trust. 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, 2018, we had goodwill of \$5,564 million (2017: \$5,367 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 give rise to a deficiency which would result in an impairment charge.

The recoverable amount of CIBC FirstCaribbean is based on a value in use calculation that is estimated using a five-year cash flow projection approved by management of CIBC FirstCaribbean and an estimate of the capital required to be maintained in the region to support ongoing operations.

We performed our annual impairment test as of August 1, 2018 based on a five-year forecast prepared by management of CIBC FirstCaribbean during the fourth quarter of 2018. The forecast for CIBC FirstCaribbean used in our 2018 annual impairment test reflects an expectation of continued productive loan growth during the forecast period as well as the expected cash flows from the Government of Barbados debt restructuring.

As economic conditions in the Caribbean region remain challenging, we continue to closely monitor our investment. Reductions in the estimated recoverable amount of our CIBC FirstCaribbean CGU could result in additional goodwill impairment charges in future periods. As at October 31, 2018, the carrying amount of goodwill relating to CIBC FirstCaribbean was \$413 million (US\$314 million).

Other intangible assets and long-lived assets

As at October 31, 2018, we had other intangible assets with an indefinite life of \$142 million (2017: \$141 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. 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. 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 provision

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 within the range 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, 2018, 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 \$1.2 billion as at October 31, 2018. 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, 2018, 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 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 15

IFRS 15 "Revenue from Contracts with Customers" (IFRS 15) replaces prior guidance, including IAS 18 "Revenue" and IFRIC 13 "Customer Loyalty Programmes". IFRS 15 is effective for annual periods beginning on or after January 1, 2018, which for us will be on November 1, 2018. IFRS 15 can be applied on a retrospective basis or using a modified retrospective approach. We plan to adopt IFRS 15 using the modified retrospective approach by recognizing the cumulative effect of initial application in opening November 1, 2018 retained earnings. Use of the modified retrospective approach will require us to provide additional disclosures in the year of adoption.

IFRS 15 excludes from its scope revenue related to financial instruments, lease contracts and insurance contracts. As a result, the majority of our revenue will not be impacted by the adoption of this standard, including net interest income.

The application of IFRS 15 is not expected to significantly impact our November 1, 2018 shareholder's equity. We also do not expect a material impact to our consolidated financial statements going forward as a result of adopting this standard. See Note 31 to the consolidated financial statements for further details on the changes resulting from the adoption of IFRS 15.

Transition to IFRS 16

IFRS 16 "Leases" (IFRS 16) 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. We have established a centrally-managed IFRS 16 transition program that includes stakeholders from our Finance, Corporate Services, and Technology and Operations groups to modify our policies, processes and systems so that we can comply with the new standard. IFRS 16 will result in on-balance sheet recognition for many leases that are considered operating leases under IAS 17, including our property leases, which will result in the gross-up of the balance sheet through the recognition of a right-of-use asset and a liability for the lease component of the future payments.

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 November 2018, the IASB tentatively decided to defer the effective date from reporting periods beginning on or after January 1, 2021 to January 1, 2022. IFRS 17 provides comprehensive guidance on the recognition, measurement, presentation and disclosure of insurance contracts. In May 2018, OSFI issued a final advisory "IFRS 17 Transition and Progress Report Requirements for Federally Regulated Insurers", which provides pre-transition and transition guidance, including prohibiting early adoption of IFRS 17 by federally regulated insurance subsidiaries. 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" (including the London Interbank Offered Rate (LIBOR)) 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 and therefore this benchmark and others may be discontinued beyond that date.

These reform pressures may cause 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. CIBC will continue to monitor developments in this area.

Review of sales practices

In 2017, the Financial Consumer Agency of Canada (FCAC) and OSFI announced that they were conducting an industry-wide review of the retail banking sales practices of Canadian financial institutions. The FCAC publicly released its industry report in March 2018. OSFI will not publicly release a report, but has publicly indicated that its findings are consistent with those of the FCAC.

For a discussion of other regulatory developments, see the "Taxes", "Capital resources", and "Management of risk" sections.

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' Auditors

The "Policy on the Scope of Services of the Shareholders' Auditors" sets out the parameters for the engagement of the shareholders' auditors 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' auditors and prohibits CIBC from engaging the shareholders' auditors for "prohibited" services. The Audit Committee is also accountable for the oversight of the work of the shareholders' auditors 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' auditors are disclosed in our Management Proxy Circular.

Controls and procedures

Disclosure controls and procedures

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, 2018 (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, 2018, 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 auditors, have audited the consolidated financial statements of CIBC for the year ended October 31, 2018, and have also issued a report on internal control over financial reporting under standards of the Public Company Accounting Oversight Board (United States). This report is located on page 97 of this Annual Report.

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, 2018 that have materially affected, or are reasonably likely to materially affect, its internal control over financial reporting. Changes to internal control over financial reporting as a result of the adoption of IFRS 9 were not material.

Supplementary annual financial information

Average balance sheet, net interest income and margin

		Average balance			Interest			Average rate		
		2018	2017	2016	2018	2017	2016	2018	2017	2016
\$ millions, for the year ended October 31										
Domestic assets⁽¹⁾										
Cash and deposits with banks		\$ 5,541	\$ 3,294	\$ 2,186	\$ 95	\$ 31	\$ 19	1.71 %	0.94 %	0.87 %
Securities ⁽²⁾		58,854	57,923	56,133	1,434	1,390	1,443	2.44	2.40	2.57
Securities borrowed or purchased under resale agreements		25,320	27,406	20,231	404	276	209	1.60	1.01	1.03
Loans										
Residential mortgages		204,536	194,350	174,105	5,740	4,698	4,188	2.81	2.42	2.41
Personal and credit card		52,314	49,901	47,537	3,731	3,378	3,260	7.13	6.77	6.86
Business and government		54,298	48,060	40,812	1,824	1,429	1,346	3.36	2.97	3.30
Total loans		311,148	292,311	262,454	11,295	9,505	8,794	3.63	3.25	3.35
Other interest-bearing assets		2,041	1,024	1,067	12	5	8	0.59	0.49	0.75
Derivative instruments		11,660	11,687	14,326	-	-	-	-	-	-
Customers' liability under acceptances		10,038	9,435	12,720	-	-	-	-	-	-
Other non-interest-bearing assets		15,007	14,185	14,753	-	-	-	-	-	-
Total domestic assets		439,609	417,265	383,870	13,240	11,207	10,473	3.01	2.69	2.73
Foreign assets⁽¹⁾										
Cash and deposits with banks		14,283	18,451	30,745	187	149	137	1.31	0.81	0.45
Securities ⁽²⁾		43,300	34,265	27,082	835	500	331	1.93	1.46	1.22
Securities borrowed or purchased under resale agreements		29,719	19,228	19,386	649	219	120	2.18	1.14	0.62
Loans										
Residential mortgages		3,401	2,711	2,426	176	140	131	5.17	5.16	5.40
Personal and credit card		1,266	916	761	98	83	74	7.74	9.06	9.72
Business and government		47,117	32,719	26,911	2,319	1,295	826	4.92	3.96	3.07
Total loans		51,784	36,346	30,098	2,593	1,518	1,031	5.01	4.18	3.43
Other interest-bearing assets		265	137	114	1	-	-	0.38	-	-
Derivative instruments		12,387	12,646	14,669	-	-	-	-	-	-
Other non-interest-bearing assets		7,094	4,027	3,176	-	-	-	-	-	-
Total foreign assets		158,832	125,100	125,270	4,265	2,386	1,619	2.69	1.91	1.29
Total assets		\$ 598,441	\$ 542,365	\$ 509,140	\$ 17,505	\$ 13,593	\$ 12,092	2.93 %	2.51 %	2.37 %
Domestic liabilities⁽¹⁾										
Deposits										
Personal		\$ 148,143	\$ 143,640	\$ 134,225	\$ 1,299	\$ 851	\$ 858	0.88 %	0.59 %	0.64 %
Business and government		134,382	129,851	120,602	1,378	1,008	1,560	1.03	0.78	1.29
Bank		2,188	2,256	2,246	26	13	9	1.19	0.58	0.40
Secured borrowings		43,085	38,642	38,720	952	613	547	2.21	1.59	1.41
Total deposits		327,798	314,389	295,793	3,655	2,485	2,974	1.12	0.79	1.01
Derivative instruments		11,207	11,960	15,297	-	-	-	-	-	-
Acceptances		10,039	9,436	12,719	-	-	-	-	-	-
Obligations related to securities sold short		14,708	13,400	10,875	269	224	197	1.83	1.67	1.81
Obligations related to securities lent or sold under repurchase agreements		13,699	9,178	8,575	329	130	96	2.40	1.42	1.12
Other liabilities		13,754	11,782	10,494	(7)	(3)	3	(0.05)	(0.03)	0.03
Subordinated indebtedness		3,645	3,088	2,912	170	138	133	4.66	4.47	4.57
Total domestic liabilities		394,850	373,233	356,665	4,416	2,974	3,403	1.12	0.80	0.95
Foreign liabilities⁽¹⁾										
Deposits										
Personal		13,511	10,182	7,953	114	66	51	0.84	0.65	0.64
Business and government		101,583	83,461	81,554	2,319	1,274	121	2.28	1.53	0.15
Bank		12,543	16,105	13,771	152	128	69	1.21	0.79	0.50
Total deposits		127,637	109,748	103,278	2,585	1,468	241	2.03	1.34	0.23
Derivative instruments		11,905	12,942	15,662	-	-	-	-	-	-
Obligations related to securities sold short		592	389	351	3	2	2	0.51	0.51	0.57
Obligations related to securities lent or sold under repurchase agreements		27,364	17,125	8,554	407	124	31	1.49	0.72	0.36
Other liabilities		2,420	1,810	1,916	25	44	45	1.03	2.43	2.35
Subordinated indebtedness		151	194	235	4	4	4	2.65	2.06	1.70
Total foreign liabilities		170,069	142,208	129,996	3,024	1,642	323	1.78	1.15	0.25
Total liabilities		564,919	515,441	486,661	7,440	4,616	3,726	1.32	0.90	0.77
Shareholders' equity		33,336	26,726	22,275	-	-	-	-	-	-
Non-controlling interests		186	198	204	-	-	-	-	-	-
Total liabilities and equity		\$ 598,441	\$ 542,365	\$ 509,140	\$ 7,440	\$ 4,616	\$ 3,726	1.24 %	0.85 %	0.73 %
Net interest income and margin					\$ 10,065	\$ 8,977	\$ 8,366	1.68 %	1.66 %	1.64 %
Additional disclosures: Non-interest-bearing deposit liabilities										
Domestic		\$ 47,879	\$ 45,691	\$ 40,843						
Foreign		14,311	9,159	5,605						

(1) Classification as domestic or foreign is based on domicile of debtor or customer.

(2) Securities balances have been aggregated in the current year, with prior periods amended to reflect this presentation.

Volume/rate analysis of changes in net interest income

\$ millions		2018/2017			2017/2016		
		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		\$ 21	\$ 43	\$ 64	\$ 10	\$ 2	\$ 12
Securities ⁽²⁾		22	22	44	46	(99)	(53)
Securities borrowed or purchased under resale agreements		(21)	149	128	74	(7)	67
Loans		246	796	1,042	487	23	510
Residential mortgages		163	190	353	162	(44)	118
Personal and credit card		185	210	395	239	(156)	83
Business and government							
Total loans		594	1,196	1,790	888	(177)	711
Other interest-bearing assets		5	2	7	–	(3)	(3)
Change in domestic interest income		621	1,412	2,033	1,018	(284)	734
Foreign assets ⁽¹⁾							
Cash and deposits with banks		(34)	72	38	(55)	67	12
Securities ⁽²⁾		132	203	335	88	81	169
Securities borrowed or purchased under resale agreements		119	311	430	(1)	100	99
Loans		36	–	36	15	(6)	9
Residential mortgages		32	(17)	15	15	(6)	9
Personal and credit card		570	454	1,024	178	291	469
Business and government							
Total loans		638	437	1,075	208	279	487
Other interest-bearing assets		–	1	1	–	–	–
Change in foreign interest income		855	1,024	1,879	240	527	767
Total change in interest income		\$ 1,476	\$ 2,436	\$ 3,912	\$ 1,258	\$ 243	\$ 1,501
Domestic liabilities ⁽¹⁾							
Deposits		\$ 27	\$ 421	\$ 448	\$ 60	\$ (67)	\$ (7)
Personal		35	335	370	120	(672)	(552)
Business and government		–	13	13	–	4	4
Bank		70	269	339	(1)	67	66
Secured borrowings							
Total deposits		132	1,038	1,170	179	(668)	(489)
Obligations related to securities sold short		22	23	45	46	(19)	27
Obligations related to securities lent or sold under repurchase agreements		64	135	199	7	27	34
Other liabilities		(1)	(3)	(4)	–	(6)	(6)
Subordinated indebtedness		25	7	32	8	(3)	5
Change in domestic interest expense		242	1,200	1,442	240	(669)	(429)
Foreign liabilities ⁽¹⁾							
Deposits		22	26	48	14	1	15
Personal		277	768	1,045	3	1,150	1,153
Business and government		(28)	52	24	12	47	59
Bank							
Total deposits		271	846	1,117	29	1,198	1,227
Obligations related to securities sold short		1	–	1	–	–	–
Obligations related to securities lent or sold under repurchase agreements		74	209	283	31	62	93
Other liabilities		15	(34)	(19)	(2)	1	(1)
Subordinated indebtedness		(1)	1	–	(1)	1	–
Change in foreign interest expense		360	1,022	1,382	57	1,262	1,319
Total change in interest expense		\$ 602	\$ 2,222	\$ 2,824	\$ 297	\$ 593	\$ 890
Change in total net interest income		\$ 874	\$ 214	\$ 1,088	\$ 961	\$ (350)	\$ 611

(1) Classification as domestic or foreign is based on domicile of debtor or customer.

(2) Securities balances have been aggregated in the current year, with prior periods amended to reflect this presentation.

Analysis of net loans and acceptances

\$ millions, as at October 31	Canada ⁽¹⁾					U.S. ⁽¹⁾				
	2018	2017	2016	2015	2014	2018	2017	2016	2015	2014
Residential mortgages	\$ 203,930	\$ 203,787	\$ 184,610	\$ 166,616	\$ 155,198	\$ 1,152	\$ 902	\$ –	\$ –	\$ 1
Student	33	50	73	110	151	–	–	–	–	–
Personal	41,473	39,483	36,896	35,412	34,342	356	326	56	51	94
Credit card	12,060	11,805	11,755	11,279	11,078	36	35	36	37	40
Total net consumer loans	257,496	255,125	233,334	213,417	200,769	1,544	1,263	92	88	135
Non-residential mortgages	6,426	6,481	6,734	7,120	6,947	39	95	103	333	240
Financial institutions	6,885	5,403	4,831	4,137	2,640	5,529	3,248	2,100	667	659
Retail and wholesale	5,219	4,496	4,044	3,667	3,515	1,914	1,812	290	310	257
Business services	7,018	6,237	5,312	5,011	4,728	3,840	3,567	1,215	814	418
Manufacturing – capital goods	2,318	1,912	1,663	1,505	1,308	2,143	1,559	128	181	221
Manufacturing – consumer goods	3,294	3,019	2,663	2,626	2,329	695	702	28	22	14
Real estate and construction	16,297	13,293	11,684	8,644	7,201	14,571	13,761	8,554	7,206	6,394
Agriculture	6,011	5,558	5,364	4,828	4,263	79	107	44	50	6
Oil and gas	5,064	4,762	4,532	4,138	3,633	2,375	2,198	1,951	1,469	1,276
Mining	824	668	722	761	602	60	87	242	305	266
Forest products	446	464	465	566	470	215	209	4	11	41
Hardware and software	575	539	267	280	339	1,082	883	165	167	118
Telecommunications and cable	275	281	444	510	514	887	756	30	44	26
Publishing, printing, and broadcasting	527	291	333	244	208	102	117	–	–	5
Transportation	1,880	1,818	1,630	1,449	1,033	893	602	288	183	221
Utilities	2,291	1,927	1,663	1,621	1,282	1,226	1,445	1,237	845	804
Education, health and social services	2,870	2,937	2,826	2,128	2,017	3,028	3,099	–	–	–
Governments	954	869	728	541	578	92	7	–	–	–
Others	–	–	–	–	–	–	12	17	69	165
Stage 1 and 2 allowance for credit losses (2017 and prior: Collective allowance allocated to business and government loans) ⁽²⁾	(98)	(195)	(215)	(218)	(192)	(108)	(83)	(58)	(50)	(43)
Total net business and government loans, including acceptances	69,076	60,760	55,690	49,558	43,415	38,662	34,183	16,338	12,626	11,088
Total net loans and acceptances	\$ 326,572	\$ 315,885	\$ 289,024	\$ 262,975	\$ 244,184	\$ 40,206	\$ 35,446	\$ 16,430	\$ 12,714	\$ 11,223

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

(2) Stage 3 allowance for credit losses (2017 and prior: individual allowance) is allocated to business and government loans, including acceptances, by category above.

Analysis of net loans and acceptances (continued)

\$ millions, as at October 31	Other ⁽¹⁾					Total				
	2018	2017	2016	2015	2014	2018	2017	2016	2015	2014
Residential mortgages	\$ 2,453	\$ 2,379	\$ 2,467	\$ 2,406	\$ 2,118	\$ 207,535	\$ 207,068	\$ 187,077	\$ 169,022	\$ 157,317
Student	–	–	–	–	1	33	50	73	110	152
Personal	715	583	519	476	410	42,544	40,392	37,471	35,939	34,846
Credit card	159	152	155	150	125	12,255	11,992	11,946	11,466	11,243
Total net consumer loans	3,327	3,114	3,141	3,032	2,654	262,367	259,502	236,567	216,537	203,558
Non-residential mortgages	266	218	232	245	228	6,731	6,794	7,069	7,698	7,415
Financial institutions	2,043	841	1,723	3,291	2,155	14,457	9,492	8,654	8,095	5,454
Retail and wholesale	438	435	561	548	499	7,571	6,743	4,895	4,525	4,271
Business services	1,675	1,736	1,266	1,370	1,098	12,533	11,540	7,793	7,195	6,244
Manufacturing – capital goods	125	432	234	293	248	4,586	3,903	2,025	1,979	1,777
Manufacturing – consumer goods	92	111	114	119	88	4,081	3,832	2,805	2,767	2,431
Real estate and construction	1,624	1,325	1,391	1,124	890	32,492	28,379	21,629	16,974	14,485
Agriculture	25	22	24	40	37	6,115	5,687	5,432	4,918	4,306
Oil and gas	440	555	268	324	321	7,879	7,515	6,751	5,931	5,230
Mining	710	784	928	446	384	1,594	1,539	1,892	1,512	1,252
Forest products	–	–	–	–	38	661	673	469	577	549
Hardware and software	–	20	–	12	14	1,657	1,442	432	459	471
Telecommunications and cable	208	301	359	388	162	1,370	1,338	833	942	702
Publishing, printing, and broadcasting	85	89	87	79	89	714	497	420	323	302
Transportation	1,642	1,847	1,326	899	803	4,415	4,267	3,244	2,531	2,057
Utilities	647	779	532	785	631	4,164	4,151	3,432	3,251	2,717
Education, health and social services	28	29	32	32	26	5,926	6,065	2,858	2,160	2,043
Governments	1,598	1,662	1,874	1,611	1,079	2,644	2,538	2,602	2,152	1,657
Others	–	–	300	711	1,431	–	12	317	780	1,596
Stage 1 and 2 allowance for credit losses (2017 and prior: Collective allowance allocated to business and government loans) ⁽²⁾	(90)	(73)	(65)	(57)	(42)	(296)	(351)	(338)	(325)	(277)
Total net business and government loans, including acceptances	11,556	11,113	11,186	12,260	10,179	119,294	106,056	83,214	74,444	64,682
Total net loans and acceptances	\$ 14,883	\$ 14,227	\$ 14,327	\$ 15,292	\$ 12,833	\$ 381,661	\$ 365,558	\$ 319,781	\$ 290,981	\$ 268,240

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

(2) Stage 3 allowance for credit losses (2017 and prior: individual allowance) is allocated to business and government loans, including acceptances, by category above.

Summary of allowance for credit losses

\$ millions, as at or for the year ended October 31	2018 ⁽¹⁾	2017	2016	2015	2014
Balance at beginning of year	\$ 1,737	\$ 1,813	\$ 1,762	\$ 1,736	\$ 1,758
Impact of adopting IFRS 9 at November 1, 2017	63	n/a	n/a	n/a	n/a
Balance at beginning of year under IFRS 9	1,800	n/a	n/a	n/a	n/a
Provision for credit losses	870	829	1,051	771	937
Write-offs					
Domestic ⁽²⁾					
Residential mortgages	19	21	13	14	19
Student	–	–	–	1	3
Personal and credit card	866	869	842	781	857
Other business and government	37	51	116	42	63
Foreign ⁽²⁾					
Residential mortgages	35	17	21	18	8
Personal and credit card	14	19	18	16	16
Other business and government	79	80	143	132	92
Total write-offs	1,050	1,057	1,153	1,004	1,058
Recoveries					
Domestic ⁽²⁾					
Personal and credit card	174	168	163	171	177
Other business and government	6	15	8	8	11
Foreign ⁽²⁾					
Personal and credit card	4	5	6	5	2
Other business and government	6	5	6	2	2
Total recoveries	190	193	183	186	192
Net write-offs	860	864	970	818	866
Interest income on impaired loans	(23)	(26)	(29)	(23)	(30)
Foreign exchange and other	(46)	(15)	(1)	96	(63)
Balance at end of year	\$ 1,741	\$ 1,737	\$ 1,813	\$ 1,762	\$ 1,736
Comprises:					
Loans	\$ 1,639	\$ 1,618	\$ 1,691	\$ 1,670	\$ 1,660
Undrawn credit facilities	102	119	122	92	76
Ratio of net write-offs during the year to average loans outstanding during the year	0.24 %	0.26 %	0.33 %	0.30 %	0.35 %

(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 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

\$ millions, as at October 31	Allowance for credit losses ⁽¹⁾					Allowance as a % of gross impaired loans				
	2018 ⁽¹⁾	2017 ⁽²⁾	2016 ⁽²⁾	2015 ⁽²⁾	2014 ⁽²⁾	2018 ⁽¹⁾	2017 ⁽²⁾	2016 ⁽²⁾	2015 ⁽²⁾	2014 ⁽²⁾
Domestic ⁽³⁾										
Residential mortgages	\$ 54	\$ 22	\$ 20	\$ 21	\$ 22	10.9 %	7.5 %	8.0 %	9.3 %	10.2 %
Personal loans	79	110	105	99	96	57.7	94.8	85.4	91.7	80.0
Business and government	56	43	63	77	38	41.5	41.7	30.9	42.8	60.3
Total domestic	189	175	188	197	156	24.6	34.2	32.5	38.4	39.1
Foreign ⁽³⁾										
Residential mortgages	89	123	148	167	146	49.4	55.7	56.3	48.0	45.9
Personal loans	30	31	40	46	43	66.7	56.4	57.1	58.2	53.8
Business and government	174	148	196	236	299	35.8	28.3	26.2	49.3	46.9
Total foreign	293	302	384	449	488	41.2	37.8	35.6	49.6	47.1
Total allowance	\$ 482	\$ 477	\$ 572	\$ 646	\$ 644	32.6 %	36.4 %	34.5 %	45.5 %	44.9 %

(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) 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.

(3) Classification as domestic or foreign is 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⁾					Allowance as a % of net loans and acceptances				
	2018 ⁽²⁾	2017	2016	2015	2014	2018 ⁽²⁾	2017	2016	2015	2014
Domestic ⁽³⁾										
Residential mortgages	\$ 29	\$ 34	\$ 30	\$ 26	\$ 21	– %	– %	– %	– %	– %
Personal loans	362	345	345	316	315	0.9	0.9	0.9	0.9	0.9
Credit cards	415	383	383	334	384	3.4	3.2	3.3	3.0	3.5
Business and government	98	187	205	208	183	0.1	0.3	0.4	0.4	0.4
Total domestic	904	949	963	884	903	0.3	0.3	0.3	0.3	0.4
Foreign ⁽³⁾										
Residential mortgages	42	24	23	22	20	1.2	0.7	0.9	0.9	0.9
Personal loans	10	9	7	7	6	0.9	1.0	1.2	1.3	1.2
Credit cards	3	3	3	4	2	1.5	1.6	1.6	2.1	1.2
Business and government	198	156	123	107	85	0.4	0.3	0.4	0.4	0.4
Total foreign	253	192	156	140	113	0.5	0.4	0.5	0.5	0.5
Total stage 1 and 2 allowance (2017 and prior: total allowance)	\$ 1,157	\$ 1,141	\$ 1,119	\$ 1,024	\$ 1,016	0.3 %	0.3 %	0.3 %	0.4 %	0.4 %

(1) Excludes allowance on undrawn credit facilities.

(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) Classification as domestic or foreign is based on domicile of debtor or customer.

Net loans and acceptances by geographic location ⁽¹⁾

\$ millions, as at October 31	2018	2017	2016	2015	2014
Canada					
Atlantic provinces	\$ 14,036	\$ 14,194	\$ 14,006	\$ 13,598	\$ 13,307
Quebec	28,598	27,027	25,471	23,093	21,802
Ontario	165,592	157,987	139,254	125,584	114,940
Prairie provinces	13,947	13,746	13,341	12,877	12,136
Alberta, Northwest Territories and Nunavut	44,896	44,354	43,308	41,197	38,859
British Columbia and Yukon	60,407	59,479	54,567	47,478	44,012
Stage 1 and 2 allowance (2017 and prior: collective allowance) allocated to Canada	(904) ⁽²⁾	(902) ⁽³⁾	(923) ⁽³⁾	(852) ⁽³⁾	(872) ⁽³⁾
Total Canada	326,572	315,885	289,024	262,975	244,184
U.S.	40,206	35,446	16,430	12,714	11,223
Other countries	14,883	14,227	14,327	15,292	12,833
Total net loans and acceptances	\$ 381,661	\$ 365,558	\$ 319,781	\$ 290,981	\$ 268,240

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

(2) Stage 3 allowance for credit losses (2017 and prior: individual allowance) is allocated to provinces above, including acceptances.

(3) 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⁾					U.S. ⁽¹⁾				
	2018 ⁽²⁾	2017	2016	2015	2014	2018 ⁽²⁾	2017	2016	2015	2014
Gross impaired loans										
Residential mortgages	\$ 497	\$ 292	\$ 251	\$ 225	\$ 216	\$ 13	\$ 9	\$ –	\$ –	\$ –
Student	2	2	3	5	7	–	–	–	–	–
Personal	135	114	120	103	113	2	2	–	–	1
Total gross impaired consumer loans	634	408	374	333	336	15	11	–	–	1
Non-residential mortgages	3	7	4	4	4	–	–	–	–	–
Financial institutions	5	–	1	–	1	65	8	–	–	–
Retail, wholesale and business services	62	38	23	26	31	44	52	5	–	–
Manufacturing – consumer and capital goods	7	6	19	8	4	14	1	–	–	–
Real estate and construction	39	33	23	9	10	75	137	62	94	135
Agriculture	8	9	4	1	2	–	–	–	–	–
Resource-based industries	1	2	121	126	4	54	114	248	1	–
Telecommunications, media and technology	2	3	4	2	4	2	2	–	–	–
Transportation	3	2	1	1	1	1	–	–	–	–
Utilities	–	–	–	–	–	–	–	–	10	20
Other	5	3	4	3	2	71	45	–	–	–
Total gross impaired – business and government loans	135	103	204	180	63	326	359	315	105	155
Total gross impaired loans	769	511	578	513	399	341	370	315	105	156
Other past due loans ⁽³⁾	100	337	362	337	342	–	–	–	–	–
Total gross impaired and other past due loans	\$ 869	\$ 848	\$ 940	\$ 850	\$ 741	\$ 341	\$ 370	\$ 315	\$ 105	\$ 156
Allowance for credit losses										
Residential mortgages	\$ 54	\$ 22	\$ 20	\$ 21	\$ 22	\$ 2	\$ –	\$ –	\$ –	\$ –
Student	–	–	–	–	–	–	–	–	–	–
Personal	79	110	105	99	96	–	–	–	–	1
Total allowance – consumer loans	133	132	125	120	118	2	–	–	–	1
Non-residential mortgages	–	2	2	1	1	–	–	–	–	–
Financial institutions	–	–	–	–	–	14	–	–	–	–
Retail, wholesale and business services	26	18	16	19	20	27	16	4	–	–
Manufacturing – consumer and capital goods	4	5	7	6	3	1	–	–	–	–
Real estate and construction	15	9	10	7	7	29	41	20	27	47
Agriculture	4	–	1	–	–	–	–	–	–	–
Resource-based industries	1	2	21	39	2	5	8	8	–	–
Telecommunications, media and technology	1	2	3	2	3	–	–	–	–	–
Transportation	2	2	1	1	1	–	–	–	–	–
Utilities	–	–	–	–	–	–	–	–	6	13
Other	3	3	2	2	1	12	–	–	–	–
Total allowance – business and government loans	56	43	63	77	38	88	65	32	33	60
Total allowance	\$ 189	\$ 175	\$ 188	\$ 197	\$ 156	\$ 90	\$ 65	\$ 32	\$ 33	\$ 61
Net impaired loans										
Residential mortgages	\$ 443	\$ 270	\$ 231	\$ 204	\$ 194	\$ 11	\$ 9	\$ –	\$ –	\$ –
Student	2	2	3	5	7	–	–	–	–	–
Personal	56	4	15	4	17	2	2	–	–	–
Total net impaired consumer loans	501	276	249	213	218	13	11	–	–	–
Non-residential mortgages	3	5	2	3	3	–	–	–	–	–
Financial institutions	5	–	1	–	1	51	8	–	–	–
Retail, wholesale and business services	36	20	7	7	11	17	36	1	–	–
Manufacturing – consumer and capital goods	3	1	12	2	1	13	1	–	–	–
Real estate and construction	24	24	13	2	3	46	96	42	67	88
Agriculture	4	9	3	1	2	–	–	–	–	–
Resource-based industries	–	–	100	87	2	49	106	240	1	–
Telecommunications, media and technology	1	1	1	–	1	2	2	–	–	–
Transportation	1	–	–	–	–	1	–	–	–	–
Utilities	–	–	–	–	–	–	–	–	4	7
Other	2	–	2	1	1	59	45	–	–	–
Total net impaired – business and government loans	79	60	141	103	25	238	294	283	72	95
Total net impaired loans	\$ 580	\$ 336	\$ 390	\$ 316	\$ 243	\$ 251	\$ 305	\$ 283	\$ 72	\$ 95

(1) Classification by country is 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) 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				
	2018 ⁽²⁾	2017	2016	2015	2014	2018 ⁽²⁾	2017	2016	2015	2014
Gross impaired loans										
Residential mortgages	\$ 167	\$ 212	\$ 263	\$ 348	\$ 318	\$ 677	\$ 513	\$ 514	\$ 573	\$ 534
Student	–	–	–	–	–	2	2	3	5	7
Personal	43	53	70	79	79	180	169	190	182	193
Total gross impaired consumer loans	210	265	333	427	397	859	684	707	760	734
Non-residential mortgages	15	17	17	34	60	18	24	21	38	64
Financial institutions	1	2	3	5	5	71	10	4	5	6
Retail, wholesale and business services	52	57	94	141	168	158	147	122	167	199
Manufacturing – consumer and capital goods	4	5	210	47	44	25	12	229	55	48
Real estate and construction	72	78	104	139	184	186	248	189	242	329
Agriculture	1	1	1	3	6	9	10	5	4	8
Resource-based industries	–	–	–	2	1	55	116	369	129	5
Telecommunications, media and technology	–	–	–	–	5	4	5	4	2	9
Transportation	3	4	2	2	8	7	6	3	3	9
Utilities	–	–	–	1	1	–	–	–	11	21
Other	12	–	1	–	–	88	48	5	3	2
Total gross impaired – business and government loans	160	164	432	374	482	621	626	951	659	700
Total gross impaired loans	370	429	765	801	879	1,480	1,310	1,658	1,419	1,434
Other past due loans ⁽³⁾	3	3	3	3	8	103	340	365	340	350
Total gross impaired and other past due loans	\$ 373	\$ 432	\$ 768	\$ 804	\$ 887	\$ 1,583	\$ 1,650	\$ 2,023	\$ 1,759	\$ 1,784
Allowance for credit losses										
Residential mortgages	\$ 87	\$ 123	\$ 148	\$ 167	\$ 146	\$ 143	\$ 145	\$ 168	\$ 188	\$ 168
Student	–	–	–	–	–	–	–	–	–	–
Personal	30	31	40	46	42	109	141	145	145	139
Total allowance – consumer loans	117	154	188	213	188	252	286	313	333	307
Non-residential mortgages	7	9	12	17	31	7	11	14	18	32
Financial institutions	1	–	2	3	3	15	–	2	3	3
Retail, wholesale and business services	28	29	48	65	67	81	63	68	84	87
Manufacturing – consumer and capital goods	3	3	45	43	42	8	8	52	49	45
Real estate and construction	39	39	54	68	91	83	89	84	102	145
Agriculture	1	1	1	3	4	5	1	2	3	4
Resource-based industries	–	–	–	1	–	6	10	29	40	2
Telecommunications, media and technology	–	–	–	–	–	1	2	3	2	3
Transportation	2	2	2	2	–	4	4	3	3	1
Utilities	–	–	–	1	1	–	–	–	7	14
Other	5	–	–	–	–	20	3	2	2	1
Total allowance – business and government loans	86	83	164	203	239	230	191	259	313	337
Total allowance	\$ 203	\$ 237	\$ 352	\$ 416	\$ 427	\$ 482	\$ 477	\$ 572	\$ 646	\$ 644
Net impaired loans										
Residential mortgages	\$ 80	\$ 89	\$ 115	\$ 181	\$ 172	\$ 534	\$ 368	\$ 346	\$ 385	\$ 366
Student	–	–	–	–	–	2	2	3	5	7
Personal	13	22	30	33	37	71	28	45	37	54
Total net impaired consumer loans	93	111	145	214	209	607	398	394	427	427
Non-residential mortgages	8	8	5	17	29	11	13	7	20	32
Financial institutions	–	2	1	2	2	56	10	2	2	3
Retail, wholesale and business services	24	28	46	76	101	77	84	54	83	112
Manufacturing – consumer and capital goods	1	2	165	4	2	17	4	177	6	3
Real estate and construction	33	39	50	71	93	103	159	105	140	184
Agriculture	–	–	–	–	2	4	9	3	1	4
Resource-based industries	–	–	–	1	1	49	106	340	89	3
Telecommunications, media and technology	–	–	–	–	5	3	3	1	–	6
Transportation	1	2	–	–	8	3	2	–	–	8
Utilities	–	–	–	–	–	–	–	–	4	7
Other	7	–	1	–	–	68	45	3	1	1
Total net impaired – business and government loans	74	81	268	171	243	391	435	692	346	363
Total net impaired loans	\$ 167	\$ 192	\$ 413	\$ 385	\$ 452	\$ 998	\$ 833	\$ 1,086	\$ 773	\$ 790

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(3) 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			Interest			Rate		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Deposits in domestic bank offices⁽¹⁾									
Payable on demand									
Personal	\$ 10,216	\$ 10,567	\$ 9,965	\$ 15	\$ 13	\$ 12	0.15 %	0.12 %	0.12 %
Business and government	42,784	41,607	37,572	432	228	138	1.01	0.55	0.37
Bank	4,632	4,419	2,943	1	1	–	0.02	0.02	–
Payable after notice									
Personal	98,054	95,035	87,057	644	429	363	0.66	0.45	0.42
Business and government	38,621	34,510	28,873	606	332	240	1.57	0.96	0.83
Bank	415	359	174	6	4	2	1.45	1.11	1.15
Payable on a fixed date									
Personal	43,561	41,688	40,414	676	434	505	1.55	1.04	1.25
Business and government	76,674	72,260	58,618	1,442	1,040	845	1.88	1.44	1.44
Bank	1,625	1,681	1,816	27	12	10	1.66	0.71	0.55
Secured borrowings	43,085	38,642	38,720	952	613	547	2.21	1.59	1.41
Total domestic	359,667	340,768	306,152	4,801	3,106	2,662	1.33	0.91	0.87
Deposits in foreign bank offices									
Payable on demand									
Personal	1,693	1,120	818	1	1	1	0.06	0.09	0.12
Business and government	14,149	7,697	4,261	33	8	3	0.23	0.10	0.07
Bank	10	5	3	–	–	–	–	–	–
Payable after notice									
Personal	5,239	3,487	2,551	39	22	20	0.74	0.63	0.78
Business and government	7,740	2,857	801	96	18	1	1.24	0.63	0.12
Payable on a fixed date									
Personal	2,891	1,925	1,373	38	18	8	1.31	0.94	0.58
Business and government	55,997	54,381	72,031	1,088	656	454	1.94	1.21	0.63
Bank	8,049	11,897	11,081	144	124	66	1.79	1.04	0.60
Secured borrowings	–	–	–	–	–	–	–	–	–
Total foreign	95,768	83,369	92,919	1,439	847	553	1.50	1.02	0.60
Total deposits	\$ 455,435	\$ 424,137	\$ 399,071	\$ 6,240	\$ 3,953	\$ 3,215	1.37 %	0.93 %	0.81 %

(1) Deposits by foreign depositors in our domestic bank offices amounted to \$32.3 billion (2017: \$26.8 billion; 2016: \$10.6 billion).

Short-term borrowings

\$ millions, as at or for the year ended October 31	2018	2017	2016
Amounts outstanding at end of year			
Obligations related to securities sold short	\$ 13,782	\$ 13,713	\$ 10,338
Obligations related to securities lent or sold under repurchase agreements	33,571	29,995	14,212
Total short-term borrowings	\$ 47,353	\$ 43,708	\$ 24,550
Obligations related to securities sold short			
Average balance	\$ 15,300	\$ 13,789	\$ 11,226
Maximum month-end balance	17,162	15,211	13,029
Average interest rate	1.78 %	1.64 %	1.77 %
Obligations related to securities lent or sold under repurchase agreements			
Average balance	\$ 41,063	\$ 26,303	\$ 17,129
Maximum month-end balance	45,343	33,261	24,513
Average interest rate	1.79 %	0.97 %	0.74 %

Fees paid to the shareholders' auditors

\$ millions, for the year ended October 31	2018	2017	2016
Audit fees ⁽¹⁾	\$ 26.0	\$ 21.1	\$ 16.4
Audit-related fees ⁽²⁾	2.5	2.6	2.2
Tax fees ⁽³⁾	2.4	1.1	0.3
All other fees ⁽⁴⁾	0.1	0.1	–
Total	\$ 31.0	\$ 24.9	\$ 18.9

(1) For the audit of CIBC's annual financial statements and services normally provided by the principal auditor in connection with CIBC's statutory and regulatory filings. Audit fees also include the audit of internal controls 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 various agreed upon procedures and translation of financial reports.

(3) For tax compliance and advisory services.

(4) Includes fees for non-audit services.