# U.S. Securities and Exchange Commission

**Washington, D.C. 20549**

# Form 40-F

[Check one]

☐ **Registration statement pursuant to Section 12 of the Securities Exchange Act of 1934**

or

☒ **Annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934**

For the fiscal year ended October 31, 2017 Commission File Number 001-13354

# BANK OF MONTREAL

**(Exact name of Registrant as specified in its charter)**

**Not Applicable**
**(Translation of Registrant's name into English (if applicable))**

**Canada**
**(Province or other jurisdiction of incorporation or organization)**

**6029**
**(Primary Standard Industrial Classification Code Number (if applicable))**

**Not Applicable**
**(I.R.S. Employer Identification Number (if applicable))**

**100 King Street West, 1 First Canadian Place, Toronto, Ontario, Canada M5X 1A1 (416-867-6785)**
**(Address and telephone number of Registrant's principal executive offices)**

**Colleen Hennessy, Bank of Montreal, 111 West Monroe Street, P.O. Box 755, Chicago, Illinois 60690 (312-461-7745)**
**(Name, address (including zip code) and telephone number (including area code) of agent for service in the United States)**

**Securities registered or to be registered pursuant to Section 12(b) of the Act:**

| Title Of Each Class | Name Of Each Exchange On Which Registered |
|---|---|
| **Common Shares** | **New York Stock Exchange** |

Securities registered or to be registered pursuant to Section 12(g) of the Act:

Not Applicable

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

Not Applicable

For annual reports, indicate by check mark the information filed with this Form:

☒ Annual information form ☒ Audited annual financial statements

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

| | |
|---|---|
| Common Shares | 647,816,318 |
| Class B Preferred Shares Series 16 | 6,267,391 |
| Class B Preferred Shares Series 17 | 5,732,609 |
| Class B Preferred Shares Series 25 | 9,425,607 |
| Class B Preferred Shares Series 26 | 2,174,393 |
| Class B Preferred Shares Series 27 (Non-Viability Contingent Capital (NVCC)) | 20,000,000 |
| Class B Preferred Shares Series 29 (Non-Viability Contingent Capital (NVCC)) | 16,000,000 |
| Class B Preferred Shares Series 31 (Non-Viability Contingent Capital (NVCC)) | 12,000,000 |
| Class B Preferred Shares Series 33 (Non-Viability Contingent Capital (NVCC)) | 8,000,000 |
| Class B Preferred Shares Series 35 (Non-Viability Contingent Capital (NVCC)) | 6,000,000 |
| Class B Preferred Shares Series 36 (Non-Viability Contingent Capital (NVCC)) | 600,000 |
| Class B Preferred Shares Series 38 (Non-Viability Contingent Capital (NVCC)) | 24,000,000 |
| Class B Preferred Shares Series 40 (Non-Viability Contingent Capital (NVCC)) | 20,000,000 |
| Class B Preferred Shares Series 42 (Non-Viability Contingent Capital (NVCC)) | 16,000,000 |

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit and post such files).

Yes ☐ No ☐

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 12b-2 of the Exchange Act.

Emerging growth company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act. ☐

† The term “new or revised financial accounting standard” refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

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## DISCLOSURE CONTROLS AND PROCEDURES

The information provided under the heading “Management’s Annual Report on Disclosure Controls and Procedures and Internal Control over Financial Reporting — Disclosure Controls and Procedures” (page 119) contained in the Bank’s Management’s Discussion and Analysis for the fiscal year ended October 31, 2017 (“2017 MD&A”), filed as Exhibit 99.2 to this annual report on Form 40-F, is incorporated by reference herein.

## INTERNAL CONTROL OVER FINANCIAL REPORTING

### a. Management’s annual report on internal control over financial reporting

The information provided under the heading “Management’s Annual Report on Disclosure Controls and Procedures and Internal Control over Financial Reporting — Internal Control over Financial Reporting” (page 119) contained in the 2017 MD&A, filed as Exhibit 99.2 to this annual report on Form 40-F, is incorporated by reference herein.

### b. Auditor’s attestation report on internal control over financial reporting

The Bank’s shareholders’ auditors, KPMG LLP, have issued an audit report on our internal control over financial reporting. This audit report appears on page 138 of the Bank’s Consolidated Financial Statements for the fiscal year ended October 31, 2017 (“2017 Financial Statements”), filed as Exhibit 99.3 to this annual report on Form 40-F and is incorporated by reference herein.

### c. Changes in internal control over financial reporting

The information provided under the heading “Management’s Annual Report on Disclosure Controls and Procedures and Internal Control over Financial Reporting — Changes in Internal Control Over Financial Reporting” (page 119) contained in the 2017 MD&A, filed as Exhibit 99.2 to this annual report on Form 40-F, is incorporated by reference herein.

## AUDIT AND CONDUCT REVIEW COMMITTEE FINANCIAL EXPERT

The information provided under the heading “Audit and Conduct Review Committee Information – Composition of the Audit and Conduct Review Committee” (page 13) identifying the Audit and Conduct Review Committee Financial Experts, and confirming the independence of the Audit and Conduct Review Committee Financial Experts, as set forth in the Bank’s Annual Information Form (dated December 5, 2017), filed as Exhibit 99.1 to this annual report on Form 40-F, is incorporated by reference herein.

## CODE OF ETHICS

BMO’s Code of Conduct is its code of business conduct and ethics, which is applicable to every director and employee of the Bank. BMO’s Code of Conduct is available on the Bank’s website www.bmo.com and is available in print without charge to any shareholder upon request.

## PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information provided under the heading "Shareholders' Auditors' Services and Fees — Shareholders' Auditors' Fees" and "— Pre-Approval Policies and Procedures" (page 118) contained in the 2017 MD&A, filed as Exhibit 99.2 to this annual report on Form 40-F, is incorporated by reference herein.

## OFF-BALANCE SHEET ARRANGEMENTS

The information provided under the heading "Off-Balance Sheet Arrangements" (page 77) contained in the 2017 MD&A, filed as Exhibit 99.2 to this annual report on Form 40-F, is incorporated by reference herein.

## TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS

The information provided under the heading "Note 29: Contractual Maturities of Assets and Liabilities and Off-Balance Sheet Commitments" (pages 199 and 200) as set forth in the 2017 Financial Statements, filed as Exhibit 99.3 to this annual report on Form 40-F, is incorporated by reference herein.

## IDENTIFICATION OF THE AUDIT AND CONDUCT REVIEW COMMITTEE

The information provided under the heading "Audit and Conduct Review Committee Information — Composition of the Audit and Conduct Review Committee" (page 13) identifying the Bank's Audit and Conduct Review Committee and confirming the independence of the Audit and Conduct Review Committee as set forth in the Bank's Annual Information Form (dated December 5, 2017), filed as Exhibit 99.1 to this annual report on Form 40-F, is incorporated by reference herein.

## SUMMARY OF SIGNIFICANT CORPORATE GOVERNANCE DIFFERENCES

A summary of significant ways corporate governance practices followed by the Bank differ from corporate governance practices required to be followed by U.S. domestic companies under The New York Stock Exchange's listing standards (disclosure required by Section 303A.11 of the NYSE Listed Company Manual) is available on the Bank's website at www.bmo.com.

## NOTE ON CERTAIN ACTIVITIES

In 2016 and 2017, the Bank maintained a Canadian dollar personal chequing account and personal savings account with a Canadian resident citizen that appears on the Specially Designated Nationals ("SDN") list of the U.S. Treasury Department's Office of Foreign Assets Control ("OFAC") under Executive Order 13224 (the "Executive Order"). The Bank continues to maintain these accounts and monitors their use, prohibiting access to U.S. currency and the U.S. financial system.

In 2014, through a subsidiary, the Bank acquired F&C Asset Management plc ("F&C"), a company located in the United Kingdom. In 2016, the Bank identified that a subsidiary of F&C maintained an investment account for an individual that appears on the SDN list of OFAC under the Executive Order. The F&C subsidiary closed that investment account in May 2016, and has engaged in no further activities with that individual. There had been no activity on that investment account from the time that the Bank identified such account until the closure of such account.

Pursuant to Section 13(r) of the Exchange Act, the Bank is required to disclose whether it or any of its affiliates knowingly engaged in certain activities, transactions or dealings with certain individuals or entities, including those listed on OFAC's SDN list under the Executive Order. Disclosure is generally required even where the activities, transactions or dealings were conducted outside the U.S. in compliance with applicable law. The Bank is not prohibited from doing business with these customers under applicable law or regulation. Revenues and profits from these relationships were not calculated but would be considered negligible.

**UNDERTAKING**

Registrant undertakes to make available, in person or by telephone, representatives to respond to inquiries made by the Commission staff, and to furnish promptly, when requested to do so by the Commission staff, information relating to the securities in relation to which the obligation to file an annual report on Form 40-F arises or transactions in said securities.

**SIGNATURES**

Pursuant to the requirements of the Exchange Act, the Registrant certifies that it meets all of the requirements for filing on Form 40-F and has duly caused this annual report to be signed on its behalf by the undersigned, thereto duly authorized.

Registrant: BANK OF MONTREAL

By: /s/ Thomas E. Flynn
Thomas E. Flynn
Chief Financial Officer

Date: December 5, 2017

**EXHIBIT INDEX**

| Exhibits | Description |
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| 99.1 | Annual Information Form |
| 99.2 | Management's Discussion and Analysis for the Fiscal Year Ended October 31, 2017 |
| 99.3 | Consolidated Financial Statements for the Fiscal Year Ended October 31, 2017 |
| 99.4 | Consent of Independent Registered Public Accounting Firm dated December 5, 2017 |
| 99.5 | Certifications of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 |
| 99.6 | Certifications of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 |
| 99.7 | Certifications pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 |

Exhibit 99.1

# BANK OF MONTREAL




# ANNUAL INFORMATION FORM

## FOR THE YEAR ENDED OCTOBER 31, 2017

**Dated December 5, 2017**

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[1] As indicated, parts of the Bank's Consolidated Financial Statements (2017 Financial Statements) and Management's Discussion and Analysis (2017 MD&A) for the fiscal year ended October 31, 2017 are incorporated by reference into this Annual Information Form. The 2017 Financial Statements and the 2017 MD&A are available on SEDAR (www.sedar.com).

## EXPLANATORY NOTES AND CAUTIONS

**Unless specifically stated otherwise in this Annual Information Form:**

- all amounts are in Canadian dollars
- BMO Financial Group, the Bank, BMO, we, or our means Bank of Montreal and, as applicable, its subsidiaries
- information is as at October 31, 2017

### *Caution Regarding Forward-Looking Statements*

*Bank of Montreal's public communications often include written or oral forward-looking statements. Statements of this type are included in this document, and may be included in other filings with Canadian securities regulators or the U.S. Securities and Exchange Commission, or in other communications. All such statements are made pursuant to the "safe harbor" provisions of, and are intended to be forward-looking statements under, the United States Private Securities Litigation Reform Act of 1995 and any applicable Canadian securities legislation. Forward-looking statements may involve, but are not limited to, comments with respect to our objectives and priorities for fiscal 2018 and beyond, our strategies or future actions, our targets, expectations for our financial condition or share price, and the results of or outlook for our operations or for the Canadian, U.S. and international economies.*

*By their nature, forward-looking statements require us to make assumptions and are subject to inherent risks and uncertainties. There is significant risk that predictions, forecasts, conclusions or projections will not prove to be accurate, that our assumptions may not be correct, and that actual results may differ materially from such predictions, forecasts, conclusions or projections. We caution readers of this document not to place undue reliance on our forward-looking statements, as a number of factors could cause actual future results, conditions, actions or events to differ materially from the targets, expectations, estimates or intentions expressed in the forward-looking statements.*

*The future outcomes that relate to forward-looking statements may be influenced by many factors, including but not limited to: general economic and market conditions in the countries in which we operate; weak, volatile or illiquid capital and/or credit markets; interest rate and currency value fluctuations; changes in monetary, fiscal, or economic policy, and tax legislation and interpretation; the level of competition in the geographic and business areas in which we operate; changes in laws or in supervisory expectations or requirements, including capital, interest rate and liquidity requirements and guidance, and the effect of such changes on funding costs; judicial or regulatory proceedings; the accuracy and completeness of the information we obtain with respect to our customers and counterparties; our ability to execute our strategic plans and to complete and integrate acquisitions, including obtaining regulatory approvals; critical accounting estimates and the effect of changes to accounting standards, rules and interpretations on these estimates; operational and infrastructure risks; changes to our credit ratings; political conditions, including changes relating to or affecting economic or trade matters; global capital markets activities; the possible effects on our business of war or terrorist activities; outbreaks of disease or illness that affect local, national or international economies; natural disasters and disruptions to public infrastructure, such as transportation, communications, power or water supply; technological changes; information and cyber security; and our ability to anticipate and effectively manage risks arising from all of the foregoing factors.*

*We caution that the foregoing list is not exhaustive of all possible factors. Other factors and risks could adversely affect our results. For more information, please see the discussion in the Risks That May Affect Future Results section beginning on page 79, and the sections related to credit and counterparty, market, insurance, liquidity and funding, operational, model, legal and regulatory, business, strategic, environmental and social, and reputation risk, on pages 86 to 112, of Bank of Montreal's 2017 MD&A, which outlines certain key factors and risks that may affect Bank of Montreal's future results. Investors and others should carefully consider these factors and risks, as well as other uncertainties and potential events, and the inherent uncertainty of forward-looking statements. Bank of Montreal does not undertake to update any forward-looking statements, whether written or oral, that may be made from time to time by the organization or on its behalf, except as required by law. The forward-looking information contained or incorporated by reference in this document is presented for the purpose of assisting our shareholders in understanding our financial position as at and for the periods ended on the dates presented, as well as our strategic priorities and objectives, and may not be appropriate for other purposes.*

*Assumptions about the performance of the Canadian and U.S. economies, as well as overall market conditions and their combined effect on our business, are material factors we consider when determining our strategic priorities, objectives and expectations for our business. In determining our expectations for economic growth, both broadly and in the financial services sector, we primarily consider historical economic data provided by governments, historical relationships between economic and financial variables, and the risks to the domestic and global economy. See the Economic Developments and Outlook section on page 32 of the 2017 MD&A.*

## CORPORATE STRUCTURE

Bank of Montreal started business in Montreal in 1817 and was incorporated in 1821 by an Act of Lower Canada as the first Canadian chartered bank. Since 1871, the Bank has been a chartered bank under the *Bank Act* (Canada) (the Bank Act), and is named in Schedule I of the Bank Act. The Bank Act is the charter of the Bank and governs its operations.

The Bank's head office is 129 rue Saint Jacques, Montreal, Quebec, H2Y 1L6. Its executive offices are 100 King Street West, 1 First Canadian Place, Toronto, Ontario, M5X 1A1.

Bank of Montreal brands the organization's member companies as BMO Financial Group. Note 27 to the 2017 Financial Statements lists the intercorporate relationships among Bank of Montreal and its significant subsidiaries. We incorporate this Note by reference. These subsidiaries are incorporated or organized under the laws of the state or country of their principal office, except for: BMO Financial Corp.; BMO Asset Management Corp.; BMO Capital Markets Corp.; BMO Harris Financial Advisors, Inc.; BMO Harris Financing, Inc. and CTC myCFO, LLC, which are incorporated under the laws of the State of Delaware, U.S. F&C Asset Management plc is incorporated under the laws of Scotland.

## GENERAL DEVELOPMENT OF THE BUSINESS

### Three-Year History

As at October 31, 2017, BMO was the fourth largest chartered bank in Canada in assets, equity, and market capitalization.

On December 1, 2015, BMO completed the acquisition of General Electric Capital Corporation's (GE Capital) Transportation Finance business in the United States and Canada with net assets on closing of approximately $12.1 billion (U.S. $9.0 billion), and rebranded it BMO Transportation Finance. The acquisition built on our position as a market leader in commercial banking, and enhanced our business position in the United States by further diversifying net income, adding scale and enhancing profitability and margins. In fiscal 2017, BMO completed the integration of BMO Transportation Finance, allowing us to leverage the combined capabilities and suite of financial solutions to better meet our customers' needs.

On October 28, 2016, BMO announced the appointments of Franklin J. Techar as Vice-Chair, BMO Financial Group, Darryl White as Chief Operating Officer, BMO Financial Group, Patrick Cronin as Group Head, BMO Capital Markets, Gilles Ouellette as Group Head, BMO Asset Management and Joanna Rotenberg as Group Head, BMO Wealth Management. Each of these appointments was effective November 1, 2016.

On April 7, 2017, BMO announced its intention to appoint Darryl White, Chief Operating Officer, BMO Financial Group, to the office of Chief Executive Officer, BMO Financial Group effective November 1, 2017, as successor to William Downe, who had announced his intention to retire effective October 31, 2017. Mr. White was appointed to the Bank's board of directors on May 24, 2017. On October 31, 2017, Mr. Downe retired as Chief Executive Officer of the Bank and, on November 1, 2017, Mr. White became Chief Executive Officer.

BMO has had common share buyback programs in place for several years. The 2017-2018 program expires on April 30, 2018. During the year ended October 31, 2017, the Bank repurchased and cancelled a total of 5 million common shares under the program, 4 million of which were purchased pursuant to a specific share repurchase program agreement.

For additional information on the general development of BMO's business and our strategies for the upcoming year, see pages 27, 30, and 45 to 62 of the 2017 MD&A, which we incorporate herein by reference.

This Three-Year History section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements on page 2.

## DESCRIPTION OF THE BUSINESS

### Business

BMO Financial Group is a highly diversified financial services provider based in North America. BMO offers a broad range of products and services directly and through Canadian and non-Canadian subsidiaries, offices, and branches. As at October 31, 2017, BMO had more than 12 million customers and more than 45,000 full-time equivalent employees. The Bank has approximately 1,500 bank branches in Canada and the United States and operates internationally in major financial markets and trading areas through its offices in 27 jurisdictions. BMO Financial Corp. (BFC) is based in Chicago and wholly-owned by Bank of Montreal. BFC operates primarily through its subsidiary BMO Harris Bank N.A. (BHB), which provides banking, financing, investing, and cash management services in select markets in the U.S. Midwest. BMO provides a full range of investment dealer services through entities, including BMO Nesbitt Burns Inc., a major fully integrated Canadian investment dealer, and BMO Capital Markets Corp., Bank of Montreal's wholly-owned registered securities dealer in the United States.

BMO conducts business through three operating groups: Personal and Commercial Banking (P&C), made up of Canadian P&C and U.S. P&C; Wealth Management; and BMO Capital Markets. Canadian P&C operates across Canada, offering a broad range of products and services, including banking, lending and treasury management. Operating predominately in the U.S. Midwest under the BMO Harris brand, U.S. P&C offers personal and commercial clients banking, lending, and treasury management products and services. Wealth Management serves a full range of client segments from mainstream to ultra-high net worth and institutional, with a broad offering of wealth management products and services including insurance. Wealth Management is a global business with an active presence in markets across Canada, the United States, Europe and Asia. BMO Capital Markets is a North American-based financial services provider offering a complete range of products and services to corporate, institutional and government clients. These include equity and debt underwriting, corporate lending and project financing, mergers and acquisitions advisory services, securitization, treasury management, risk management, debt and equity research, and institutional sales and trading. With approximately 2,500 professionals in 30 locations around the world, including 16 offices in North America, BMO Capital Markets works proactively with clients to provide innovative and integrated financial solutions. Corporate Services consists of Corporate Units and Technology and Operations (T&O). Corporate Units provide enterprise-wide expertise and governance support in a variety of areas, including strategic planning, risk management, finance, legal and regulatory compliance, marketing, communications and human resources. T&O manages, maintains and provides governance over information technology, operations services, real estate and procurement for the Bank.

For additional information regarding BMO's businesses, see pages 27, 30, and 45 to 62 of the 2017 MD&A and Note 26 to the 2017 Financial Statements. We incorporate these pages and Note by reference.

This Business section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements on page 2.

## Supervision and Regulation in Canada

Bank of Montreal's activities in Canada are governed by the Bank Act.

Under the Bank Act, a bank can operate its regular banking business as well as some additional activities, such as dealing with real property and various information services. A bank is restricted when it undertakes certain activities, including fiduciary activities, dealing in securities, insurance activities, and personal property leasing. For example, other than for authorized types of insurance, a bank may not offer insurance products through its branch system or bank website.

The Bank Act grants a bank broad power to invest in the securities of other corporations and entities, but limits substantial investments. Under the Bank Act, a bank generally has a substantial investment in a body corporate when (1) the bank and entities controlled by the bank beneficially own more than 10% of the voting shares of the body corporate or (2) the bank and entities controlled by the bank beneficially own shares representing more than 25% of the total shareholders' equity of the body corporate. A bank can have a substantial investment in entities that meet the substantial investment requirements as set out in Part IX of the Bank Act. In certain cases, the Minister of Finance or the Superintendent must approve before making an investment.

The Superintendent is responsible to the Minister of Finance for administering the Bank Act. The Superintendent provides guidelines for disclosing a bank's financial information. The Superintendent must also examine each bank annually to ensure compliance with the Bank Act and that each bank is in sound financial condition. The Superintendent's examination report is submitted to the Minister of Finance.

The Bank's Canadian trust, loan and insurance subsidiaries are federally regulated financial institutions governed by the *Trust and Loan Companies Act* (Canada) and the *Insurance Companies Act* (Canada), respectively, and under provincial laws in respect of their activities in the provinces. The Bank and its Canadian trust, loan and insurance subsidiaries are also subject to regulation by the Financial Consumer Agency of Canada (FCAC). The FCAC enforces consumer-related provisions of the federal statutes which govern these financial institutions. Certain activities of the Bank and its subsidiaries acting as securities brokers, dealers, underwriters and advisors are regulated in Canada under provincial securities legislation and by self-regulatory organizations such as the Investment Industry Regulatory Organization of Canada and the Mutual Fund Dealers Association of Canada.

Additional information about supervision and regulation in Canada is found under the headings "Regulatory Capital Requirements" and "Capital Regulatory Developments" in the Enterprise-Wide Capital Management section on pages 69 to 71, "Regulatory Requirements" in the Risks That May Affect Future Results section on page 80, "Regulatory Developments" in the Liquidity and Funding Risk section on page 105, and "Legal and Regulatory Risk" on pages 109 to 111 of the 2017 MD&A.

## Supervision and Regulation in the United States

In the United States, the operations of Bank of Montreal and its subsidiaries are supervised, regulated, and examined by regulatory and government agencies at the federal and state level. As a foreign bank, Bank of Montreal is subject to various U.S. laws and regulations, including the United States International Banking Act of 1978, the United States Bank Holding Company Act of 1956, and related regulations. The Board of Governors of the Federal Reserve System, including the Federal Reserve Banks (the Federal Reserve), and state banking regulators oversee the Bank of Montreal's branch and office operations in the United States. The U.S. Securities and Exchange Commission (the SEC), the Financial Industry Regulatory Authority, and state securities regulators regulate broker-dealer subsidiaries. The SEC and state securities regulators regulate registered investment advisor subsidiaries.

Bank of Montreal and its subsidiaries own two Federal Deposit Insurance Corporation (FDIC) insured depository institutions in the United States. These institutions engage in cash management, fiduciary activities, and commercial and retail banking. They are subject to examination by the Office of the Comptroller of the Currency (OCC). The Federal Reserve generally needs to approve acquiring (a) more than 5% of voting shares, (b) control, or (c) all (or substantially all) of the assets of a bank holding company, bank, or savings association.

The Bank is also subject to the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank). Dodd-Frank reforms include heightened consumer protection, revised regulation of over-the-counter derivatives markets, restrictions on proprietary trading and the ownership and sponsorship of private investment funds by banks and their affiliates (referred to as the Volcker Rule), imposition of heightened prudential standards, and broader application of leverage and risk-based capital requirements.

Dodd-Frank rulemaking may continue over the next several years. The conformance date for the Volcker Rule, which prohibits banking entities active in the U.S. and their affiliates from certain proprietary trading and specified relationships with private investment funds, was July 21, 2015. U.S. regulators extended until July 21, 2017 the requirement that banking entities, including the Bank and its subsidiaries, conform all of their investments in, and relationships with, private investment funds in place before December 31, 2013. The Bank completed a significant review of its operations and developed policies and procedures to meet both the July 21, 2015 deadline and the July 21, 2017 deadline, and now has systems in place to comply with and to assess, monitor, and report on Volcker Rule compliance across the Enterprise.

G20 jurisdictions, including the U.S., continue to implement new regulations as part of the over-the-counter ("OTC") derivatives regulatory reform program. Margin requirements for non-centrally cleared derivatives have been adopted in a number of jurisdictions, including Canada, Europe and the United States. Margin rules will require the exchange of variation margin and initial margin, both of which are designed to secure performance on non-centrally cleared derivatives transactions between covered entities. BMO has been subject to variation margin rules since March 1, 2017 and will be subject to initial margin rules beginning no earlier than September 1, 2018 and no later than September 1, 2019. In a number of jurisdictions, OTC derivatives transactions must now be reported to designated trade repositories and clearing, execution and business conduct regulations continue to be implemented.

The Federal Reserve Board's rule for strengthening supervision and regulation of foreign banking organizations (FBO Rule) implements Dodd-Frank's enhanced prudential standards and early remediation requirements for the U.S. operations of non-U.S. banks, such as BMO. The FBO Rule established new requirements relating to an intermediate holding company structure, risk-based capital and leverage requirements, capital stress testing requirements, U.S. risk management and risk governance, liquidity risk management and liquidity stress testing frameworks. In December 2014, we submitted to the Federal Reserve Board our implementation plan for meeting these requirements by the effective date (July 1, 2016). In accordance with the FBO Rule, BMO certified our compliance with the FBO Rule requirements to the Federal Reserve Board in July 2016.

The OCC has issued guidelines that establish heightened standards for large national banks with average total consolidated assets of US$50 billion or more, including BHB. The guidelines set out minimum standards for the design and implementation of a bank's risk governance framework and minimum standards for oversight of that framework by a bank's board of directors. The framework must ensure the bank's risk profile is easily distinguished and separate from that of its parent for risk management purposes. A bank's board of directors is responsible for informed oversight of, and providing credible challenge to, management's risk management recommendations and decisions. We have implemented a plan to comply with these guidelines.

Additional information about supervision and regulation in the United States is found under the headings "Regulatory Capital Requirements" and "Capital Regulatory Developments" in the Enterprise-Wide Capital Management section on pages 69 to 71, "Regulatory Requirements" in the Risks That May Affect Future Results section on page 80, and "Legal and Regulatory Risk" on pages 109 to 111 of the 2017 MD&A.

This Supervision and Regulation in the United States section contains forward-looking statements. Please see the Cautionary Statement on page 2.

### International Supervision and Regulation

Outside Canada and the U.S., each of Bank of Montreal's branches, agencies and subsidiaries must comply with the regulatory requirements of the country or jurisdiction where it conducts business. These include the Basel Committee on Banking Supervision capital, liquidity and prudential rules (Basel III), or local variations on Basel III, which are intended to strengthen the banking sector's capital and liquidity frameworks. Since the first quarter of 2013, regulatory capital requirements for Bank of Montreal have been determined on a Basel III basis. Additional information about international supervision and regulation is found under the headings "Regulatory Capital Requirements", "Regulatory Capital Ratios", "Regulatory Capital Elements" and "Capital Regulatory Developments" in the Enterprise-Wide Capital Management section on pages 69 to 71, "Regulatory Requirements" in the Risks That May Affect Future Results section on page 80, and "Legal and Regulatory Risk" on pages 109 to 111, of the 2017 MD&A, which we incorporate herein by reference.

### Competition

Canada's financial services industry is highly competitive. It includes 32 domestic banks and 53 foreign bank subsidiaries, branches, and lending branches, as well as a multitude of trust companies, credit unions, online and full-service brokerages, investment dealers, life and property and casualty insurance companies, mutual fund dealers, and large monoline financial institutions, among others. Bank of Montreal competes with most of these companies in some form in our different businesses. However, our range of services compares to those of the other five major Canadian banks, and they are our direct competitors in almost all our businesses and markets in Canada. Bank of Montreal was the fourth largest chartered bank in Canada as measured by assets, equity, and market capitalization as at October 31, 2017. In North America, we're the eighth largest bank by assets, tenth largest by equity and by market capitalization as at October 31, 2017 for BMO (September 30, 2017 for BHB). BMO is the second largest Canadian bank as measured by retail branches in Canada and the United States.

The financial services industry continues its rapid change, as technology enables newnon-traditional entrants to compete in certain segments of banking, in some cases with reduced regulatory requirements and oversight. New entrants may leverage new technologies, advanced data and analytical tools, lower cost to serve and/or faster processes to challenge traditional banks, including new business models in retail payments, consumer and commercial lending, foreign exchange and low-cost investment advisory services. Failure to keep pace with these new technologies and competition may potentially impact our overall revenues and earnings if customers choose the services of these new market entrants. While we closely monitor technology disruptors, we also continue to adapt by increasing our investment in technology and innovation to keep pace with dynamic client expectations. This includes improving our mobile and internet banking capabilities, building new branch formats, and refining our credit decisioning, analytic and modelling data and tools and, where appropriate, bringing new and enhanced customer solutions to market. We further mitigate this risk by providing our customers with access to banking services across different channels, focusing on improving customer loyalty and trust, enhancing our advanced data and analytical tools, and leveraging current and future partnerships in order to deliver an exceptional customer experience with reduced costs and simplified processes. However, matching the pace of innovation exhibited by new and differently-situated competitors may require us and policy-makers to adapt at a faster pace.

The six major banks play a prominent role in the Canadian banking system, each maintaining an extensive and evolving branch network, augmented by automated banking machines, as well as telephone, internet, and mobile banking systems. The industry is considered mature with moderate growth, supported by an overall focus on productivity, investments in infrastructure and technology integration. Although the major banks offer similar products and services, they compete on offerings, pricing, service models and technology, as well as entering into partnerships and alliances, with a goal of gaining a strategic advantage and serving customers better. Increased competition is also evident in the drive for scale and operating efficiencies.

BMO's Canadian P&C banking business is one of the top five in Canada in all core product areas, providing a full range of lending, deposit and treasury management products and services to eight million customers. Canadian P&C continues to focus on strengthening customer loyalty in order to generate growth in a competitive environment, as well as increasing digital capabilities to augment the customer experience. Personal Banking provides customers with a wide range of products and services, including chequing and savings accounts, credit cards, mortgages, creditor insurance and everyday financial and investment advice. Our employees are focused on providing exceptional service to all of our customers every time they interact with us.

Canadian P&C's award winning[1] commercial bank possesses a strong competitive position in commercial lending, with a number two market share for business loans of up to $25 million. Commercial Banking provides small business and commercial banking customers with a broad suite of commercial products and services, including business deposit accounts, commercial credit cards, business loans and commercial mortgages, cash management solutions, foreign exchange and specialized banking programs. Our Commercial bankers work closely with our customers to identify solutions which will help them grow and manage their business.

[1] In 2017, the Bank was named the Best Commercial Bank in Canada by World Finance Magazine for the third consecutive year.

In Canada, Wealth Management competes with domestic banks, trust companies, global private banks, investment counselling firms, and mutual fund companies. Wealth Management's Canadian businesses have strong brand recognition and market position. Wealth Management has a strong market share in each of its full-service brokerage, online brokerage, and private banking businesses and investment funds. In the United States, Wealth Management competes primarily in U.S. personal wealth and asset management, with our strategic presence in the Chicago and Milwaukee area and in select high-growth wealth markets across the country. In Europe, the Middle East and Africa (EMEA), Wealth Management competes primarily in asset management through BMO Global Asset Management.

BMO Capital Markets operates in a highly competitive environment and our businesses face a diverse range of competitors. Our success is based on a stable and integrated North American platform with a complementary international presence; leading expertise and relationships in strategic sectors and providing clients with integrated financial solutions using a full range of products; a unique ability to serve U.S. mid-sized and selectively larger clients; and strong risk management practices.

Competition in the United States is more complex than in Canada, given the market's size and activity, as well as personal and commercial banking competitors at the community, regional, and national level, plus other financial service providers. U.S. P&C has a significant footprint in eight states, primarily in six neighbouring states (Illinois, Wisconsin, Indiana, Minnesota, Missouri and Kansas). The commercial banking environment remains competitive, with tightened lending standards and continued pressure on pricing strategies given commercial loan growth opportunities. Relative to our peers, we have a strong and proven commercial lending model, which has allowed us to build a strong national presence in key specialties such as financial institutions, dealer finance, and transportation finance, and created a position of strength in our core footprint. Personal banking loan growth is expected to improve in retail and business banking, reflecting a strong commitment to improving our performance, particularly in our mortgage business, where we are working actively to redefine our sales model, streamline processes and optimize pricing. We believe that our retail banking transformation, along with improved product offerings, will help accelerate growth from customer deposits and improve share of wallet. As we move forward, we intend to maintain a diversified and high-quality loan portfolio that adheres to our risk appetite, and we expect our loss rates to remain stable and that our margins will benefit from fiscal 2017 interest rate increases, as well as further anticipated short-term rate increases. On the deposit side, we expect strong consumer growth, with continued pressure on lower spread commercial deposits, as we anticipate that large commercial clients will seek alternative investments in a rising rate environment. U.S. P&C is committed to a customer-focused growth strategy and we are invested in improving the digital experience and providing the best-in-class products.

Consolidation has been underway in the financial services industry in Canada and the United States in recent years. This affects trust companies, mutual fund managers, life insurers, and credit unions. Canadian federal government policy discourages large banks from merging. It is uncertain whether this will change in the near future but further consolidation and increased competition in the financial services industry overall is likely.

This Competition section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements on page 2.

### Environmental, Social and Governance Issues

The Bank publishes an *Environmental, Social and Governance Report and Public Accountability Statement*, outlining how the Bank is addressing environmental, social, and governance issues. This report and other related information is available on the Bank's website, www.bmo.com, under the heading "Corporate Responsibility." Additional information about our environmental and social risks is under the heading "Environmental and Social Risk" in the Enterprise-Wide Risk Management section on pages 111-112 of the 2017 MD&A, which we incorporate herein by reference.

## DIVIDENDS

You can find information about the Bank's dividends paid or payable per share on the common shares and each outstanding series of preferred shares in each of the three most recently completed years in Note 16 of the 2017 Financial Statements and under the heading "Outstanding Shares and Securities Convertible into Common Shares" on page 75 of the 2017 MD&A, which Note and page we incorporate herein by reference.

We cannot declare dividends on our preferred or common shares if paying those dividends would contravene the capital adequacy, liquidity, or other regulations under the Bank Act. Also, we cannot pay common share dividends unless we have paid all dividends declared and payable on the Bank's preferred shares or set aside sufficient funds to do so. The Board of Directors determines the amount and payment of future dividends. The determination by the Board of Directors depends on the Bank's operations, financial condition, cash requirements, future regulatory restrictions on the payment of dividends, and other factors the Board of Directors finds relevant. You can find information about our dividends and our dividend payout range on page 75 of the 2017 MD&A, which we incorporate herein by reference.

## DESCRIPTION OF CAPITAL STRUCTURE

The following summarizes certain provisions of our common and preferred shares. This summary is qualified in its entirety by the actual terms and conditions of such shares. For more detail on the Bank's capital structure, see pages 71 to 75 of the 2017 MD&A and Notes 16 and 20 of the 2017 Financial Statements. We incorporate those pages and Notes by reference.

## Description of Common Shares

The authorized capital of the Bank includes an unlimited number of common shares without nominal or par value for unlimited consideration. The holders of common shares are entitled to:

(i) Vote at all Bank shareholders' meetings, except for meetings where only holders of a specified class or series of shares are entitled to vote.

(ii) Receive dividends as and when declared by the Board of Directors, subject to the preference of the Bank's holders of preferred shares.

(iii) Receive the remaining property of the Bank if it is liquidated, dissolved, or wound up, only after paying the Bank's holders of preferred shares and paying all outstanding debt.

## Description of Preferred Shares

The authorized capital of the Bank includes an unlimited number of Class A Preferred Shares and Class B Preferred Shares without nominal or par value, in series, for unlimited consideration. Class B Preferred shares may be issued in a foreign currency. The following describes certain general terms and conditions of the preferred shares.

## Certain Conditions of the Class A Preferred Shares as a Class

*Issuable in Series*

From time to time, the Board of Directors may resolve to issue Class A Preferred Shares in one or more series with rights, privileges, restrictions, and conditions, which the Board of Directors may also decide. As at December 1, 2017, there were no outstanding Class A Preferred Shares.

The Class A Preferred Shares of each series rank equally to all other series of Class A and Class B Preferred Shares and are entitled to preference over the common shares and over any other shares ranking junior to the Class A Preferred Shares and the Class B Preferred Shares with respect to the payment of dividends and in the distribution of property in the event of the liquidation, dissolution or winding up of the Bank.

*Creating and Issuing Shares*

Under the Bank Act, we need approval from the holders of Class A Preferred Shares to create any other class of shares with equal or superior rank to Class A Preferred Shares. Shareholders must give this approval as set out below in "Shareholder Approvals." The Bank Act and other laws may also require other forms of approval.

We do not require shareholder approval to create or issue additional Class A Preferred Shares or shares of equal rank if, on the date they are created or issued, we have declared and paid or set apart for payment all dividends payable on cumulative and non-cumulative Class A Preferred Shares, including for the most recently completed fiscal period.

*Voting Rights*

The holders of the Class A Preferred Shares only have voting rights as a class on certain matters (see below) or as the law requires.

*Shareholder Approvals*

Holders of the Class A Preferred Shares can give their approval if $66\frac{2}{3}\%$ or more holders casting vote in favour of doing so at a meeting where the majority of Class A Preferred Shares is represented, or if no quorum is present at such a meeting, at an adjourned meeting at which no quorum requirements apply.

## Certain Conditions of the Class B Preferred Shares as a Class

*Issuable in Series*

From time to time, the Board of Directors may resolve to issue Class B Preferred Shares in one or more series with rights, privileges, restrictions, and conditions, which the Board of Directors may also decide.

The Class B Preferred Shares of each series rank equally to all the other series of Class B and Class A Preferred Shares and are entitled to preference over the common shares and any other shares ranking junior to the Class A Preferred Shares and the Class B Preferred Shares with respect to the payment of dividends and in the distribution of property in the event of the liquidation, dissolution or winding up of the Bank.

*Creating and Issuing Shares*

Under the Bank Act, we need approval from holders of Class B Preferred Shares to create any other class of shares with equal or superior rank to Class B Preferred Shares. The Bank Act or other laws may also require other forms of approval.

We do not require shareholder approval to create or issue additional Class B Preferred Shares or shares of equal rank if, on the date they are created or issued, we have declared and paid or set apart for payment all dividends payable on cumulative and non-cumulative Class B Preferred Shares, including for the most recently completed fiscal period. As at December 1, 2017, none of the outstanding Class B Preferred Shares have the right to cumulative dividends.

*Voting Rights*

The holders of the Class B Preferred Shares only have voting rights as a class on certain matters (see below) or as the law requires.

*Shareholder Approvals*

Holders of the Class B Preferred Shares can give their approval if 66 2/3% or more holders casting vote in favour of doing so at a meeting where the majority of Class B Preferred Shares is represented, or if no quorum is present at such meeting, at an adjourned meeting at which no quorum requirements apply.

*Contingent Conversion of Certain Series of Class B Preferred Shares*

Upon the occurrence of certain specified trigger events relating to the viability of the Bank, the Class B Preferred Shares Series 27(Non-Viability Contingent Capital (NVCC)), Class B Preferred Shares Series 29 (Non-Viability Contingent Capital (NVCC)), Class B Preferred Shares Series 31 (Non-Viability Contingent Capital) (NVCC)), Class B Preferred Shares Series 33 (Non-Viability Contingent Capital (NVCC)), Class B Preferred Shares Series 35 (Non-Viability Contingent Capital (NVCC)), Class B Preferred Shares Series 36 (Non-Viability Contingent Capital (NVCC)), Class B Preferred Shares Series 38 (Non-Viability Contingent Capital (NVCC)), Class B Preferred Shares Series 40 (Non-Viability Contingent Capital (NVCC)) and Class B Preferred Shares Series 42 (Non-Viability Contingent Capital (NVCC)) will immediately and automatically be converted into common shares of the Bank. The number of common shares into which such Class B Preferred Shares would be converted upon the occurrence of such a trigger event will be determined in accordance with a pre-determined conversion formula specified at the time of issuance of such Class B Preferred Shares.

## Restraints on Bank Shares under the Bank Act

The Bank Act restricts the beneficial ownership of shares of a bank. No person may be a major shareholder of a bank if the bank has equity of $12 billion or more, which applies to the Bank. A major shareholder is defined as a person, or group of persons under common control or acting jointly or in concert, that beneficially owns more than 20% of any class of voting shares or more than 30% of any class of non-voting shares of the bank.

In addition, no person may have a significant interest in any class of shares of a bank, including the Bank, unless the person first receives the approval of the Minister of Finance. A person has a significant interest in a class of shares of a bank when the person, or group of persons under common control or acting jointly or in concert, beneficially owns more than 10% of any class of shares of the bank.

Governments and their agents are also restricted from acquiring shares of a bank, except for certain cases that require the Minister of Finance's consent.

## Ratings

The following table sets out ratings the Bank has received for its outstanding securities from the rating agencies, which are current as at December 1, 2017.

| | S&P | | Moody's | | DBRS | | Fitch | |
|---|---|---|---|---|---|---|---|---|
| | **Rating** | **Rank[1]** | **Rating** | **Rank[1]** | **Rating** | **Rank[1]** | **Rating** | **Rank[1]** |
| **Short-term instruments** | A-1 | 1 of 6 | P-1 | 1 of 4 | R-1 (high) | 1 of 6 | F1+ | 1 of 6 |
| **Deposits & senior debt** | A+ | 3 of 10 | A1 | 3 of 9 | AA | 2 of 10 | AA- | 2 of 10 |
| **Subordinated debt** | BBB+ | 4 of 10 | Baa1 | 4 of 9 | AA (low) | 2 of 10 | A+ | 3 of 10 |
| **Subordinated debt – NVCC[2]** | BBB | 4 of 10 | Baa2 | 4 of 9 | A (low) | 3 of 10 | A+ | 3 of 10 |
| **Preferred shares[3]** | BBB- / P-2 (low) | 3 of 9 / 2 of 8 | Baa3 | 4 of 9 | Pfd-2 (high) | 2 of 6 | N/A | N/A |
| **Preferred shares – NVCC[2,3]** | BB+ / P-3 (high) | 4 of 9 / 3 of 8 | Baa3 | 4 of 9 | Pfd-2 | 2 of 6 | N/A | N/A |
| **Trend/Outlook** | Stable | -- | Negative | -- | Negative | -- | Stable | -- |

Notes: [1] Rank, according to each rating agency's public website, refers to the assigned ratings ranking of all major assignable ratings for each debt or share class, 1 being the highest. Each assignable major rating may be modified further (+/-, high/low) to show relative standing within the major rating categories.
[2] Non-viability contingent capital or NVCC.
[3] It is the practice of S&P to present an issuer's preferred share ratings on both the global rating scale and on the Canadian national scale when listing the ratings for a particular issuer.

A definition of the categories of each rating as at December 1, 2017 from each rating agency's website is outlined in Appendix II to this Annual Information Form. Further information may be obtained from the applicable rating agency. Fitch and S&P have a stable outlook on BMO's long-term credit ratings, while Moody's and DBRS have a negative outlook on the ratings of BMO pending further details on the Canadian federal government's approach to implement a bail-in regime for Canada's domestic systemically important banks. On May 10, 2017, Moody's revised its Macro Profile for Canada to Strong + from Very Strong-, resulting in a downgrade of Moody's ratings of six Canadian banks, including BMO. The macro profile change reflects Moody's expectation of a more challenging operating environment for banks in Canada that would lead to a deterioration in the banks' asset quality and increase their sensitivity to external shocks. The Baseline Credit Assessment, long-term debt and deposit ratings and Counterparty Risk Assessment assigned to BMO by Moody's were each downgraded by one notch.

The credit ratings that external rating agencies assign to some of our securities are important in the raising of both capital and funding to support our business operations. Maintaining strong credit ratings allows the Bank to access the capital markets at competitive pricing levels. Should our credit ratings experience a downgrade, our cost of funds would likely increase and our access to funding and capital through capital markets could be reduced. A material downgrade of our ratings could also have other consequences, including those set out in Note 8 of the 2017 Financial Statements.

Credit ratings are not recommendations to purchase, hold, or sell securities and do not address the market price or suitability of a specific security for a particular investor. Credit ratings may not reflect the potential impact of all risks on the value of securities. In addition, real or anticipated changes in the rating assigned to a security will generally affect the market value of that security. We cannot know for certain that a rating will remain in effect for any given period of time or that a rating agency will not revise or withdraw it entirely in the future.

The Bank paid fees to credit rating agencies to obtain its credit ratings. The Bank may also pay fees for other services from credit rating agencies in the ordinary course of business.

## MARKET FOR SECURITIES

### Trading Price and Volume

The outstanding common shares of the Bank are listed for trading on the Toronto Stock Exchange (TSX) and on the New York Stock Exchange (NYSE) under the trading symbol BMO. The outstanding preferred shares of the Bank set out below are listed on the TSX with the following trading symbols: BMO.PR.K for the Class B Preferred Shares Series 14, BMO.PR.L for the Class B Preferred Shares Series 15, BMO.PR.M for the Class B Preferred Shares Series 16, BMO.PR.R for the Class B Preferred Shares Series 17, BMO.PR.Q for the Class B Preferred Shares Series 25, BMO.PR.A for the Class B Preferred Shares Series 26, BMO. PR.S for the Class B Preferred Shares Series 27 (Non-Viability Contingent Capital (NVCC)), BMO.PR.T for the Class B Preferred Shares Series 29 (Non-Viability Contingent Capital (NVCC)), BMO. PR.W for the Class B Preferred Shares Series 31 (Non-Viability Contingent Capital (NVCC)), BMO.PR.Y for the Class B Preferred Shares Series 33 (Non-Viability Contingent Capital (NVCC)), BMO.PR.Z for the Class B Preferred Shares Series 35 (Non-Viability Contingent Capital (NVCC)), BMO.PR.B for the Class B Preferred Shares Series 38 (Non-Viability Contingent Capital (NVCC)), BMO.PR.C for the Class B Preferred Shares Series 40 (Non-Viability Contingent Capital (NVCC)) and BMO.PR.D for the Class B Preferred Shares Series 42 (Non-Viability Contingent Capital (NVCC)).

The following table sets out the reported high and low trading prices in Canadian dollars and the trading volumes of the common and preferred shares of Bank of Montreal on the TSX for the given periods. Prices are based on the reported data from the TSX Historical Data Access. The Class B Preferred Shares Series 14 and the Class B Preferred Shares Series 15 were redeemed by the Bank on May 25, 2017.

| | BMO Common Shares | PR.K Series 14 | PR.L Series 15 | PR.M Series 16 | PR.R Series 17 | PR.Q Series 25 | PR.A Series 26 | PR.S Series 27 | PR.T Series 29 | PR.W Series 31 | PR.Y Series 33 | PR.Z Series 35 | PR.B Series 38 | PR.C Series 40 | PR. Series |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **November 2016** | | | | | | | | | | | | | | | |
| - High Price ($) | 89.64 | 25.66 | 25.61 | 24.70 | 23.70 | 20.54 | 20.97 | 19.98 | 19.45 | 19.41 | 21.88 | 25.41 | 25.84 | -- | -- |
| - Low Price ($) | 83.58 | 25.13 | 25.26 | 23.77 | 23.00 | 19.69 | 20.10 | 19.04 | 18.66 | 18.54 | 20.51 | 24.44 | 25.20 | -- | -- |
| - Volume | 29,836,665 | 123,948 | 241,623 | 193,906 | 80,381 | 210,544 | 22,620 | 481,959 | 344,360 | 372,150 | 230,200 | 149,767 | 4,129,010 | -- | -- |
| **December 2016** | | | | | | | | | | | | | | | |
| - High Price ($) | 97.60 | 25.52 | 25.56 | 24.84 | 23.40 | 20.85 | 20.25 | 20.23 | 19.68 | 19.61 | 22.20 | 24.93 | 25.97 | -- | -- |
| - Low Price ($) | 88.07 | 25.25 | 25.35 | 23.80 | 23.00 | 19.97 | 19.40 | 19.24 | 18.60 | 18.57 | 20.90 | 24.51 | 25.50 | -- | -- |
| - Volume | 30,901,643 | 82,676 | 115,406 | 153,462 | 35,790 | 218,716 | 79,330 | 631,775 | 617,180 | 425,290 | 226,748 | 64,597 | 854,870 | -- | -- |
| **January 2017** | | | | | | | | | | | | | | | |
| - High Price ($) | 101.15 | 25.62 | 25.69 | 24.99 | 23.91 | 21.56 | 21.14 | 22.21 | 21.44 | 22.47 | 24.25 | 25.46 | 26.29 | -- | -- |
| - Low Price ($) | 96.70 | 25.30 | 25.26 | 24.44 | 23.31 | 20.60 | 20.08 | 20.23 | 19.45 | 19.49 | 22.19 | 24.58 | 25.76 | -- | -- |
| - Volume | 24,211,293 | 233,931 | 206,261 | 101,953 | 522,770 | 202,518 | 17,799 | 288,971 | 944,530 | 279,691 | 123,498 | 83,959 | 2,092,731 | -- | -- |
| **February 2017** | | | | | | | | | | | | | | | |
| - High Price ($) | 102.39 | 25.74 | 25.64 | 25.11 | 24.01 | 22.07 | 21.15 | 22.62 | 22.14 | 21.97 | 24.36 | 25.60 | 26.17 | -- | -- |
| - Low Price ($) | 97.85 | 25.39 | 25.31 | 24.58 | 23.68 | 21.30 | 20.81 | 21.65 | 21.01 | 20.89 | 23.57 | 25.28 | 25.75 | -- | -- |
| - Volume | 28,540,386 | 140,261 | 158,888 | 201,170 | 205,521 | 123,276 | 8,665 | 510,587 | 264,479 | 175,601 | 128,262 | 52,557 | 710,430 | -- | -- |
| **March 2017** | | | | | | | | | | | | | | | |
| - High Price ($) | 104.15 | 25.44 | 25.67 | 24.88 | 24.01 | 21.90 | 21.19 | 22.87 | 22.61 | 22.39 | 24.32 | 25.89 | 26.50 | 25.46 | -- |
| - Low Price ($) | 97.49 | 25.30 | 25.28 | 24.45 | 23.79 | 21.19 | 20.49 | 22.01 | 21.69 | 21.40 | 23.35 | 25.32 | 25.94 | 25.22 | -- |
| - Volume | 32,579,982 | 258,893 | 307,373 | 133,267 | 268,666 | 109,727 | 33,075 | 487,700 | 639,537 | 226,102 | 85,984 | 75,433 | 540,506 | 4,826,230 | -- |
| **April 2017** | | | | | | | | | | | | | | | |
| - High Price ($) | 101.29 | 25.36 | 25.42 | 24.98 | 24.24 | 22.04 | 21.08 | 23.15 | 22.58 | 22.61 | 24.27 | 26.20 | 26.75 | 25.89 | -- |
| - Low Price ($) | 96.10 | 24.98 | 24.98 | 24.66 | 23.94 | 21.65 | 20.61 | 22.09 | 21.61 | 21.59 | 23.54 | 25.76 | 26.33 | 25.37 | -- |
| - Volume | 35,632,457 | 1,686,780 | 751,530 | 127,231 | 88,015 | 156,826 | 12,410 | 321,063 | 558,088 | 185,557 | 122,794 | 86,162 | 530,741 | 1,795,508 | -- |
| **May 2017** | | | | | | | | | | | | | | | |
| - High Price ($) | 97.32 | 25.00 | 25.01 | 24.82 | 24.23 | 22.07 | 20.99 | 22.09 | 21.69 | 21.60 | 23.50 | 26.10 | 26.45 | 25.80 | -- |
| - Low Price ($) | 90.13 | 24.98 | 24.98 | 24.37 | 23.79 | 21.25 | 20.81 | 21.10 | 20.55 | 20.50 | 22.25 | 25.48 | 26.05 | 25.36 | -- |
| - Volume | 46,746,424 | 446,055 | 374,383 | 308,795 | 66,251 | 67,891 | 7,513 | 305,357 | 313,300 | 178,401 | 128,110 | 127,064 | 336,669 | 1,156,610 | -- |
| **June 2017** | | | | | | | | | | | | | | | |
| - High Price ($) | 96.40 | -- | -- | 24.95 | 24.30 | 21.66 | 20.98 | 22.49 | 21.65 | 21.70 | 24.00 | 26.42 | 26.60 | 25.75 | 24.9 |
| - Low Price ($) | 90.28 | -- | -- | 24.37 | 23.86 | 20.98 | 20.26 | 20.78 | 20.17 | 20.18 | 22.19 | 25.43 | 26.00 | 25.30 | 24.8 |
| - Volume | 39,690,169 | -- | -- | 158,929 | 68,865 | 263,762 | 15,281 | 551,210 | 367,538 | 426,054 | 109,031 | 94,210 | 379,899 | 1,372,908 | 1,615, |
| **July 2017** | | | | | | | | | | | | | | | |
| - High Price ($) | 97.42 | -- | -- | 24.87 | 24.60 | 21.81 | 21.60 | 23.05 | 22.49 | 22.30 | 24.33 | 25.83 | 26.59 | 25.79 | 25.1 |
| - Low Price ($) | 93.86 | -- | -- | 24.53 | 24.25 | 21.14 | 20.50 | 22.14 | 21.60 | 21.43 | 23.53 | 25.36 | 26.13 | 25.16 | 24.9 |
| - Volume | 23,174,928 | -- | -- | 164,659 | 41,114 | 583,133 | 28,613 | 124,509 | 210,867 | 126,934 | 49,927 | 46,721 | 368,153 | 762,811 | 1,550, |
| **August 2017** | | | | | | | | | | | | | | | |
| - High Price ($) | 95.60 | -- | -- | 24.82 | 24.67 | 21.74 | 21.48 | 22.87 | 22.38 | 22.11 | 24.11 | 25.79 | 26.37 | 25.44 | 25.1 |
| - Low Price ($) | 89.21 | -- | -- | 24.50 | 24.20 | 21.12 | 21.25 | 21.75 | 21.40 | 21.18 | 23.01 | 25.01 | 25.96 | 25.10 | 25.0 |
| - Volume | 25,670,217 | -- | -- | 69,464 | 175,168 | 81,591 | 21,276 | 427,911 | 263,564 | 126,229 | 76,537 | 48,091 | 247,124 | 427,516 | 314,1 |
| **September 2017** | | | | | | | | | | | | | | | |
| - High Price ($) | 95.00 | -- | -- | 24.91 | 24.59 | 21.87 | 21.75 | 22.91 | 22.40 | 22.24 | 24.35 | 25.38 | 26.36 | 25.52 | 25.4 |
| - Low Price ($) | 88.63 | -- | -- | 24.63 | 24.19 | 21.25 | 21.35 | 22.25 | 21.90 | 21.66 | 23.66 | 25.00 | 26.15 | 25.26 | 25.0 |
| - Volume | 32,530,154 | -- | -- | 55,956 | 280,565 | 102,987 | 13,225 | 233,912 | 240,089 | 327,243 | 75,992 | 49,306 | 418,328 | 729,807 | 519,5 |
| **October 2017** | | | | | | | | | | | | | | | |
| - High Price ($) | 100.32 | -- | -- | 25.00 | 24.90 | 22.98 | 22.33 | 24.35 | 23.85 | 23.70 | 25.10 | 25.62 | 26.54 | 25.72 | 25.8 |
| - Low Price ($) | 94.60 | -- | -- | 24.74 | 24.50 | 21.70 | 21.74 | 22.87 | 22.46 | 22.14 | 24.22 | 25.15 | 26.10 | 25.33 | 25.0 |
| - Volume | 24,315,814 | -- | -- | 121,728 | 212,423 | 206,815 | 3,865 | 189,056 | 286,969 | 274,133 | 187,240 | 322,644 | 566,329 | 623,217 | 430,8 |

### Prior Sales

From time to time, the Bank issues principal at risk notes, securities for which the amount payable at maturity is determined by reference to the price, value or level of an underlying interest such as a stock index, an exchange traded fund or a notional portfolio of equities or other securities. For information about the Bank's issuances of subordinated indebtedness since October 31, 2016, see the "Subordinated Debt" section on page 68 of our 2017 MD&A and Note 15 of our 2017 financial statements, which section and note are incorporated herein by reference.

## DIRECTORS AND EXECUTIVE OFFICERS

### Board of Directors

As at December 1, 2017, the following were directors of the Bank.

| DIRECTOR NAME AND PRINCIPAL OCCUPATION | MUNICIPALITY OF RESIDENCE | DIRECTOR SINCE |
|---|---|---|
| **Jan Babiak**<br>Corporate Director | Franklin, Tennessee<br>USA | October 23, 2012 |
| **Sophie Brochu**<br>President and Chief Executive Officer<br>Gaz Métro Inc., a diversified energy company | Bromont, Québec<br>Canada | March 22, 2011 |
| **George A. Cope, O.C.**<br>President and Chief Executive Officer<br>BCE and Bell Canada, communications companies | Toronto, Ontario<br>Canada | July 25, 2006 |
| **Christine Edwards**<br>Capital Partner<br>Winston & Strawn LLP, a law firm | Lake Forest, Illinois<br>U.S.A. | August 1, 2010 |
| **Dr. Martin S. Eichenbaum**<br>Charles Moskos Professor of Economics<br>Northwestern University | Glencoe, Illinois<br>U.S.A. | March 31, 2015 |
| **Ronald H. Farmer**<br>Managing Director<br>Mosaic Capital Partners, a management and holding company | Markham, Ontario<br>Canada | November 25, 2003 |
| **Linda S. Huber**<br>Executive Vice-President and Chief Financial Officer<br>Moody's Corporation, a rating agency | New York, New York<br>U.S.A. | April 4, 2017 |
| **Eric R. La Flèche**<br>President and Chief Executive Officer<br>Metro Inc., a food retailer and distributor | Montreal, Québec<br>Canada | March 20, 2012 |
| **Lorraine Mitchelmore**<br>President and Chief Executive Officer<br>Field Upgrading Ltd., a developer of heavy oil upgrading technology | Calgary, Alberta<br>Canada | March 31, 2015 |
| **Philip S. Orsino, O.C., F.C.A.**<br>President and Chief Executive Officer<br>Brightwaters Strategic Solutions Inc., a consulting and advisory services company | Toronto, Ontario<br>Canada | July 1, 1999 |
| **J. Robert S. Prichard, O.C., O.Ont., FRSC**<br>Chairman of the Board, Bank of Montreal<br>Non-Executive Chair, Torys LLP, a law firm | Toronto, Ontario<br>Canada | July 18, 2000 |
| **Darryl White**<br>Chief Executive Officer<br>BMO Financial Group | Toronto, Ontario<br>Canada | May 24, 2017 |
| **Don M. Wilson III**<br>Corporate Director | Greenwich, Connecticut<br>U.S.A | March 28, 2008 |

A director of the Bank holds office until the next annual meeting of shareholders or until a successor is elected or appointed, unless their seat is vacated before they can do so.

Since November 1, 2012, the directors have held the principal occupations above, or other positions with the same, predecessor, or associated firms except for Mr. Orsino, who, before April 2014, was the President and Chief Executive Officer of Jeld-Wen Inc., Ms. Mitchelmore, who before January 2016, was the President, Canada Country Chair & Executive Vice President, Heavy Oil, Shell Canada Limited, and Mr. White who, from November 2016 until October 2017 was Chief Operating Officer of the Bank, from November 2014 until October 2016, was Group Head, BMO Capital Markets, and, from April 2012 until October 2014, was Global Head, Investment and Corporate Banking.

### Board Committee Members

There are four committees of the Board of Directors made up of the following members:

Audit and Conduct Review Committee: Philip Orsino (Chair), Jan Babiak, Sophie Brochu, Dr. Martin S. Eichenbaum, and Linda S. Huber.

Governance and Nominating Committee: Christine Edwards (Chair), George Cope, Ronald Farmer, Philip Orsino, Robert Prichard, and Don Wilson III.

Human Resources Committee: Ronald Farmer (Chair), George Cope, Christine Edwards, Lorraine Mitchelmore, Robert Prichard and Don Wilson III.

Risk Review Committee: Don Wilson III (Chair), Jan Babiak, Christine Edwards, Dr. Martin S. Eichenbaum, Ronald Farmer, Eric La Flèche, Lorraine Mitchelmore and Robert Prichard.

### Executive Officers

At December 1, 2017, the following were executive officers of the Bank:

| EXECUTIVE OFFICER NAME | PRINCIPAL OCCUPATION | MUNICIPALITY OF RESIDENCE |
|---|---|---|
| **Darryl White** | Chief Executive Officer | Toronto, Ontario<br>Canada |
| **Jean Michel Arès** | Chief Technology and Operations Officer | Alpharetta, Georgia<br>U.S.A. |
| **Christopher Begy** | U.S. Country Head and Chief Executive Officer, BMO Financial Corp. | Chicago, Illinois<br>U.S.A. |
| **David R. Casper** | President and Chief Executive Officer, BMO Harris Bank N.A. and Group Head, Commercial Banking | Northbrook , Illinois<br>U.S.A. |
| **Patrick Cronin** | Group Head, BMO Capital Markets | Toronto, Ontario<br>Canada |
| **Alexandra Dousmanis-Curtis** | Group Head, U.S. Retail and Business Banking | Toronto, Ontario<br>Canada |
| **Simon A. Fish** | General Counsel | Toronto, Ontario<br>Canada |
| **Thomas E. Flynn** | Chief Financial Officer | Toronto, Ontario<br>Canada |
| **Cameron Fowler** | President, North American Personal and Business Banking | Toronto, Ontario<br>Canada |
| **Gilles G. Ouellette** | Group Head, Asset Management and Vice-Chair, International | Toronto, Ontario<br>Canada |
| **Surjit Rajpal** | Chief Risk Officer | Winnetka, Illinois<br>U.S.A. |
| **Catherine Roche** | Head, Marketing and Strategy | Toronto, Ontario<br>Canada |
| **Joanna Rotenberg** | Group Head, Wealth Management | Toronto, Ontario<br>Canada |
| **Richard Rudderham** | Chief Human Resources Officer | West Vancouver, British Columbia<br>Canada |

All the executive officers named above have held their present positions or other senior positions with Bank of Montreal or its subsidiaries for the past five years, except for Catherine Roche who, prior to May 2016, was Partner and Managing Director at the Boston Consulting Group.

### Shareholdings of Directors and Executive Officers

To the knowledge of the Bank, as at December 1, 2017, the directors and executive officers of Bank of Montreal, as a group, beneficially owned, directly or indirectly, or exercised control or direction over an aggregate of 342,223 common shares of Bank of Montreal, representing less than 0.1% of Bank of Montreal's issued and outstanding common shares.

### Additional Disclosure for Directors and Executive Officers

To the Bank's knowledge, no director or executive officer of the Bank:

(a) is, as at December 1, 2017, or was, within the 10 years before, a director, chief executive officer or chief financial officer of any company (including the Bank):

  (i) subject to an order (including a cease trade order or an order similar to a cease trade order or an order that denied the relevant company access to any exemption under securities legislation for a period of more than 30 consecutive days), that was issued while the director or executive officer was acting in the capacity as director, chief executive officer or chief financial officer; or

  (ii) subject to an order (including a cease trade order or an order similar to a cease trade order or an order that denied the relevant company access to any exemption under securities legislation for a period of more than 30 consecutive days) that was issued after the director or executive officer ceased to be a director, chief executive officer or chief financial officer and which resulted from an event that occurred while that person was acting in the capacity as director, chief executive officer or chief financial officer;

(b) is, as at December 1, 2017, or has been, within the 10 years before, a director or executive officer of any company (including the Bank), that while that person was acting in that capacity or within a year of the person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets; or

(c) has, within the 10 years before December 1, 2017, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director or executive officer,

except as follows:

Mr. Orsino, a director of the Bank, was a director of CFM Corporation from July 2007 until his resignation in March 2008. In April 2008, CFM Corporation filed for protection under the CCAA.

To the Bank's knowledge, none of our directors or executive officers have been subject to: (a) any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority; or (b) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

## LEGAL PROCEEDINGS AND REGULATORY ACTIONS

A description of certain legal proceedings to which the Bank is a party appears under the heading "Legal Proceedings" in Note 25 of the 2017 Financial Statements.

In the ordinary course of business, the Bank and its subsidiaries may be assessed fees or fines by a Canadian securities regulatory authority in relation to administrative matters, including late filings or reporting, which may be considered penalties or sanctions pursuant to Canadian securities regulations but which are not, individually or in the aggregate, material to the Bank. In addition, the Bank and its subsidiaries are subject to numerous regulatory authorities around the world, and accordingly fees, administrative penalties, settlement agreements and sanctions may be categorized differently by certain regulators. Any such penalties imposed under these categories against the Bank and its subsidiaries in the 2017 fiscal year, however, are not material, nor would they likely be considered important to a reasonable investor in making an investment decision. Since November 1, 2016, the Bank and its subsidiaries have not entered into any material settlement agreements with a court relating to securities legislation or with a securities regulatory authority.

## TRANSFER AGENT AND REGISTRAR

The registrar and transfer agent for the Bank's common and preferred shares is Computershare Trust Company of Canada. This agent has transfer facilities in Montreal, Toronto, Calgary and Vancouver. In addition, Computershare Investor Services PLC and Computershare Trust Company, N.A. serve as transfer agents and registrars for the common shares in Bristol, United Kingdom and Canton, Maine, respectively.

## INTERESTS OF EXPERTS

The Bank's Shareholders' Auditors are KPMG LLP, who have prepared the Shareholders' Auditors' Reports on pages 137 and 138 of the 2017 Financial Statements. KPMG LLP have confirmed that they are independent with respect to the Bank and within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulation, and that they are independent accountants with respect to the Bank under all relevant United States professional and regulatory standards.

## AUDIT AND CONDUCT REVIEW COMMITTEE INFORMATION

### Composition of the Audit and Conduct Review Committee

The following five members make up the Bank's Audit and Conduct Review Committee: Philip Orsino (Chair), Jan Babiak, Sophie Brochu, Dr. Martin S. Eichenbaum, and Linda S. Huber. The Committee's responsibilities and duties are set out in the Committee's charter. We include the charter in Appendix I to this Annual Information Form.

The Board of Directors has determined that the members of the Audit and Conduct Review Committee reflect a high level of financial literacy and expertise. Each member of the Audit and Conduct Review Committee is "independent" and "financially literate" according to the definitions under Canadian and United States securities laws and the NYSE corporate governance listing standards, and each of Mr. Orsino, Ms. Babiak and Ms. Huber is an "Audit Committee Financial Expert[s]" as defined under United States securities laws. The Board bases these decisions on each Committee member's education and experience. The following paragraphs describe the relevant education and experience of each Committee member:

Mr. Orsino has a B.A. from University of Toronto and is a Fellow of the Chartered Professional Accountants of Canada. He is the President and Chief Executive Officer of Brightwaters Strategic Solutions Inc., a consulting and advisory services company. He was formerly the President and Chief Executive Officer of Jeld-Wen Inc., a global integrated manufacturer of building products until April 2014, and was also formerly the President and Chief Executive Officer of Masonite International Corporation until October 2005, which was listed on the TSX and NYSE. Mr. Orsino was appointed an Officer of the Order of Canada in 2004 and received the 2003 Canada's Outstanding CEO of the Year Award.

Ms. Babiak holds a B.B.A. in accounting from the University of Oklahoma and an M.B.A. from Baldwin Wallace University. She is a Chartered Accountant in the United Kingdom and a Certified Public Accountant in the United States. Ms. Babiak serves on the boards of other public and private companies and was formerly a Managing Partner at Ernst & Young LLP.

Ms. Brochu is a graduate in economics from Université Laval and is the President and Chief Executive Officer of Gaz Métro, part of Valener Inc., a publicly traded company. Ms. Brochu also serves on the board of another Canadian public company. Ms. Brochu is a member of the Order of Canada.

Dr. Eichenbaum received a B.Comm from McGill University and a Doctorate in Economics from the University of Minnesota. He serves on the advisory council of the Global Markets Institute at Goldman Sachs. He completed a four-year term as co-editor of the American Economic Review in 2015. He has served as a consultant to the Federal Reserve Banks in Atlanta and Chicago and the International Monetary Fund.

Ms. Huber is Executive Vice President and Chief Financial Officer of Moody's Corporation, with executive responsibility for the corporation's global finance, information technology, communications and corporate services functions, as well as the The Moody's Foundation. Before joining Moody's in 2005, Ms. Huber served in several senior roles in financial services, including Executive Vice President and Chief Financial Officer at U.S. Trust Company, a subsidiary of Charles Schwab & Company, Inc.; Managing Director at Freeman & Co.; Vice President of Corporate Strategy and Development and Vice President and Assistant Treasurer at PepsiCo. Ms. Huber holds an M.B.A. from the Stanford Graduate School of Business and a B.S. (with high honors) in business and economics from Lehigh University.

### Shareholders' Auditors Pre-Approval Policies and Procedures and Fees

For information about the fees paid to KPMG LLP, in the years ended October 31, 2017 and 2016, and the relatedpre-approval policies and procedures, see page 118 of the 2017 MD&A, which we incorporate herein by reference.

## ADDITIONAL INFORMATION

You can find additional information about Bank of Montreal on the Bank's web site at www.bmo.com/investorrelations, on SEDAR (System for Electronic Document Analysis and Retrieval) at www.sedar.com, and on the SEC's web site at www.sec.gov/edgar.

Our proxy circulars contain more information, including directors' and executive officers' compensation, debt, and shareholdings under equity compensation plans. The most recent circular is dated February 13, 2017, in connection with the Bank's Annual Meeting of Shareholders on April 4, 2017 (the 2017 Proxy Circular). We expect the next proxy circular to be dated as of February 12, 2018, in connection with the Bank's Annual Meeting of Shareholders on April 5, 2018 (the 2018 Proxy Circular).

The 2017 Financial Statements and the 2017 MD&A for the fiscal year ended October 31, 2017 provide additional financial information.

You can get copies of this Annual Information Form, as well as copies of the 2017 Financial Statements, the 2017 MD&A, the Bank's 2017 Annual Report, and the 2017 Proxy Circular (after we have mailed these documents to shareholders) by contacting us at:

Bank of Montreal
Corporate Secretary's Department
100 King Street West
1 First Canadian Place, 21st Floor
Toronto, Ontario
Canada M5X 1A1

Telephone: 416 867 6785
Fax: 416 867 6793
Email: corp.secretary@bmo.com

**APPENDIX I**

**BANK OF MONTREAL**

**AUDIT AND CONDUCT REVIEW COMMITTEE CHARTER**

The Committee is responsible for assisting the Board in fulfilling its oversight responsibilities for the integrity of the Bank's financial reporting; the effectiveness of the Bank's internal controls; the independent auditor's qualifications, independence and performance; the Bank's compliance with legal and regulatory requirements; transactions involving related parties; conflicts of interest and confidential information; and standards of business conduct and ethics.

In addition, the Committee will also act as the audit and conduct review committee of Designated Subsidiaries.

## PART I
**MANDATE**

The Committee will, either directly or through one or more sub-committees, perform the duties set out in this Charter and such other duties as may be necessary or appropriate including:

**1.1 Financial Reporting**

1.1.1 reviewing, together with management and the Shareholders' Auditors:

(i) the appropriateness of, and any changes to, the Bank's accounting and financial reporting;

(ii) the accounting treatment, presentation and impact of significant risks and uncertainties;

(iii) any material relevant proposed changes in accounting standards and securities policies or regulations;

(iv) key estimates and judgments of management;

(v) significant auditing and financial reporting issues and the method of resolution; and

(vi) tax and tax planning matters that are material to the financial statements.

1.1.2 reviewing, together with management and the Shareholders' Auditors, and approving or, if appropriate, recommending to the Board:

(i) prior to Board review or public disclosure, the audited annual and unaudited interim financial statements and related management's discussion and analysis, the annual information form, and any other financial or non-financial (as considered appropriate) information in material public disclosure documents (other than earnings coverage ratios, capitalization tables and summary financial information derived from any of the foregoing); and

(ii) such returns to OSFI requiring review under the *Bank Act* (Canada);

1.1.3 seeking confirmation from management that the Bank's annual and interim financial filings, fairly present in all material respects the financial condition, results of operations and cash flows of the Bank as of the relevant date and for the relevant periods, prior to recommending to the Board for approval;

1.1.4 reviewing the types of information to be provided and types of presentations to be made to rating agencies and analysts (if any) relating to earnings guidance, and

1.1.5 satisfying itself that adequate procedures are in place for the review of financial information extracted or derived from the Bank's financial statements that is to be publicly disclosed and has not otherwise been reviewed by the Committee.

**1.2 Internal Controls**

1.2.1 reviewing and approving the Bank's Internal Control Corporate Policy and overseeing the design, implementation, maintenance and effectiveness of the Bank's internal controls, including those related to the prevention, identification and detection of fraud; and reviewing and monitoring other Bank Corporate Policies as the Committee considers appropriate;

1.2.2 requiring management to design, implement, and maintain appropriate internal control procedures;

1.2.3 reviewing management's certifications and assessment of the Bank's internal control over financial reporting and the associated Shareholders' Auditors' report;

1.2.4 reviewing reports on the effectiveness of disclosure controls and procedures;

1.2.5 reviewing and discussing reports from management and the Chief Auditor as to the identification of any significant deficiencies or material weaknesses in the design or operation of the Bank's internal control, risk management, and governance systems and processes, including controls over financial reporting; reviewing any recommendations, as well as remediation plans, including the status of remediation plans implemented by management to rectify any such deficiencies identified; and discussing whether similar or related deficiencies may exist elsewhere in the Bank;

and

1.2.6 reviewing as required, correspondence relating to inquiries or investigations by regulators concerning internal controls.

**1.3 Internal Audit Function**

1.3.1 overseeing and reviewing at least annually the overall internal audit function, its resources and independence, and reviewing and approving the annual audit plan, including assurance that the audit plan is risk-based and encompasses the appropriate coverage of the enterprise, audit cycle requirements, and provides a basis for reliance by the Committee;

1.3.2 reviewing and approving the Bank's Corporate Audit Mandate Corporate Policy setting out the terms of reference of the internal audit function and the Chief Auditor;

1.3.3 reviewing, and jointly with the Human Resources Committee, recommending to the Board, the appointment,re-assignment or dismissal of the Chief Auditor, as required; and annually assessing the effectiveness of the Chief Auditor, in conjunction with the Human Resources Committee, and reviewing and approving his or her mandate;

1.3.4 annually reviewing and approving the organizational structure, budget, resource plan and strategic priorities of this function and assessing its effectiveness having regard to its role as an independent control function;

1.3.5 reviewing the results of periodic independent reviews of the Corporate Audit function;

1.3.6 reviewing the quarterly report of the Chief Auditor, together with management's response;

1.3.7 reviewing any other reports submitted to the Committee by the Chief Auditor; and

1.3.8 communicating directly with the Chief Auditor and participating in his or her initial and ongoing engagement and evaluation.

**1.4 Shareholders' Auditors**

1.4.1 reviewing and evaluating the quality, independence, objectivity and professional skepticism of the Shareholders' Auditors and the lead auditor;

1.4.2 annually reviewing the performance of the Shareholders' Auditors including assessing their effectiveness and quality of service, to facilitate an informed recommendation on re-appointment of the Shareholders' Auditors and, every 5 years, performing a comprehensive review of the performance of the Shareholders' Auditors over multiple years to assess the audit firm, its independence and application of professional skepticism;

1.4.3 reviewing Shareholders' Auditors' audit findings reports with the Shareholders' Auditors, the Chief Auditor, and management including:

(i) the quality of the financial statements;

(ii) the Shareholders' Auditors' evaluation of the Bank's internal control over financial reporting;

(iii) the degree of cooperation the Shareholders' Auditors received from management; any problems or difficulties experienced by the Shareholders' Auditors in conducting the audit, including management's responses in respect thereof, any restrictions imposed by management or significant accounting issues on which there was a disagreement with management;

(iv) any concerns expressed by the Shareholders' Auditors related to accounting and auditing matters, including the risk of material misstatements;

(v) the appropriateness and quality of all critical accounting policies and practices used by the Bank and of the selection of new policies and practices; and

(vi) any material judgments that have been discussed with management, the ramifications of their use and the Shareholders' Auditors' preferred treatment, as well as any other material communications with management, and advising the Board of these matters as considered appropriate;

1.4.4 overseeing the resolution of any disagreements between the Shareholders' Auditors and management;

1.4.5 reviewing all material correspondence between the Shareholders' Auditors and management related to audit findings;

1.4.6 reviewing the Shareholders' Auditors' report under Section 328 of the *Bank Act* (Canada);

1.4.7 obtaining and reviewing a report from the Shareholders' Auditors at least annually addressing: (i) the Shareholders' Auditors' internal quality control procedures; (ii) any material issues raised by the most recent internal quality-control review or peer review of the Shareholders' Auditors, or by any inquiry or investigation by governmental or professional authorities including the Canadian Public Accountability Board and the Public Company Accounting Oversight Board, within the preceding five years, respecting one or more audits carried out by the Shareholders' Auditors; (iii) any steps taken to deal with any such issues; (iv) the Shareholders' Auditors' internal procedures to ensure independence; and (v) the delineation of all relationships between the Shareholders' Auditors and the Bank;

1.4.8 reviewing any notices required to be communicated/delivered by the Shareholders' Auditors to the Committee, including those required by the Canadian Public Accountability Board, Office of the Superintendent of Financial Institutions, and the U.S. Public Accounting Oversight Board, and taking such action and making recommendations to the Board as appropriate in connection therewith;

1.4.9 reviewing the terms of the Shareholders' Auditors' engagement, the annual audit plan, including assurance that the audit plan is risk-based and appropriately addresses the risks of material misstatement, as well as any change in the materiality level used by the Shareholders' Auditors, and total fees payable and making recommendations to the Board as appropriate;

1.4.10 reviewing an annual written confirmation of the Shareholders' Auditors that they are independent in accordance with applicable independence rules and report directly to the Committee, as representatives of the Bank's shareholders;

1.4.11 reviewing and recommending to the Board the approval of the Bank's Auditor Independence Standard;

1.4.12 pre-approving audit services and permitted non-audit services by the Shareholders' Auditors in accordance with the Bank's Auditor Independence Policy; and

1.4.13 reviewing and approving the Bank's policies for hiring current or former partners or employees of the current or former Shareholders' Auditors and reviewing the Shareholders' Auditors' partner rotation.

**1.5 Finance, Legal and Regulatory Compliance Functions**

1.5.1 reviewing and, jointly with the Human Resources Committee, recommending to the Board the respective appointment,re-assignment or dismissal of the Chief Financial Officer, the General Counsel and the Chief Compliance Officer, as required; and annually assessing, in conjunction with the Human Resources Committee, the effectiveness of the Chief Financial Officer, the General Counsel and the Chief Compliance Officer, and reviewing and approving their respective mandates;

1.5.2 reviewing and, jointly with the Human Resources Committee, recommending to the Board the appointment,re-assignment or dismissal of the Chief Anti-Money Laundering Officer, as required; and annually assessing, in conjunction with the Human Resources Committee, the effectiveness of the Chief Anti-Money Laundering Officer, and reviewing and approving his or her mandate;

1.5.3 annually reviewing and approving the organizational structure, budget, resource plan and strategic priorities of the finance, legal and compliance, and anti-money laundering functions and assessing their effectiveness having regard to their respective roles as independent control functions;

1.5.4 reviewing the results of periodic independent reviews of the finance and compliance functions; and

1.5.5 reviewing and overseeing the status of remediation plans implemented by management to rectify any deficiencies identified.

**1.6 Financial Risk Management**

1.6.1 monitoring the Bank's major financial risk exposures and the steps management has taken to monitor and control such exposures; and

1.6.2 reviewing investments or transactions that could adversely affect the wellbeing of the Bank which the Shareholders' Auditors or any officer of the Bank may bring to the Committee's attention.

**1.7 Legal and Regulatory Compliance**

1.7.1 reviewing and approving the Legal, Regulatory and Reputation Risk Corporate Policy;

1.7.2 reviewing, with the Bank's General Counsel and the Chief Compliance Officer, the adequacy and effectiveness of the Bank's enterprise compliance program and the results of related monitoring and oversight activities;

1.7.3 reviewing an annual report on significant litigation matters and reviewing quarterly any material developments;

1.7.4 reviewing and approving the Bank's Anti-Money Laundering and Anti-Terrorist Financing Program framework, including key policies and any significant amendments;

1.7.5 meeting, at least annually, with the Chief Anti-Money Laundering Officer and the Chief Auditor to review their respective reports on the Anti-Money Laundering and Anti-Terrorist Financing Program;

1.7.6 meeting annually with representatives of OSFI as a Committee or as part of the Board, to receive OSFI's report on the results of its annual examination of the Bank; and

1.7.7 reviewing any other relevant reports of regulators to the Bank and any required action by management.

**1.8 Business Conduct and Sustainability**

1.8.1 reviewing and recommending for Board approval BMO's Code of Conduct, and reviewing and approving the Bank's Disclosure and Anti-Money Laundering and Anti-Terrorist Financing Corporate Policies;

1.8.2 approving any exceptions from BMO's Code of Conduct, as appropriate;

1.8.3 reviewing reports to the Committee relating to employee conduct and the Bank's ethical culture;

1.8.4 reviewing procedures for the receipt, retention and treatment of complaints received by the Bank regarding accounting, internal control over financial reporting or auditing matters; and the confidential anonymous submission of concerns by employees of the Bank regarding questionable accounting or auditing matters;

1.8.5 reviewing reports relating to employee and/or customer concerns received through the Office of the Ombudsman;

1.8.6 approving BMO's environmental social and governance report and Public Accountability Statement prior to disclosure;

1.8.7 reviewing any "up the ladder" report received by the Committee in accordance with written procedures adopted by the Committee. The Bank's "up the ladder" procedure, adopted by the Bank's Legal Group, sets out reporting protocols that comply with s.307 of the *Sarbanes Oxley Act of 2002* for the Bank's lawyers in the event of a material violation of certain laws; and

1.8.8 determining the necessity of, and overseeing any, investigations in connection with any “up the ladder” report.

**1.9 Self Dealing**

1.9.1 overseeing the effectiveness of self-dealing identification and procedures established by management for related and affected parties and monitoring compliance with applicable laws;

1.9.2 reviewing and approving as considered appropriate: (i) practices to identify related party transactions that could have a material effect on the stability or solvency of the Bank and; (ii) the measurement criteria and benchmarks for permitted related party transactions;

1.9.3 reviewing and, if advisable, approving the terms and conditions of related party loans that exceed established benchmarks; and

1.9.4 reviewing reports to the Committee on related and affected party transactions.

**1.10 Conflicts of Interest and Confidential Information**

1.10.1 overseeing the Bank’s procedures to identify, resolve and, where possible, reduce incidences of, conflicts of interest;

1.10.2 overseeing the Bank’s procedures to restrict the use and disclosure of confidential information;

1.10.3 reviewing and approving the Bank’s Disclosure Corporate Policy;

1.10.4 reviewing reports to the Committee relating to the use and disclosure of customer and employee information; and

1.10.5 overseeing the Bank’s compliance with privacy legislation.

**1.11 Consumer Protection Measures and Complaints**

1.11.1 overseeing the Bank’s procedures to make disclosure of information to Bank customers as required by the *Bank Act* (Canada), the *Trust and Loan Companies Act* (Canada), and the *Insurance Companies Act* (Canada);

1.11.2 overseeing the Bank’s procedures for dealing with complaints;

1.11.3 reviewing the annual report of the Office of the Ombudsman on complaint resolution;

1.11.4 overseeing the Bank’s procedures for complying with obligations imposed by the Financial Consumer Agency of Canada and applicable U.S. regulatory agencies; and

1.11.5 reviewing reports to the Committee relating to disclosure of information to customers and complaints.

**1.12 Aircraft and Chief Executive Officer Expense Accounts**

1.12.1 reviewing and approving, on an annual basis, the report on Bank aircraft and Chief Executive Officer expense accounts; and

1.12.2 the chair of the Committee will review, on a quarterly basis, the report on Chief Executive Officer expense accounts.

## PART II
## COMPOSITION

**2.1 Members**

2.1.1 The Committee will consist of three or more directors as determined by the Board. At least a majority of the members of the Committee will not be “affiliated” with the Bank for the purposes of the Bank Act (Canada). Each member of the Committee will be: (i) a director who is not an officer or employee of the Bank or an affiliate of the Bank; and (ii) “independent” for the purposes of applicable Canadian and United States securities laws and the New York Stock Exchange Rules.

2.1.2 Each member of the Committee will be Financially Literate (or be willing and able to acquire the necessary knowledge within a reasonable period of time) and the Committee will have at least one Audit Committee Financial Expert. Members of the Committee will not serve on more than three public company audit committees without the approval of the Board.

2.1.3 The Board will, having considered the recommendation of the Governance and Nominating Committee, appoint the members of the Committee and the chair of the Committee annually following the meeting of the shareholders at which directors are elected each year. The Board may appoint a member to fill a vacancy which occurs in the Committee between annual elections of directors and increase the number of Committee members as it determines appropriate. If a member of the Committee becomes “affiliated” with the Bank for the purposes of the *Bank Act* (Canada), the member may continue as a member of the Committee with the approval of the Governance and Nominating Committee, in consultation with the Bank’s General Counsel. Any member of the Committee may be removed or replaced at any time by the Board.

2.1.4 In addition to any orientation provided by the Governance and Nominating Committee, the chair of the Committee will provide orientation to new members of the Committee with respect to their duties and responsibilities as members of the Committee.

2.1.5 The Committee may invite other directors to attend Committee meetings or otherwise provide input as needed to acquire additional specific skills as required to carry out its mandate.

## PART III

## COMMITTEE PROCEDURE

### 3.1 Meetings

3.1.1 The Committee will meet as frequently as it determines necessary but not less than once each quarter. Meetings may be called by the chair of the Board, the chair of the Committee or any two members of the Committee. The chair of the Committee must call a meeting when requested to do so by any member of the Committee, the Shareholders' Auditors, the Chief Auditor, the Chairman of the Board, the Chief Executive Officer, the Chief Financial Officer or the General Counsel

3.1.2 Notice of the time and place of each meeting of the Committee, other than *ad hoc* meetings, will be given to each member of the Committee and the Shareholders' Auditors, not less than 48 hours before the time when the meeting is to be held. A quorum of the Committee will be a majority of its members. The powers of the Committee may be exercised at a meeting at which a quorum of the Committee is present in person or by telephone or other electronic means or by a resolution signed by all members entitled to vote on that resolution at a meeting of the Committee. Each member is entitled to one vote in Committee proceedings.

3.1.3 Notice of the time and place of *ad hoc* meetings will be given to each member not less than two hours before the time when the meeting is to be held.

3.1.4 The chair of the Committee will preside at all meetings of the Committee at which he or she is present and will, in consultation with the Chief Financial Officer, the Chief Auditor, the General Counsel and the Shareholders' Auditors, develop the agenda for each Committee meeting. The agenda for each meeting of the Committee, other than *ad hoc* meetings, will be delivered together with such other materials as the chair determines necessary, to each member of the Committee at least 48 hours prior to the meeting. The chair will designate from time to time a person who may be, but need not be, a member of the Committee, to be secretary of the Committee. Minutes will be kept of all meetings of the Committee and will be maintained by the Bank's Corporate Secretary.

3.1.5 The procedure at meetings is to be determined by the Committee unless otherwise determined by the By-Laws of the Bank, by a resolution of the Board or by this Charter.

3.1.6 The Committee will meet at least quarterly in separate private sessions with each of the Shareholders' Auditors and the Chief Auditor, and as appropriate with management including the Chief Financial Officer, the General Counsel, the Chief Compliance Officer and the Chief Anti-Money Laundering Officer.

3.1.7 The Committee will meet at the end of each meeting with only members of the Committee present.

3.1.8 The Committee may invite any director, officer or employee of the Bank or the Bank's counsel or the Shareholders' Auditors or any other person, as appropriate, to attend meetings of the Committee to assist in the discussion and examination of the matters under consideration by the Committee. The Shareholders' Auditors will, at the expense of the Bank, be entitled to attend and be heard at any meeting of the Committee.

### 3.2 Reports

3.2.1 The Committee will report the proceedings of each meeting and all recommendations made by the Committee at such meeting to the Board at the Board's next meeting. The Committee will make such recommendations to the Board as it may deem appropriate and will have such decision-making authority as the Board may determine from time to time. The Committee will approve the report of the Committee to be included in the Bank's Management Proxy Circular and such other reports relating to the activities of the Committee as may be required by the Bank or the Board from time to time. In addition, the Committee will prepare and submit to the Board for its review and approval the report required to be submitted by the Board to OSFI within 90 days after the financial year-end of the Bank concerning the activities of the Committee during the year in carrying out its conduct reviewresponsibilities.

### 3.3 Access to Management and Outside Advisors and Continuing Education

3.3.1 The Committee will have full, free and unrestricted access to management and employees, the Chief Auditor and the Shareholders' Auditors. The Committee has the authority to engage independent legal counsel, consultants or other advisors, with respect to any issue or to assist it in fulfilling its responsibilities without consulting or obtaining the approval of any officer of the Bank and the Bank will provide appropriate funding, as determined by the Committee, for the payment of: compensation to the Shareholders' Auditors engaged for the purpose of preparing or issuing an auditor's report or performing the audit, review or attest services for the Bank; compensation to any advisors employed by the Committee; and ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties.

3.3.2 The Committee will have access to continuing education programs to assist the Committee in fulfilling its responsibilities and the Bank will provide appropriate funding for such programs.

**3.4 Annual Review and Assessment**

3.4.1 The Committee will ensure that an annual review and assessment of the Committee's performance and effectiveness, including a review of its compliance with this Charter, will be conducted in accordance with the process developed by the Board's Governance and Nominating Committee and approved by the Board. The results thereof will be reported in accordance with the process established by the Board's Governance and Nominating Committee and approved by the Board.

3.4.2 The Committee will review and assess the adequacy of this Charter on an annual basis taking into account all legislative and regulatory requirements applicable to the Committee as well as any best practice guidelines recommended by regulators or stock exchanges with whom the Bank has a reporting relationship and, if appropriate, will recommend changes to the Board's Governance and Nominating Committee.

**3.5 Definitions**

"**Audit Committee Financial Expert**" means a person who has the following attributes:

(i) an understanding of generally accepted accounting principles and financial statements;

(ii) the ability to assess the general application of such principles in connection with the accounting for estimates, accruals and reserves;

(iii) experience preparing, auditing, analyzing or evaluating financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of issues that can reasonably be expected to be raised by the Bank's financial statements, or experience actively supervising one or more persons engaged in such activities;

(iv) an understanding of internal control over financial reporting; and

(v) an understanding of audit committee functions, acquired through any one or more of the following:

a) education and experience as a principal financial officer, principal accounting officer, controller, public accountant or auditor or experience in one or more positions that involve the performance of similar functions;

b) experience actively supervising a principal financial officer, principal accounting officer, controller, public accountant, auditor or person performing similar functions;

c) experience overseeing or assessing the performance of companies or public accountants with respect to the preparation, auditing or evaluation of financial statements; or

d) other relevant experience.

**"Auditor Independence Policy"** means the Bank's Auditor Independence Policy that provides guidance for engaging the Shareholders' Auditors to perform audit and permitted non-audit services for the Bank, its subsidiaries and material entities over which the Bank has significant influence.

**"Bank"** means Bank of Montreal and as the context requires, subsidiaries of the Bank.

**"Board"** means the Board of Directors of Bank of Montreal.

**"Committee"** means the Audit and Conduct Review Committee of the Board of Directors of Bank of Montreal.

**"Chief Anti-Money Laundering Officer"** means the Bank's officer appointed as Chief Anti-Money Laundering Officer.

**"Designated Subsidiary"** means as requested by the Board, those subsidiaries of the Bank for which the Committee will act as audit and conduct review committee.

**"Financially Literate"** means the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can reasonably be expected to be raised by the Bank's financial statements.

**"OSFI"** means the Office of the Superintendent of Financial Institutions.

**"Shareholders' Auditors"** mean the independent financial statement auditors of the Bank.

## APPENDIX II

## CREDIT RATING CATEGORIES

**(a) Standard & Poor's ("S&P")**

S&P has different rating scales for short-term debt, long-term debt and preferred shares. S&P short-term issue credit ratings are generally assigned to those obligations considered short-term in the relevant market. Short-term ratings are also used to indicate the creditworthiness of an obligor with respect to put features on long-term obligations. A short-term obligation rated A-1 indicates S&P's view that the Bank's capacity to meet its financial commitments on these obligations is strong.

S&P long-term issue credit ratings are based, in varying degrees, on the following considerations: likelihood of payment—capacity and willingness of the obligor to meet its financial commitment on a financial obligation in accordance with the terms of the obligation; nature of and provisions of the financial obligation; and protection afforded by, and relative position of, the financial obligation in the event of bankruptcy, reorganization, or other arrangement under the laws of bankruptcy and other laws affecting creditors' rights. A rating in the 'A' category means the obligation is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher-rated categories, however, the obligor's capacity to meet its financial commitment on the obligation is still strong. An obligation rated in the BBB category indicates that the obligation exhibits adequate protection parameters, however, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation. Ratings from AA to CCC may be modified by the addition of a plus (+) or minus (–) sign to show relative standing within the major rating categories.

The S&P preferred share rating on the Canadian scale is a forward-looking opinion about the creditworthiness of an obligor with respect to a specific preferred share obligation issued in the Canadian market, relative to preferred shares issued by other issuers in the Canadian market. The Canadian scale rating is fully determined by the applicable global scale rating, and there are no additional analytical criteria associated with the determination of ratings on the Canadian scale. A reference to "high", "medium" or "low" reflects the relative strength within the rating category.

A rating outlook assesses the potential direction of a long-term credit rating over the intermediate term (typically six months to two years). In determining a rating outlook, consideration is given to any changes in the economic and/or fundamental business conditions. An outlook is not necessarily a precursor of a rating change or future CreditWatch action.

The "Stable" rating outlook means that a rating is not likely to change.

**(b) Moody's Investors Service ("Moody's")**

Moody's has different rating scales for short-term ratings and long-term ratings.

Ratings assigned by Moody's, based on its global long-term and short-term rating scales, are forward-looking opinions of the relative credit risks of financial obligations issued by non-financial corporates, financial institutions, structured finance vehicles, project finance vehicles, and public sector entities.

Moody's short-term ratings are assigned to obligations with an original maturity of 13 months or less and reflect both the likelihood of a default on contractually promised payments and the expected financial loss suffered in the event of default. The P-1 rating is the highest of four rating categories and indicates issuers (or supporting institutions) that have a superior ability to repay short-term debt obligations.

Moody's long-term ratings are assigned to issuers or obligations with an original maturity of one-year or more and reflect both on the likelihood of a default on contractually promised payments and the expected financial loss suffered in the event of default. Obligations rated in the A category are judged to be upper-medium grade and subject to low credit risk. Obligations rated in the Baa category are judged to be medium-grade and subject to moderate credit risk and as such may possess certain speculative characteristics. Moody's appends numerical modifiers 1, 2, and 3 to each generic rating classification from Aa through Caa. The modifier 1 indicates that the obligation ranks in the higher end of its generic rating category; the modifier 2 indicates a mid-range ranking; and the modifier 3 indicates a ranking in the lower end of that generic rating category.

Moody's Issuer Ratings are opinions of the ability of entities to honour senior unsecured debt and debt-like obligations.

The Moody's rating outlook is an opinion regarding the likely rating direction over the medium term.

The "Negative" rating outlook indicates a higher likelihood of a rating change over the medium-term.

**(c) DBRS Limited ("DBRS")**

DBRS has different rating scales for short-term debt, long-term debt and preferred shares. DBRS rating approach is based on a combination of quantitative and qualitative considerations.

The DBRS short-term debt rating scale provides an opinion on the risk that an issuer will not meet its short-term financial obligations in a timely manner. The R-1 and R-2 rating categories are further denoted by the subcategories "high", "middle" and "low". An obligation rated R-1 (high) is of the highest credit quality and indicates the capacity for the payment of short-term financial obligations as they fall due is exceptionally high; unlikely to be adversely affected by future events.

The DBRS long-term rating scale provides an opinion on the risk of default. That is, the risk that an issuer will fail to satisfy its financial obligations in accordance with the terms under which the obligations have been issued. All rating categories other than AAA and D also contain subcategories "(high)" and "(low)". The absence of either a "(high)" or "(low)" designation indicates the rating is in the middle of the category. Long-term financial obligations rated AA are of superior credit quality and capacity for the payment is considered high; credit quality differs from AAA only to a small degree; unlikely to be significantly vulnerable to future events. Long-term financial obligations rated A are of good credit quality and capacity for payment is considered substantial, but of lesser credit quality than AA, and may be vulnerable to future events but qualifying negative factors are considered manageable.

The DBRS preferred share rating scale is used in the Canadian securities market and is meant to give an indication of the risk that a borrower will not fulfill its full obligations in a timely manner, with respect to both dividend and principal commitments. Each rating category is denoted by the subcategories "high" and "low". The absence of either a "high" or "low" designation indicates the rating is in the middle of the category. The Pfd-2 rating indicates that the preferred shares are of satisfactory credit quality.

Rating trends provide guidance in respect of DBRS's opinion regarding the outlook for a rating.

The "Negative" rating trend represents an indication that there is a greater likelihood that the rating could change in the future than would be the case if the rating trend was "Stable".

**(d) Fitch**

Fitch publishes opinions on a variety of scales.

A short-term issuer or obligation rating is based on the short-term vulnerability to default of the rated entity and relates to the capacity to meet financial obligations in accordance with the documentation governing the relevant obligation. Short-Term Ratings are assigned to obligations whose initial maturity is viewed as "short term" based on market convention. A rating of F1+ indicates the strongest intrinsic capacity for the timely payment of financial commitments. The added "+" denotes an exceptionally strong credit feature.

Rated entities in a number of sectors, including financial and non-financial corporations, are generally assigned issuer Default Ratings ("IDRs"). IDRs opine on an entity's relative vulnerability to default on financial obligations. A rating of AA denotes expectation of very low default risk and indicates very strong capacity for payment of financial commitments; this capacity is not significantly vulnerable to foreseeable events. A rating of A denotes expectations of low default risk and the capacity for payment of financial commitments is considered strong; this capacity may, nevertheless, be more vulnerable to adverse business or economic conditions than is the case for higher ratings. Within some of the rating categories, Fitch may append the rating with the modifiers "+" or "-" to denote relative status within major rating categories.

Rating Outlooks indicate the direction a rating is likely to move over a one-to-two year period.

The "Stable" rating outlook means that the rating is not likely to change over a one to two-year period.

# Management's Discussion and Analysis

BMO's Chief Executive Officer and its Chief Financial Officer have signed a statement outlining management's responsibility for financial information in the annual consolidated financial statements and Management's Discussion and Analysis (MD&A). The statement, which can be found on page 136, also explains the roles of the Audit and Conduct Review Committee and Board of Directors in respect of that financial information.

The MD&A comments on BMO's operations and financial condition for the years ended October 31, 2017 and 2016. The MD&A should be read in conjunction with our consolidated financial statements for the year ended October 31, 2017. The MD&A commentary is as of December 5, 2017. Unless otherwise indicated, all amounts are stated in Canadian dollars and have been derived from consolidated financial statements prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board. We also comply with interpretations of IFRS by our regulator, the Office of the Superintendent of Financial Institutions Canada. References to generally accepted accounting principles (GAAP) mean IFRS.

Since November 1, 2011, BMO's financial results have been reported in accordance with IFRS. Results for years prior to 2011 have not been restated and are presented in accordance with Canadian GAAP as defined at that time (CGAAP). As such, certain growth rates and compound annual growth rates (CAGR) may not be meaningful. On November 1, 2013, BMO adopted several new and amended accounting pronouncements issued by the International Accounting Standards Board. The consolidated financial statements for comparative periods in the fiscal years 2013 and 2012 have been restated. Certain other prior year data has been reclassified to conform with the current year's presentation. The adoption of new IFRS standards in 2015 only impacted our results prospectively. Prior periods have been reclassified for methodology changes and transfers of certain businesses between operating groups. See page 46.

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122 **Supplemental Information** presents other useful financial tables and more historical detail.


**Regulatory Filings**
Our continuous disclosure materials, including our interim consolidated financial statements and interim MD&A, annual audited consolidated financial statements and annual MD&A, Annual Information Form and Notice of Annual Meeting of Shareholders and Management Proxy Circular, are available on our website at www.bmo.com/investorrelations, on the Canadian Securities Administrators' website at www.sedar.com and on the EDGAR section of the SEC's website at www.sec.gov. BMO's Chief Executive Officer and its Chief Financial Officer certify the appropriateness and fairness of BMO's annual and interim consolidated financial statements, MD&A and Annual Information Form, the effectiveness of BMO's disclosure controls and procedures and the effectiveness of, and any material weaknesses relating to, BMO's internal control over financial reporting.

# Who We Are

Established in 1817, BMO Financial Group is a highly diversified financial services provider based in North America. We are the eighth largest bank in North America by assets, with total assets of $710 billion and more than 45,000 employees. BMO provides a broad range of personal and commercial banking, wealth management and investment banking products and services to more than 12 million customers. We serve eight million customers across Canada through our Canadian personal and commercial arm, BMO Bank of Montreal. We also serve customers through our wealth management businesses: BMO Global Asset Management, BMO Nesbitt Burns, BMO Private Banking, BMO Insurance and BMO InvestorLine. BMO Capital Markets, our investment and corporate banking and trading products division, provides a full suite of financial products and services to North American and international clients. In the United States, BMO serves customers through BMO Harris Bank, based in the U.S. Midwest with more than two million retail, small business and commercial customers. BMO Financial Group conducts business through three operating groups: Personal and Commercial Banking, Wealth Management and BMO Capital Markets.

## Our Financial Objectives

BMO's medium-term financial objectives for certain important performance measures are set out below. These objectives establish a range of expected performance over time. We believe we will deliver top-tier total shareholder return and meet our financial objectives by aligning our operations with, and executing on, our strategic priorities, along with our vision *To be the bank that defines great customer experience*. We consider top-tier returns to be top-quartile shareholder returns relative to our Canadian and North American peer group.

BMO's business planning process is rigorous, sets ambitious goals and considers the prevailing economic conditions, our risk appetite, our customers' evolving needs and the opportunities available across our lines of business. It includes clear and direct accountability for annual performance that is measured against both internal and external benchmarks and progress toward our strategic priorities.

Our medium-term financial objectives on an adjusted basis are to achieve average annual earnings per share (adjusted EPS) growth of 7% to 10%, earn an average annual return on equity (adjusted ROE) of 15% or more, generate average annual net operating leverage of 2% or more and maintain capital ratios that exceed regulatory requirements. These objectives are guideposts as we execute against our strategic priorities. In managing our operations and risk, we recognize that current profitability and the ability to meet these objectives in a single period must be balanced with the need to invest in our businesses for their future long-term health and growth prospects.

Our one-year adjusted EPS growth rate was 8.5%, consistent with our target growth range of 7% to 10%. Our adjusted net operating leverage of 1.9% in 2017 and 2.1% in 2016 were in line with our target of 2% or more. Our one-year adjusted ROE of 13.7% was below our target of 15% or more. Higher capital requirements have had a negative impact on ROE and as a result, our 15% ROE objective is ambitious and will take time to attain. BMO is well-capitalized with a Common Equity Tier 1 Ratio of 11.4%.

## Reasons to Invest in BMO

- Strong, diversified businesses that continue to deliver robust earnings growth and long-term value for shareholders.
  - Large North American commercial banking business with advantaged market share.
  - Well-established, highly profitable core banking business in Canada.
  - Diversified U.S. banking operations well positioned to benefit from growth opportunities.
  - Award-winning wealth franchise with an active presence in markets across Canada, the United States, Europe and Asia.
  - Competitively advantaged Canadian and growing mid-cap focused U.S. capital markets business.
- Well-capitalized with an attractive dividend yield.
- Efficiency-focused, enabled by technology innovation, simplification, process enhancement and increased digitalization across channels.
- Customer-centric operating model guided by a disciplined loyalty measurement program.
- Adherence to the highest standards of corporate governance, including sustainability principles that ensure we consider social, economic and environmental impacts as we pursue sustainable growth.

| As at and for the periods ended October 31, 2017 | 1-year | 5-year* | 10-year* |
|---|---|---|---|
| Average annual total shareholder return | 20.2 | 15.5 | 9.7 |
| Average growth in annual EPS | 14.5 | 5.5 | 8.3 |
| Average growth in annual adjusted EPS | 8.5 | 6.5 | 4.7 |
| Average annual ROE | 13.3 | 13.3 | 13.5 |
| Average annual adjusted ROE | 13.7 | 13.9 | 14.5 |
| Compound growth in annual dividends declared per share | 4.7 | 4.8 | 2.8 |
| Dividend yield** | 3.6 | 3.9 | 4.6 |
| Price-to-earnings multiple** | 12.5 | 12.2 | 12.3 |
| Market value/book value ratio** | 1.60 | 1.55 | 1.54 |
| Common Equity Tier 1 Ratio | 11.4 | na | na |

* 5-year and 10-year growth rates reflect growth based on CGAAP in 2007, respectively, and IFRS in 2012 and 2017, respectively.
** 1-year measure as at October 31, 2017; 5-year and 10-year measures are the average of year-end values.
na – not applicable

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

The Our Financial Objectives section above and the Enterprise-Wide Strategy and Economic Developments and Outlook sections that follow contain certain forward-looking statements. By their nature, forward-looking statements require us to make assumptions and are subject to inherent risks and uncertainties. Please refer to the Caution Regarding Forward-Looking Statements on page 31 of this MD&A for a discussion of such risks and uncertainties and the material factors and assumptions related to the statements set forth in such sections.

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# Financial Highlights

| (Canadian $ in millions, except as noted) | 2017 | 2016 | 2015 |
|---|---|---|---|
| **Summary Income Statement** | | | |
| Net interest income | **10,007** | 9,872 | 8,763 |
| Non-interest revenue | **12,253** | 11,215 | 10,626 |
| Revenue | **22,260** | 21,087 | 19,389 |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) | **1,538** | 1,543 | 1,254 |
| Revenue, net of CCPB | **20,722** | 19,544 | 18,135 |
| Specific provision for credit losses (PCL) | **850** | 815 | 612 |
| Collective provision for (recovery of) credit losses | **(76)** | – | – |
| Total provision for credit losses | **774** | 815 | 612 |
| Non-interest expense | **13,302** | 12,997 | 12,182 |
| Provision for income taxes | **1,296** | 1,101 | 936 |
| Net income | **5,350** | 4,631 | 4,405 |
| Attributable to bank shareholders | **5,348** | 4,622 | 4,370 |
| Attributable to non-controlling interest in subsidiaries | **2** | 9 | 35 |
| Net income | **5,350** | 4,631 | 4,405 |
| Adjusted net income | **5,508** | 5,020 | 4,681 |
| **Common Share Data** ($, except as noted) | | | |
| Earnings per share | **7.92** | 6.92 | 6.57 |
| Adjusted earnings per share | **8.16** | 7.52 | 7.00 |
| Earnings per share growth (%) | **14.5** | 5.3 | 2.5 |
| Adjusted earnings per share growth (%) | **8.5** | 7.4 | 6.2 |
| Dividends declared per share | **3.56** | 3.40 | 3.24 |
| Book value per share | **61.92** | 59.56 | 56.31 |
| Closing share price | **98.83** | 85.36 | 76.04 |
| Total market value of common shares ($ billions) | **64.0** | 55.1 | 48.9 |
| Dividend yield (%) | **3.6** | 4.0 | 4.3 |
| **Financial Measures and Ratios** (%) | | | |
| Return on equity | **13.3** | 12.1 | 12.5 |
| Adjusted return on equity | **13.7** | 13.1 | 13.3 |
| Return on tangible common equity | **16.3** | 15.3 | 15.8 |
| Adjusted return on tangible common equity | **16.5** | 16.1 | 16.4 |
| Net income growth | **15.5** | 5.1 | 1.7 |
| Adjusted net income growth | **9.7** | 7.2 | 5.1 |
| Revenue growth | **5.6** | 8.8 | 6.4 |
| Revenue growth, net of CCPB | **6.0** | 7.8 | 8.5 |
| Non-interest expense growth | **2.3** | 6.7 | 11.5 |
| Adjusted non-interest expense growth | **3.7** | 6.1 | 9.8 |
| Efficiency ratio, net of CCPB | **64.2** | 66.5 | 67.2 |
| Adjusted efficiency ratio | **58.4** | 59.2 | 60.9 |
| Adjusted efficiency ratio, net of CCPB | **62.8** | 63.9 | 65.2 |
| Operating leverage, net of CCPB | **3.7** | 1.1 | (3.0) |
| Adjusted operating leverage, net of CCPB | **1.9** | 2.1 | (1.3) |
| Net interest margin on average earning assets | **1.55** | 1.59 | 1.51 |
| Effective tax rate | **19.5** | 19.2 | 17.5 |
| Adjusted effective tax rate | **19.8** | 19.9 | 18.0 |
| Return on average assets | **0.7** | 0.7 | 0.7 |
| PCL-to-average net loans and acceptances (annualized) | **0.21** | 0.23 | 0.19 |
| Specific PCL-to-average net loans and acceptances (annualized) | **0.23** | 0.23 | 0.19 |
| **Balance Sheet** (as at $ millions, except as noted) | | | |
| Assets | **709,580** | 687,935 | 641,881 |
| Net loans and acceptances | **378,218** | 371,751 | 334,024 |
| Deposits | **483,488** | 473,372 | 438,169 |
| Common shareholders' equity | **40,114** | 38,464 | 36,182 |
| Cash and securities-to-total assets ratio (%) | **28.5** | 27.1 | 27.8 |
| **Capital Ratios** (%) | | | |
| Common Equity Tier 1 Ratio | **11.4** | 10.1 | 10.7 |
| Tier 1 Capital Ratio | **13.0** | 11.6 | 12.3 |
| Total Capital Ratio | **15.1** | 13.6 | 14.4 |
| Leverage Ratio | **4.4** | 4.2 | 4.2 |
| **Foreign Exchange Rates** ($) | | | |
| As at Canadian/U.S. dollar | **1.2895** | 1.3411 | 1.3075 |
| Average Canadian/U.S. dollar | **1.3071** | 1.3251 | 1.2550 |

Adjusted results in this table are non-GAAP amounts or non-GAAP measures. Please see the Non-GAAP Measures section on page 29.

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## Non-GAAP Measures

Results and measures in this MD&A are presented on a GAAP basis. They are also presented on an adjusted basis that excludes the impact of certain items as set out in the following table. Results and measures that exclude the impact of Canadian/U.S. dollar exchange rate movements on our U.S. segment are non-GAAP measures (please see the Foreign Exchange section on page 36 for a discussion of the effects of changes in exchange rates on our results). Management assesses performance on a reported basis and on an adjusted basis and considers both to be useful in assessing underlying ongoing business performance. Presenting results on both bases provides readers with a better understanding of how management assesses results. It also permits readers to assess the impact of certain specified items on results for the periods presented and to better assess results excluding those items if they consider the items not to be reflective of ongoing results. As such, the presentation may facilitate readers' analysis of trends, as well as comparisons with our competitors. Except as otherwise noted, management's discussion of changes in reported results in this MD&A applies equally to changes in the corresponding adjusted results. Adjusted results and measures are non-GAAP and as such do not have standardized meaning under GAAP. They are unlikely to be comparable to similar measures presented by other companies and should not be viewed in isolation from or as a substitute for GAAP results.

| (Canadian $ in millions, except as noted) | **2017** | 2016 | 2015 |
|---|---|---|---|
| **Reported Results** | | | |
| Revenue | **22,260** | 21,087 | 19,389 |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) | **(1,538)** | (1,543) | (1,254) |
| Revenue, net of CCPB | **20,722** | 19,544 | 18,135 |
| Provision for credit losses | **(774)** | (815) | (612) |
| Non-interest expense | **(13,302)** | (12,997) | (12,182) |
| Income before income taxes | **6,646** | 5,732 | 5,341 |
| Provision for income taxes | **(1,296)** | (1,101) | (936) |
| Net Income | **5,350** | 4,631 | 4,405 |
| Diluted EPS ($) | **7.92** | 6.92 | 6.57 |
| **Adjusting Items (Pre-tax)** (1) | | | |
| Acquisition integration costs (2) | **(87)** | (104) | (53) |
| Amortization of acquisition-related intangible assets (3) | **(149)** | (160) | (163) |
| Cumulative accounting adjustment (4) | **–** | (85) | – |
| Restructuring costs (5) | **(59)** | (188) | (149) |
| Decrease in the collective allowance for credit losses (6) | **76** | – | – |
| Adjusting items included in reported pre-tax income | **(219)** | (537) | (365) |
| **Adjusting Items (After tax)** (1) | | | |
| Acquisition integration costs (2) | **(55)** | (71) | (43) |
| Amortization of acquisition-related intangible assets (3) | **(116)** | (124) | (127) |
| Cumulative accounting adjustment (4) | **–** | (62) | – |
| Restructuring costs (5) | **(41)** | (132) | (106) |
| Decrease in the collective allowance for credit losses (6) | **54** | – | – |
| Adjusting items included in reported net income after tax | **(158)** | (389) | (276) |
| Impact on diluted EPS ($) | **(0.24)** | (0.60) | (0.43) |
| **Adjusted Results** | | | |
| Revenue | **22,260** | 21,171 | 19,391 |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) | **(1,538)** | (1,543) | (1,254) |
| Revenue, net of CCPB | **20,722** | 19,628 | 18,137 |
| Provision for credit losses | **(850)** | (815) | (612) |
| Non-interest expense | **(13,007)** | (12,544) | (11,819) |
| Income before income taxes | **6,865** | 6,269 | 5,706 |
| Provision for income taxes | **(1,357)** | (1,249) | (1,025) |
| Net Income | **5,508** | 5,020 | 4,681 |
| Diluted EPS ($) | **8.16** | 7.52 | 7.00 |

Adjusted results and measures in this table are non-GAAP amounts or non-GAAP measures.

(1) Adjusting items are included in Corporate Services, with the exception of the amortization of acquisition-related intangible assets, which is charged to the operating groups, and acquisition integration costs related to F&C Asset Management plc (F&C), which are charged to Wealth Management.
(2) Acquisition integration costs related to F&C are charged to Wealth Management. Acquisition integration costs related to BMO Transportation Finance are charged to Corporate Services, since the acquisition impacts both Canadian and U.S. P&C businesses. Acquisition integration costs are primarily recorded in non-interest expense.
(3) These expenses were included in the non-interest expense of the operating groups. Before and after-tax amounts for each operating group are provided on pages 46, 48, 52, 56 and 59.
(4) Cumulative accounting adjustment recognized in other non-interest revenue related to foreign currency translation, largely impacting prior periods.
(5) Restructuring charges in 2017 and 2016, as we continue to accelerate the use of technology to enhance customer experience and focus on driving operational efficiencies. Restructuring charge in 2015, primarily due to restructuring to drive operational efficiencies. Restructuring costs are recorded in non-interest expense.
(6) Adjustments to the collective allowance for credit losses are recorded in Corporate Services provision for credit losses.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# Enterprise-Wide Strategy

## Our Vision

To be the bank that defines great customer experience.

## Our Strategy in Context

We aim to deliver top-tier total shareholder return as we balance our commitments to our customers and employees, the environment and the communities where we live and work. Our vision and brand inspire what we do every day.

Our strategy is built on a strong foundation of assets and capabilities that position us well for future growth. Guided by 200 years of proven ability to anticipate and adapt to change, we continue to navigate an increasingly complex world characterized by mixed macroeconomic performance, evolving customer needs, rapid technology advances, competitive intensity and a dynamic regulatory environment. In the face of these shifts, our commitment to our customers is unwavering.

## Our Strategic Priorities

1. Achieve industry-leading **customer loyalty** by delivering on our brand promise.
2. Enhance **productivity** to drive performance and shareholder value.
3. Accelerate deployment of **digital technology** to transform our business.
4. Leverage our consolidated **North American platform** and expand strategically in select global markets to deliver growth.
5. Ensure our strength in **risk management** underpins everything we do for our customers.

## Our Sustainability Principles

1. **Social Change**

   Helping people adapt and thrive as society evolves – tailoring our products and services to reflect changing expectations, and embracing diversity and inclusion in our workplace and the communities where we do business.

2. **Financial Resilience**

   Supporting customers' needs and goals, while gauging appropriate levels of risk, as they shape their financial futures. And providing members of underserved communities with access to guidance and support that helps them and enables them to do better.

3. **Community-building**

   Fostering social and economic well-being in the communities where we live and work by financing new enterprises, facilitating public investment, paying our fair share of taxes and, together with our employees, providing support through charitable donations, sponsorships and volunteer activities.

4. **Environmental Impact**

   Reducing our environmental footprint while considering the impacts of our business activities as we work with stakeholders who share our commitment to sustainability.

**Factors That May Affect Future Results**

As noted in the following Caution Regarding Forward-Looking Statements, all forward-looking statements and information, by their nature, are subject to inherent risks and uncertainties, both general and specific, which may cause actual results to differ materially from the expectations expressed in any forward-looking statement. The Enterprise-Wide Risk Management section starting on page 78 describes a number of risks, including credit and counterparty, market, insurance, liquidity and funding, operational, model, legal and regulatory, business, strategic, environmental and social, and reputation risk. Should our risk management framework prove ineffective, there could be a material adverse impact on our financial position.

**Caution Regarding Forward-Looking Statements**

Bank of Montreal's public communications often include written or oral forward-looking statements. Statements of this type are included in this document, and may be included in other filings with Canadian securities regulators or the U.S. Securities and Exchange Commission, or in other communications. All such statements are made pursuant to the "safe harbor" provisions of, and are intended to be forward-looking statements under, the United States *Private Securities Litigation Reform Act of 1995* and any applicable Canadian securities legislation. Forward-looking statements may involve, but are not limited to, comments with respect to our objectives and priorities for fiscal 2018 and beyond, our strategies or future actions, our targets, expectations for our financial condition or share price, and the results of or outlook for our operations or for the Canadian, U.S. and international economies.

By their nature, forward-looking statements require us to make assumptions and are subject to inherent risks and uncertainties. There is significant risk that predictions, forecasts, conclusions or projections will not prove to be accurate, that our assumptions may not be correct, and that actual results may differ materially from such predictions, forecasts, conclusions or projections. We caution readers of this document not to place undue reliance on our forward-looking statements, as a number of factors could cause actual future results, conditions, actions or events to differ materially from the targets, expectations, estimates or intentions expressed in the forward-looking statements.

The future outcomes that relate to forward-looking statements may be influenced by many factors, including but not limited to: general economic and market conditions in the countries in which we operate; weak, volatile or illiquid capital and/or credit markets; interest rate and currency value fluctuations; changes in monetary, fiscal, or economic policy and tax legislation and interpretation; the level of competition in the geographic and business areas in which we operate; changes in laws or in supervisory expectations or requirements, including capital, interest rate and liquidity requirements and guidance, and the effect of such changes on funding costs; judicial or regulatory proceedings; the accuracy and completeness of the information we obtain with respect to our customers and counterparties; our ability to execute our strategic plans and to complete and integrate acquisitions, including obtaining regulatory approvals; critical accounting estimates and the effect of changes to accounting standards, rules and interpretations on these estimates; operational and infrastructure risks; changes to our credit ratings; political conditions, including changes relating to or affecting economic or trade matters; global capital markets activities; the possible effects on our business of war or terrorist activities; outbreaks of disease or illness that affect local, national or international economies; natural disasters and disruptions to public infrastructure, such as transportation, communications, power or water supply; technological changes; information and cyber security; and our ability to anticipate and effectively manage risks arising from all of the foregoing factors.

We caution that the foregoing list is not exhaustive of all possible factors. Other factors and risks could adversely affect our results. For more information, please see the discussion in the Risks That May Affect Future Results section on page 79, and the sections related to credit and counterparty, market, insurance, liquidity and funding, operational, model, legal and regulatory, business, strategic, environmental and social, and reputation risk, which begin on page 86 and outline certain key factors and risks that may affect Bank of Montreal's future results. Investors and others should carefully consider these factors and risks, as well as other uncertainties and potential events, and the inherent uncertainty of forward-looking statements. Bank of Montreal does not undertake to update any forward-looking statements, whether written or oral, that may be made from time to time by the organization or on its behalf, except as required by law. The forward-looking information contained in this document is presented for the purpose of assisting our shareholders in understanding our financial position as at and for the periods ended on the dates presented, as well as our strategic priorities and objectives, and may not be appropriate for other purposes.

Assumptions about the performance of the Canadian and U.S. economies, as well as overall market conditions and their combined effect on our business, are material factors we consider when determining our strategic priorities, objectives and expectations for our business. In determining our expectations for economic growth, both broadly and in the financial services sector, we primarily consider historical economic data provided by governments, historical relationships between economic and financial variables, and the risks to the domestic and global economy. See the Economic Developments and Outlook section of this document.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# Economic Developments and Outlook

## Economic Developments in 2017 and Outlook for 2018

The Canadian economy rebounded sharply in 2017 after struggling for two years with the downturn in energy prices. The effects of this rebound were widespread across industries and regions. The fastest annual employment growth in nearly a decade and enhanced federal child benefit payments raised levels of disposable income, supporting consumer spending and driving record sales of new automobiles. While activity in the Greater Toronto Area housing market has weakened due to policy measures undertaken by the Ontario government, housing market activity strengthened in many regions this year, led by a recovery in Vancouver following earlier declines. Business investment in the energy-producing regions increased as a result of the recovery in oil prices. Canada's exports also strengthened in response to an upturn in the global economy, including the Eurozone and Japan. The Bank of Canada raised its policy rate twice in 2017, leading to a strong appreciation in the Canadian dollar. Overall, real GDP is expected to grow by 3.0% in 2017, more than double the previous year's rate and exceeding all other G7 countries. Looking ahead to 2018, the rate of GDP growth is expected to moderate to 2.2% due to higher interest rates and the stronger Canadian dollar. Growth in consumer spending will likely moderate in response to expected increases in interest rates, some moderation in employment growth and elevated household debt, reducing household loan growth to around 3.0% in 2018 from an estimated 3.6% in 2017. Although we expect that real estate markets in most regions will continue to benefit from good affordability and robust population growth, residential mortgage growth is projected to moderate to below 5.0% as a result of higher interest rates and stricter mortgage underwriting rules. An improvement in business sentiment should support business loan growth above 6.0% in 2018. The economic expansion is expected to reduce the unemployment rate to 5.7% by late 2018. The Bank of Canada is projected to lift its policy rate from the current 1.0% to 1.75% before the end of 2018. The Canadian dollar is expected to weaken modestly to around US$0.76 in 2018. Canada's economy faces the risk that more protectionist measures could be taken by the U.S. government if the North American Free Trade Agreement is not renegotiated. Additional risks include potential global market turbulence stemming from tensions between the United States and North Korea, and uncertain Brexit talks between the United Kingdom and the European Union.

The U.S. economy improved in 2017, led by an upturn in business investment in anticipation of deregulation and more expansionary fiscal policies. Despite this upturn in investment, business loan growth weakened, possibly due to uncertainty about trade and tax policies. Consumer spending remained strong, while housing market activity was steady. Exports were supported by increased global demand and some weakness in the U.S. dollar. Growing employment reduced the unemployment rate to a 16-year low of 4.1% in October. Household spending was supported by heightened consumer confidence, rising income and record wealth. Real GDP growth is expected to pick up from 1.5% in 2016 to 2.3% in 2017, and it is projected to strengthen modestly further to 2.4% in 2018 in response to proposed tax reductions. Firm household spending should sustain consumer loan growth above 5.0% in 2018. Housing market activity is expected to strengthen further in response to increased household formations and ongoing affordability, supporting an increase in residential mortgage growth to above 6.0% next year. Increased business spending on new equipment is projected to lift the rate of business loan growth above 5.0%. Interest rates will likely continue to rise moderately, with the Federal Reserve expected to raise its main policy rate from just above 1.0% currently to slightly above 2.0% before the end of 2018. The trade-weighted U.S. dollar is projected to remain firm due to rising interest rates. The unemployment rate is expected to fall below 4.0% in 2018. However, the U.S. economic outlook faces risks related to possible delays in proposed personal and corporate income tax reductions, protectionist trade policies and heightened geopolitical tensions.

The expansion in the U.S. Midwest region, which includes the six contiguous states within the BMO footprint, is expected to improve from 1.2% in 2016 to 1.5% in 2017 and to 1.8% in 2018, reflecting healthy business investment and stronger exports. However, the performance of the regional economy is expected to lag the national economy due to downshifting of production in the auto industry and restrained government spending in Illinois reflecting budgetary constraints.

This Economic Developments and Outlook section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

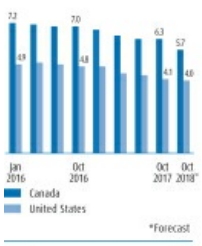
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**Real Growth in Gross Domestic Product (%)**



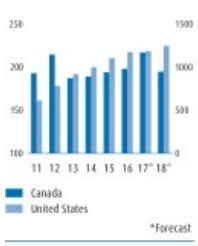

The Canadian and U.S. economies are expected to grow moderately in 2018.

**Canadian and U.S. Unemployment Rates (%)**




Unemployment rates in Canada and the United States are projected to decline modestly.

**Housing Starts (in thousands)**




Housing market activity is expected to moderate in Canada but strengthen in the United States.

**Consumer Price Index Inflation (%)**



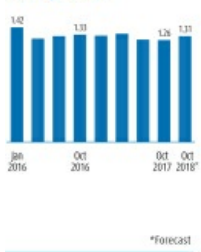

Inflation is expected to rise modestly but remain low.

**Canadian and U.S. Interest Rates (%)**




Central banks are expected to continue to raise policy rates in 2018.

**Canadian/U.S. Dollar Exchange Rates**




After rallying sharply in 2017, the Canadian dollar is expected to weaken modestly in 2018.

Data points are averages for the month, quarter or year, as appropriate. References to years are calendar years.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# Value Measures

## Total Shareholder Return

The average annual total shareholder return (TSR) is a key measure of shareholder value, and confirms that our strategic priorities drive value creation for our shareholders. Our one-year TSR of 20.2% and our three-year average annual TSR of 10.9% were strong, and both outperformed the overall market in Canada. Our five-year average annual TSR of 15.5% outperformed the corresponding average returns of both our Canadian bank peer group and the overall market in Canada.

The table below summarizes dividends paid on BMO common shares over the past five years and the movements in BMO's share price. An investment of $1,000 in BMO common shares made at the beginning of fiscal 2013 would have been worth $2,058 at October 31, 2017, assuming reinvestment of dividends, for a total return of 105.8%.

On December 5, 2017, BMO announced that the Board of Directors had declared a quarterly dividend on common shares of $0.93 per share, up $0.03 per share or 3% from the prior quarter and up $0.05 per share or 6% from a year ago. The dividend is payable on February 27, 2018 to shareholders of record on February 1, 2018. We have increased our quarterly dividend declared four times over the past two years from $0.82 per common share for the first quarter of 2016. Dividends paid over a five-year period have increased at an average annual compound rate of 4.7%.







The **average annual total shareholder return (TSR)** represents the average annual total return earned on an investment in BMO common shares made at the beginning of a fixed period. The return includes the change in share price and assumes dividends received were reinvested in additional common shares.

### Total Shareholder Return

| For the year ended October 31 | **2017** | 2016 | 2015 | 2014 | 2013 | **3-year CAGR** (1) | **5-year CAGR** (1) |
|---|---|---|---|---|---|---|---|
| Closing market price per common share ($) | **98.83** | 85.36 | 76.04 | 81.73 | 72.62 | **6.5** | **10.9** |
| Dividends paid ($ per share) | **3.52** | 3.36 | 3.20 | 3.04 | 2.92 | **5.0** | **4.7** |
| Dividend yield (%) | **3.6** | 4.0 | 4.3 | 3.8 | 4.0 | **nm** | **nm** |
| Increase (decrease) in share price (%) | **15.8** | 12.3 | (7.0) | 12.5 | 23.0 | **nm** | **nm** |
| Total annual shareholder return (%) (2) | **20.2** | 17.0 | (3.0) | 17.1 | 28.8 | **10.9** | **15.5** |

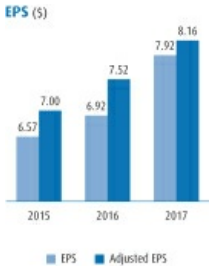
(1) Compound annual growth rate (CAGR) expressed as a percentage.
(2) Total annual shareholder return assumes reinvestment of quarterly dividends and therefore does not equal the sum of dividend and share price returns in the table.
nm – not meaningful

## Earnings per Share Growth

The year-over-year percentage changes in earnings per share (EPS) and in adjusted EPS are our key measures for analyzing earnings growth. All references to EPS are to diluted EPS, unless otherwise indicated.

EPS was $7.92, up $1.00 or 14% from $6.92 in 2016. Adjusted EPS was $8.16, up $0.64 or 9% from $7.52 in 2016, consistent with our objective of achieving average annual adjusted EPS growth of 7% to 10%. EPS growth primarily reflected increased earnings. Reported net income available to common shareholders was 15% higher year-over-year, while the average number of diluted common shares outstanding was relatively unchanged.

**Earnings per share (EPS)** is calculated by dividing net income attributable to bank shareholders, after the deduction of preferred dividends, by the average number of common shares outstanding. Diluted EPS, which is our basis for measuring performance, adjusts for possible conversions of financial instruments into common shares if those conversions would reduce EPS, and is more fully explained in Note 24 on page 191 of the consolidated financial statements. Adjusted EPS is calculated in the same manner using adjusted net income.

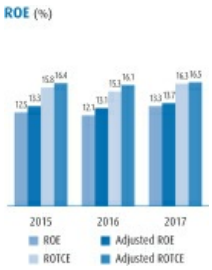



Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

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## Return on Equity

Return on equity (ROE) was 13.3% in 2017 and adjusted ROE was 13.7%, compared with 12.1% and 13.1%, respectively, in 2016. ROE increased in 2017, primarily due to growth in income exceeding growth in common equity. There was an increase of $692 million or 15% in net income available to common shareholders and $461 million or 10% in adjusted net income available to common shareholders in 2017. Average common shareholders' equity increased $2.0 billion or 5% from 2016, primarily due to increased retained earnings, partially offset by higher unrealized losses on cash flow hedges and the impact of the weaker U.S. dollar on our investments in foreign operations. The reported return on tangible common equity (ROTCE) was 16.3%, compared with 15.3% in 2016 and adjusted ROTCE was 16.5%, compared with 16.1% in 2016. Book value per share increased 4% from the prior year to $61.92, reflecting the increase in shareholders' equity.




**Return on common shareholders' equity (ROE)** is calculated as net income, less non-controlling interest in subsidiaries and preferred dividends, as a percentage of average common shareholders' equity. Common shareholders' equity is comprised of common share capital, contributed surplus, accumulated other comprehensive income (loss) and retained earnings. Adjusted ROE is calculated using adjusted net income rather than net income.

**Return on tangible common equity (ROTCE)** is calculated as net income available to common shareholders adjusted for the amortization of acquisition-related intangible assets as a percentage of average tangible common equity. Tangible common equity is calculated as common shareholders' equity less goodwill and acquisition-related intangible assets, net of related deferred tax liabilities. Adjusted ROTCE is calculated using adjusted net income rather than net income. ROTCE is commonly used in the North American banking industry and is meaningful because it measures the performance of businesses consistently, whether they were acquired or developed organically.

### Return on Equity and Return on Tangible Common Equity

| (Canadian $ in millions, except as noted)<br>For the year ended October 31 | **2017** | 2016 | 2015 |
|---|---|---|---|
| Reported net income | **5,350** | 4,631 | 4,405 |
| Attributable to non-controlling interest in subsidiaries | **(2)** | (9) | (35) |
| Preferred dividends | **(184)** | (150) | (117) |
| Net income available to common shareholders (A) | **5,164** | 4,472 | 4,253 |
| After-tax amortization of acquisition-related intangible assets | **116** | 124 | 127 |
| Net income available to common shareholders after adjusting for amortization of acquisition-related intangible assets (B) | **5,280** | 4,596 | 4,380 |
| After-tax impact of other adjusting items | **42** | 265 | 149 |
| Adjusted net income available to common shareholders (C) | **5,322** | 4,861 | 4,529 |
| Average common shareholders' equity (D) | **38,962** | 36,997 | 34,135 |
| Return on equity (%) (= A/D) | **13.3** | 12.1 | 12.5 |
| Adjusted return on equity (%) (= C/D) | **13.7** | 13.1 | 13.3 |
| Average tangible common equity (E) | **32,303** | 30,101 | 27,666 |
| Return on tangible common equity (%) (= B/E) | **16.3** | 15.3 | 15.8 |
| Adjusted return on tangible common equity (%) (= C/E) | **16.5** | 16.1 | 16.4 |

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

## Common Equity Tier 1 Ratio

BMO's Common Equity Tier 1 (CET1) Ratio reflects a well-capitalized position relative to the risk in our business. Our CET1 Ratio was 11.4% at October 31, 2017, compared to 10.1% at October 31, 2016. The CET1 Ratio increased from the end of fiscal 2016 due to higher capital, largely from retained earnings growth and common shares issued through the Shareholder Dividend Reinvestment and Share Purchase Plan and the exercise of stock options, as well as modestly lower source currency risk-weighted assets, partially offset by share repurchases.




**Common Equity Tier 1 (CET1) Ratio** is calculated as CET1 capital, which is comprised of common shareholders' equity less deductions for goodwill, intangible assets, pension assets, certain deferred tax assets and other items, divided by risk-weighted assets for CET1.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# 2017 Financial Performance Review

This section provides a review of our enterprise financial performance for 2017 that focuses on the Consolidated Statement of Income included in our consolidated financial statements, which begin on page 139. A review of our operating groups' strategies and performance follows the enterprise review. A summary of the enterprise financial performance for 2016 appears on page 65.

## Foreign Exchange

The Canadian dollar equivalents of BMO's U.S. results that are denominated in U.S. dollars were decreased relative to 2016 by the weaker U.S. dollar. The table below indicates the relevant average Canadian/U.S. dollar exchange rates and the impact of changes in the rates on our U.S. segment results. References in this document to the impact of the U.S. dollar do not include U.S.-dollar-denominated amounts recorded outside of BMO's U.S. segment.

Changes in the exchange rate will affect future results measured in Canadian dollars and the impact on those results is a function of the periods in which revenues, expenses and provisions for (recoveries of) credit losses arise. If future results are consistent with results in 2017, each one cent increase (decrease) in the Canadian/U.S. dollar exchange rate, expressed in terms of how many Canadian dollars one U.S. dollar buys, would be expected to increase (decrease) the Canadian dollar equivalent of our U.S. segment net income before income taxes for the year by $11 million in the absence of hedging transactions.

Economically, our U.S. dollar income stream was unhedged to changes in foreign exchange rates during the current year. A portion of BMO Capital Markets U.S. dollar net income was economically hedged in 2016 and 2015. We regularly determine whether to execute hedging transactions to mitigate the impact of foreign exchange rate movements on net income. See the Enterprise-Wide Capital Management section on page 69 for discussion of the impact that changes in foreign exchange rates can have on our capital position.

Changes in foreign exchange rates will also affect accumulated other comprehensive income primarily from the translation of our investment in foreign operations. Each one cent increase (decrease) in the Canadian/U.S. dollar exchange rate, expressed in terms of how many Canadian dollars one U.S. dollar buys, would be expected to increase (decrease) the translation of the unhedged portion of our investment in foreign operations by $156 million.

### Effects of Changes in Exchange Rates on BMO's Reported and Adjusted Results

| (Canadian $ in millions, except as noted) | **2017 vs. 2016** | 2016 vs. 2015 |
|---|---|---|
| Canadian/U.S. dollar exchange rate (average) | | |
| 2017 | **1.3071** | |
| 2016 | **1.3251** | 1.3251 |
| 2015 | | 1.2550 |
| **Effects on reported results** | | |
| (Decreased) increased net interest income | **(49)** | 204 |
| (Decreased) increased non-interest revenue | **(30)** | 149 |
| (Decreased) increased revenues | **(79)** | 353 |
| Increased provision for credit losses | **(3)** | (11) |
| Decreased (increased) expenses | **63** | (267) |
| Decreased (increased) income taxes | **6** | (18) |
| (Decreased) increased reported net income before impact of hedges | **(13)** | 57 |
| Hedging losses in current year after tax | **–** | – |
| (Decreased) increased reported net income | **(13)** | 57 |
| **Effects on adjusted results** | | |
| (Decreased) increased net interest income | **(49)** | 204 |
| (Decreased) increased non-interest revenue | **(30)** | 149 |
| (Decreased) increased revenues | **(79)** | 353 |
| Increased provision for credit losses | **(1)** | (12) |
| Decreased (increased) expenses | **59** | (257) |
| Decreased (increased) income taxes | **7** | (20) |
| (Decreased) increased adjusted net income before impact of hedges | **(14)** | 64 |
| Hedging losses in current year after tax | **–** | – |
| (Decreased) increased adjusted net income | **(14)** | 64 |

Certain comparative figures have been reclassified to conform with the current year's presentation.

**Caution**

This Foreign Exchange section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

## Net Income

Net income was $5,350 million in 2017, up $719 million or 16% from the previous year. Adjusted net income excludes a decrease in the collective allowance in the current year and a negative cumulative accounting adjustment in the prior year, as well as restructuring costs, the amortization of acquisition-related intangible assets and acquisition integration costs in both years. Adjusted net income was $5,508 million, up $488 million or 10%.

Reported and adjusted net income growth reflects the benefit of good performance in Canadian P&C, Wealth Management and BMO Capital Markets. Corporate Services results were also higher and results in U.S. P&C were relatively flat compared to the prior year.

The impact of the following items on net income and net income growth in 2017 largely offset each other: a net gain of $133 million, attributed to a $168 million after-tax gain on the sale of Moneris Solutions Corporation (Moneris US) and a $35 million after-tax loss on the sale of a portion of the U.S. indirect auto loan portfolio; a loss due to elevated claims of $112 million in our reinsurance business largely resulting from the impact of hurricanes Irma, Maria and Harvey; and the prior year write-down of an equity investment net of a gain on its subsequent sale.

Canadian P&C reported net income of $2,512 million increased $310 million or 14% and adjusted net income of $2,515 million, which excludes the amortization of acquisition-related intangible assets, increased $311 million or 14% from the prior year. Net income increased as a result of higher balances across most products, the $168 million after-tax gain on sale of Moneris US in the first quarter of 2017, increased non-interest revenue and lower provisions for credit losses, partially offset by higher expenses.

U.S. P&C reported net income of $1,066 million decreased $19 million and adjusted net income of $1,112 million decreased $23 million from the prior year due to the weaker U.S. dollar. Adjusted net income excludes the amortization of acquisition-related intangible assets. On a U.S. dollar basis, reported net income of $817 million and adjusted net income of $853 million were both relatively flat compared to the prior year, due to higher deposit revenue and increased loan volumes, offset by loan spread compression, higher expenses, the $27 million after-tax loss on the loan sale and an increase in the provision for credit losses.

Wealth Management reported net income of $953 million increased $192 million or 25% from the prior year. Adjusted net income of $1,018 million, which excludes the amortization of acquisition-related intangible assets and acquisition integration costs, increased $156 million or 18%. Traditional wealth reported net income of $717 million increased $178 million or 33% from the prior year. Adjusted net income in traditional wealth of $782 million increased $142 million or 22%, primarily due to higher income related to an increase in assets under management from improved equity markets and the accumulation of net new client assets, growth in deposit and loan balances, up 11% and 10%, respectively, and benefits from productivity initiatives. The prior year included a write-down of an equity investment net of a gain on its subsequent sale. Adjusted net income in insurance of $236 million increased $14 million or 6%, as the benefits from favourable market movements in the current year relative to unfavourable impacts in the prior year and business growth were largely offset by elevated claims of $112 million in our reinsurance business.

BMO Capital Markets reported net income of $1,315 million increased $62 million or 5% from the prior year. Adjusted net income of $1,317 million, which excludes the amortization of acquisition-related intangible assets, increased $63 million or 5% due to increased revenue and lower loan loss provisions, partially offset by higher expenses.

Corporate Services reported net loss for the year was $496 million, compared with a reported net loss of $670 million a year ago. The adjusted net loss for the year was $454 million, compared with an adjusted net loss of $435 million a year ago. Adjusted results exclude a decrease in the collective allowance in the current year and a negative cumulative accounting adjustment in the prior year, as well as restructuring costs and acquisition integration costs in both years. Adjusted results declined due to lower credit recoveries and higher expenses, partially offset by higher revenue excluding taxable equivalent basis (teb). Reported results increased mainly due to the lower restructuring charge in the current year, a negative cumulative accounting adjustment in the prior year and the decrease in the collective allowance in the current year, partially offset by the net impact of the factors noted above.

Further discussion is provided in the 2017 Operating Groups Performance Review section on pages 45 to 62.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

# Revenue(1)

Revenue increased $1,173 million or 6% to $22,260 million in 2017. On a basis that nets insurance claims, commissions and changes in policy benefit liabilities (CCPB) against insurance revenue (net revenue), reported revenue increased $1,178 million or 6% to $20,722 million.

Adjusted revenue, net of CCPB, increased $1,094 million or 6%, driven by good performance in Canadian P&C, Wealth Management and BMO Capital Markets. The gain on the sale of Moneris US net of the loss on the loan sale, which increased revenue by $133 million, was largely offset by a loss due to elevated reinsurance claims of $112 million and the prior year write-down of an equity investment net of a gain on its subsequent sale. The impact of the weaker U.S. dollar on revenue growth was not significant. Adjusted revenue excludes a negative cumulative accounting adjustment recorded in 2016 in non-interest revenue.

BMO analyzes revenue at the consolidated level based on GAAP revenues as reported in the consolidated financial statements, and on an adjusted basis. Consistent with our Canadian peer group, we analyze revenue on a taxable equivalent basis (teb) at the operating group level. The teb adjustments for 2017 totalled $567 million, up from $510 million in 2016.

Canadian P&C revenue increased $475 million or 7% to $7,444 million from the prior year, due to higher balances across most products, the $187 million pre-tax gain on sale of Moneris US in the first quarter of 2017 and increased non-interest revenue.

U.S. P&C revenue of $4,673 million was slightly higher compared to the prior year on a Canadian dollar basis. On a U.S. dollar basis, revenue of $3,578 million increased $62 million or 2%, primarily due to higher deposit revenue and increased loan volumes, net of loan spread compression and the impact of the $41 million pre-tax loss on the loan sale.

Wealth Management revenue, net of CCPB, of $4,654 million increased $309 million or 7% from the prior year. Revenue in traditional wealth of $4,187 million increased $264 million or 7%, primarily due to higher income related to an increase in assets under management from improved equity markets and the accumulation of net new client assets, and growth in deposit and loan balances, up 11% and 10%, respectively, and benefits from productivity initiatives, partially offset by the impact of a weaker British pound and U.S. dollar, and divestitures. The prior year included a write-down of an equity investment net of a gain on its subsequent sale. Insurance revenue, net of CCPB, of $467 million increased $45 million or 11%, as the benefits from favourable market movements in the current year relative to unfavourable impacts in the prior year and business growth were largely offset by elevated claims in the reinsurance business in the current year.

BMO Capital Markets revenue of $4,624 million increased $286 million or 7% from the prior year, due to higher client activity in investment banking and loan growth, as well as solid performance in our Trading Products business.

Corporate Services reported revenue increased $92 million and adjusted revenue increased $8 million. Adjusted revenue excludes the impact of a negative cumulative accounting adjustment in the prior year.

Further discussion is provided in the 2017 Operating Groups Performance Review section on pages 45 to 62.

(1) Insurance revenue can experience variability arising from fluctuations in the fair value of insurance assets. The investments which support policy benefit liabilities are predominantly fixed income assets recorded at fair value with changes in fair value recorded in insurance revenue in the Consolidated Statement of Income. These fair value changes are largely offset by changes in the fair value of policy benefit liabilities, the impact of which is reflected in insurance claims, commissions and changes in policy benefit liabilities. The discussion of revenue on a net basis reduces this variability in results, which allows for a better discussion of operating results. For additional discussion of insurance claims, commissions and changes in policy benefit liabilities, see page 41.

**Taxable equivalent basis (teb)** Revenues of operating groups are presented in our MD&A on a taxable equivalent basis (teb). Revenue and the provision for income taxes are increased on tax-exempt securities to an equivalent before-tax basis to facilitate comparisons of income between taxable and tax-exempt sources. This adjustment is offset in Corporate Services.

## Revenue and Adjusted Revenue

| (Canadian $ in millions, except as noted)<br>For the year ended October 31 | **2017** | 2016 | 2015 | **Change from 2016 (%)** |
|---|---|---|---|---|
| Net interest income | **10,007** | 9,872 | 8,763 | **1** |
| Non-interest revenue | **12,253** | 11,215 | 10,626 | **9** |
| Total revenue | **22,260** | 21,087 | 19,389 | **6** |
| Total revenue, net of CCPB | **20,722** | 19,544 | 18,135 | **6** |
| Adjusted net interest income | **10,007** | 9,872 | 8,764 | **1** |
| Adjusted non-interest revenue | **12,253** | 11,299 | 10,627 | **8** |
| Total adjusted revenue | **22,260** | 21,171 | 19,391 | **5** |
| Total adjusted revenue, net of CCPB | **20,722** | 19,628 | 18,137 | **6** |

### Net Interest Income

Net interest income increased $135 million or 1% to $10,007 million, or 2% excluding the impact of the weaker U.S. dollar, primarily due to loan growth partially offset by lower net interest income from certain trading businesses.

Average earning assets increased $24.1 billion or 4% to $646.8 billion, or $27.3 billion or 4% excluding the impact of the weaker U.S. dollar, due to an increase in securities and loan growth.

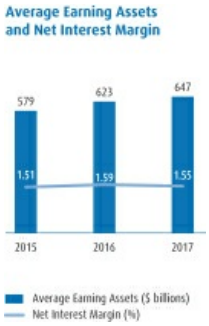
BMO's overall net interest margin decreased by 4 basis points to 1.55%, mainly driven by lower net interest income from trading businesses. Net interest margin (excluding trading) increased 1 basis point from the prior year to 1.87%.

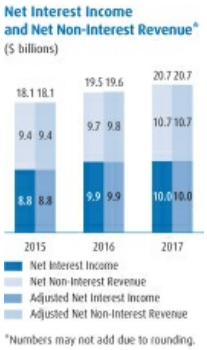
Table 3 on page 124 provides further details on net interest income and net interest margin.

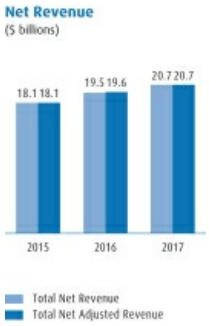
Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

**Net interest income** is comprised of earnings on assets, such as loans and securities, including interest and dividend income, less interest expense paid on liabilities, such as deposits.

**Net interest margin** is the ratio of net interest income to average earning assets, expressed as a percentage or in basis points.




## Change in Net Interest Income, Average Earning Assets and Net Interest Margin

| (Canadian $ in millions, except as noted) For the year ended October 31 | Net interest income (teb) | | Change | Average earning assets | | Change | Net interest margin (in basis points) | | |
|---|---|---|---|---|---|---|---|---|---|
| | **2017** | 2016 | **%** | **2017** | 2016 | **%** | **2017** | 2016 | **Change** |
| Canadian P&C | **5,262** | 5,060 | **4** | **207,815** | 199,527 | **4** | **253** | 254 | **(1)** |
| U.S. P&C | **3,607** | 3,538 | **2** | **96,244** | 97,538 | **(1)** | **375** | 363 | **12** |
| Personal and Commercial Banking (P&C) | **8,869** | 8,598 | **3** | **304,059** | 297,065 | **2** | **292** | 289 | **3** |
| Wealth Management | **700** | 614 | **14** | **28,026** | 25,898 | **8** | **250** | 237 | **13** |
| BMO Capital Markets | **1,288** | 1,483 | **(13)** | **266,928** | 254,370 | **5** | **48** | 58 | **(10)** |
| Corporate Services | **(850)** | (823) | **(3)** | **47,786** | 45,399 | **5** | **nm** | nm | **nm** |
| Total BMO reported | **10,007** | 9,872 | **1** | **646,799** | 622,732 | **4** | **155** | 159 | **(4)** |
| U.S. P&C (US$ in millions) | **2,761** | 2,671 | **3** | **73,661** | 73,639 | **–** | **375** | 363 | **12** |

Certain comparative figures have been reclassified to conform with the current year's presentation.

nm – not meaningful

### Non-Interest Revenue

Non-interest revenue, which comprises all revenues other than net interest income, increased $1,038 million or 9% to $12,253 million in 2017. Non-interest revenue, net of CCPB, increased $1,043 million or 11% to $10,715 million.

Adjusted non-interest revenue, net of CCPB, increased $959 million or 10% to $10,715 million, with the majority of the growth driven by strong performance in BMO Capital Markets, as well as growth in Canadian P&C and Wealth Management. Adjusted non-interest revenue excludes a negative cumulative accounting adjustment recorded in 2016.

Investments in associates and joint ventures increased $246 million primarily due to the gain on sale of Moneris US in the first quarter of 2017 and the write-down of an equity investment net of a gain on its subsequent sale in 2016.

Underwriting and advisory fees increased $216 million, primarily due to higher debt underwriting activity.

Trading revenues increased $160 million and are discussed in the Trading-Related Revenues section that follows.

Securities gains, other than trading, increased $87 million, primarily due to higher net securities gains in BMO Capital Markets and Corporate Services.

Investment management and custodial fees increased $66 million from the prior year, mainly due to business growth in Wealth Management, partially offset by the impact of the weaker U.S. dollar. Mutual fund revenue increased $47 million. Both investment management and custodial fees and mutual fund revenue were also positively impacted by the improved equity markets on average compared to the prior year, partially offset by the impact of the weaker British pound.

Lending fees increased $58 million due to increased lending activity in BMO Capital Markets and Canadian P&C.

Gross insurance revenue increased $47 million from a year ago, due to higher annuity sales and underlying business growth, offset by increases in long-term interest rates decreasing the fair value of insurance investments in the current year compared to decreases in long-term interest rates increasing the fair value of insurance investments in the prior year. Insurance revenue can experience variability arising from fluctuations in the fair value of insurance assets. The investments which support policy benefit liabilities are predominantly fixed income assets recorded at fair value with changes in fair value recorded in insurance revenue in the Consolidated Statement of Income. These fair value changes are largely offset by changes in the fair value of policy benefit liabilities, the impact of which is reflected in insurance claims, commissions and changes in policy benefit liabilities (CCPB), as discussed on page 65.

Deposit and payment service charges increased $46 million, due to growth in both Canadian and U.S. P&C.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

Securities commissions and fees increased $45 million. These revenues consist largely of brokerage commissions within Wealth Management and institutional equity trading commissions within BMO Capital Markets. The increase is due to improved equity markets and growth in fee-based businesses in Wealth Management.

Other non-interest revenue increased $37 million, due to a negative cumulative accounting adjustment in the prior year, partially offset by the loss on the loan sale.

Foreign exchange, other than trading increased $29 million.

Card fees decreased $46 million, primarily due to higher reward costs, as well as lower interchange revenue in U.S. P&C.

Table 3 on page 124 provides further details on revenue and revenue growth.

## Non-Interest Revenue

| (Canadian $ in millions)<br>For the year ended October 31 | **2017** | 2016 | 2015 | **Change from 2016 (%)** |
|---|---|---|---|---|
| Securities commissions and fees | **969** | 924 | 901 | **5** |
| Deposit and payment service charges | **1,187** | 1,141 | 1,077 | **4** |
| Trading revenues | **1,352** | 1,192 | 987 | **13** |
| Lending fees | **917** | 859 | 737 | **7** |
| Card fees | **415** | 461 | 460 | **(10)** |
| Investment management and custodial fees | **1,622** | 1,556 | 1,552 | **4** |
| Mutual fund revenues | **1,411** | 1,364 | 1,377 | **3** |
| Underwriting and advisory fees | **1,036** | 820 | 706 | **26** |
| Securities gains, other than trading | **171** | 84 | 171 | **+100** |
| Foreign exchange, other than trading | **191** | 162 | 172 | **18** |
| Insurance revenue | **2,070** | 2,023 | 1,762 | **2** |
| Investments in associates and joint ventures | **386** | 140 | 207 | **+100** |
| Other | **526** | 489 | 517 | **7** |
| Total BMO reported | **12,253** | 11,215 | 10,626 | **9** |
| BMO reported, net of CCPB | **10,715** | 9,672 | 9,372 | **11** |
| Total BMO adjusted | **12,253** | 11,299 | 10,627 | **8** |
| BMO adjusted, net of CCPB | **10,715** | 9,756 | 9,373 | **10** |
| Insurance revenue, net of CCPB | **532** | 480 | 508 | **11** |

### Trading-Related Revenues

Trading-related revenues are dependent on, among other things, the volume of activities undertaken for clients who enter into transactions with BMO to mitigate their risks or to invest. BMO earns a spread or profit on the net sum of its client positions by profitably managing, within prescribed limits, the overall risk of its net positions. On a limited basis, BMO also earns revenue from principal trading positions.

Interest and non-interest trading-related revenues decreased $72 million or 6%. Excluding the impact of the weaker U.S. dollar, trading-related revenues decreased $69 million or 5%. The following amounts exclude the impact of the weaker U.S. dollar and the teb offset. Interest rate trading-related revenues decreased $181 million or 27%, primarily due to decreased client activity across most businesses. Foreign exchange trading-related revenues were up $21 million or 6%, driven by increased client activity. Equities trading-related revenues increased $50 million or 27%, reflecting higher activity with corporate and investor clients. Commodities trading-related revenues increased $18 million or 28% due to increased client hedging activity in energy products.

The Market Risk section on page 94 provides more information on trading-related revenues.

**Trading-related revenues** include net interest income and non-interest revenue earned from on and off-balance sheet positions undertaken for trading purposes. The management of these positions typically includes marking them to market on a daily basis. Trading-related revenues also include income (expense) and gains (losses) from both on-balance sheet instruments and interest rate, foreign exchange (including spot positions), equity, commodity and credit contracts.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

### Interest and Non-Interest Trading-Related Revenues (1)

| (Canadian $ in millions) (taxable equivalent basis) For the year ended October 31 | 2017 | 2016 | 2015 | Change from 2016 (%) |
|---|---|---|---|---|
| Interest rates | **480** | 663 | 422 | **(28)** |
| Foreign exchange | **369** | 349 | 364 | **6** |
| Equities | **727** | 629 | 638 | **16** |
| Commodities | **84** | 66 | 56 | **28** |
| Other (2) | **47** | 25 | 6 | **88** |
| Total (teb) | **1,707** | 1,732 | 1,486 | **(1)** |
| Teb offset | **488** | 441 | 467 | **11** |
| Reported total | **1,219** | 1,291 | 1,019 | **(6)** |
| Reported as: | | | | |
| Net interest income | **355** | 540 | 499 | **(34)** |
| Non-interest revenue – trading revenues | **1,352** | 1,192 | 987 | **13** |
| Total (teb) | **1,707** | 1,732 | 1,486 | **(1)** |
| Teb offset | **488** | 441 | 467 | **11** |
| Reported total, net of teb offset | **1,219** | 1,291 | 1,019 | **(6)** |
| Adjusted net interest income, net of teb offset | **(133)** | 99 | 32 | **(+100)** |
| Adjusted non-interest revenue – trading revenues | **1,352** | 1,192 | 987 | **13** |
| Adjusted total, net of teb offset | **1,219** | 1,291 | 1,019 | **(6)** |

(1) Trading-related revenues are presented on a taxable equivalent basis.
(2) Includes nominal revenues from run-off structured credit activities and hedging exposures in BMO's structural balance sheet.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

## Insurance Claims, Commissions and Changes in Policy Benefit Liabilities

Insurance claims, commissions and changes in policy benefit liabilities (CCPB) were $1,538 million in 2017, down $5 million from $1,543 million in 2016, as increases in long-term interest rates decreasing the fair value of policy benefit liabilities in the current year compared to decreases in long-term interest rates increasing the fair value of policy benefit liabilities in the prior year were offset by the impact of higher annuity sales, elevated reinsurance claims and growth in the underlying business. The decrease related to the fair value of policy benefit liabilities and the increase related to annuity sales were largely offset in revenue, as discussed on page 38.

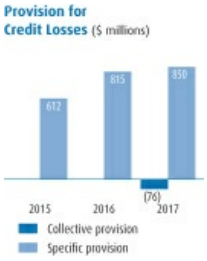
# Provision for Credit Losses

The total provision for credit losses (PCL) was $774 million in the current year, down from $815 million in 2016. There was a $76 million pre-tax decrease in the collective allowance in the year, largely as a result of positive portfolio migration, which decreased the total provision for credit losses. Specific PCL of $850 million increased $35 million due to lower recoveries in Corporate Services and higher provisions in U.S. P&C, partially offset by lower provisions in BMO Capital Markets and Canadian P&C.

Total PCL as a percentage of average net loans and acceptances was 0.21% in 2017, down slightly from 0.23% in the prior year. Specific PCL as a percentage of average net loans and acceptances was 0.23%, consistent with the prior year.

Canadian P&C provisions decreased $37 million to $505 million, reflecting lower consumer and commercial provisions. U.S. P&C provisions of $295 million increased $38 million from 2016, reflecting higher commercial provisions, partially offset by lower consumer provisions and the impact of the weaker U.S. dollar. BMO Capital Markets provisions of $44 million decreased $37 million from the prior year, largely due to lower new provisions, primarily in the oil and gas sector. Corporate Services total credit recoveries of $78 million increased $4 million, with the recovery in the current year mostly due to the $76 million collective allowance reduction, while the prior year recovery was largely due to purchased credit impaired loan recoveries.

On a geographic basis, the majority of our provisions relate to our Canadian loan portfolio. Specific PCL in Canada and other countries (excluding the United States) was $524 million, compared to $547 million in 2016. Specific PCL in the United States was $326 million, up from $268 million in 2016. Note 4 on page 152 of the consolidated financial statements provides PCL information on a geographic basis. Table 15 on page 134 provides further PCL segmentation information.




## Provision for Credit Losses

| (Canadian $ in millions, except as noted)<br>For the year ended October 31 | **2017** | 2016 | 2015 |
|---|---|---|---|
| New specific provisions | **1,356** | 1,386 | 1,278 |
| Reversals of previously established allowances | **(241)** | (228) | (210) |
| Recoveries of loans previously written off | **(265)** | (343) | (456) |
| Specific provision for credit losses | **850** | 815 | 612 |
| Decrease in the collective allowance for credit losses | **(76)** | – | – |
| Provision for credit losses | **774** | 815 | 612 |
| PCL-to-average net loans and acceptances (annualized) (%) | **0.21** | 0.23 | 0.19 |
| Specific PCL-to-average net loans and acceptances (annualized) (%) | **0.23** | 0.23 | 0.19 |

## Provision for Credit Losses by Operating Group

| (Canadian $ in millions)<br>For the year ended October 31 | **2017** | 2016 | 2015 |
|---|---|---|---|
| Canadian P&C | **505** | 542 | 496 |
| U.S. P&C (1) | **295** | 257 | 119 |
| Personal and Commercial Banking | **800** | 799 | 615 |
| Wealth Management | **8** | 9 | 7 |
| BMO Capital Markets | **44** | 81 | 26 |
| Corporate Services, including T&O (1) | | | |
| Impaired real estate loans | **2** | (16) | 28 |
| Interest on impaired loans | **–** | – | 17 |
| Purchased credit impaired loans | **(4)** | (58) | (86) |
| Purchased performing loans (1) | **–** | – | 5 |
| Specific provision for credit losses | **850** | 815 | 612 |
| Decrease in the collective allowance for credit losses | **(76)** | – | – |
| Provision for credit losses | **774** | 815 | 612 |

(1) Beginning in the first quarter of 2016, the reduction in the credit mark that is reflected in net interest income and the provision for credit losses on the purchased performing portfolio are being recognized in U.S. P&C, consistent with the accounting for the acquisition of BMO Transportation Finance, and given that these amounts have reduced substantially in size. Results for prior periods have not been reclassified.

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# Non-Interest Expense

Non-interest expense increased $305 million or 2% to $13,302 million in 2017.

Adjusted non-interest expense excludes restructuring costs, the amortization of acquisition-related intangible assets and acquisition integration costs in both years. Restructuring costs were $59 million and $188 million in 2017 and 2016, respectively. The amortization of acquisition-related intangible assets was $149 million and $160 million in 2017 and 2016, respectively. Acquisition integration costs were $87 million and $104 million in 2017 and 2016, respectively.

Adjusted non-interest expense increased $463 million or 4% to $13,007 million. Reported and adjusted expenses increased primarily due to higher employee-related expenses and increased technology investments, partially offset by our focus on disciplined expense management. The impact of the weaker U.S. dollar on non-interest expense growth was not significant.

The dollar and percentage changes in expense by category are outlined in the Non-Interest Expense and Adjusted Non-Interest Expense tables. Table 4 on page 125 provides more detail on expenses and expense growth.

Performance-based compensation on a reported basis increased $108 million or 5% and on an adjusted basis increased $133 million or 6%, due to improved performance across most operating groups. Other employee compensation, which includes salaries, benefits and severance, on a reported basis decreased $23 million and on an adjusted basis increased $113 million or 2%.

Premises and equipment costs on a reported basis increased $98 million or 4% and on an adjusted basis increased $73 million or 3%, due to increased technology investments net of lower real estate-related costs. Other reported expenses increased $81 million or 3% and other adjusted expenses increased $92 million or 3%.

BMO's reported efficiency ratio improved 180 basis points to 59.8% and the adjusted efficiency ratio improved 80 basis points to 58.4% in 2017. On a net revenue basis(1), the reported efficiency ratio improved 230 basis points to 64.2% and the adjusted efficiency ratio improved 110 basis points to 62.8% in 2017.

On a net revenue basis(1), reported operating leverage was 3.7% and adjusted operating leverage was 1.9%, reflecting our ongoing focus on improving efficiency by driving revenue growth and maintaining disciplined cost management.

(1) This ratio is calculated excluding insurance claims, commissions and changes in policy benefit liabilities (CCPB).




The **efficiency ratio** (or **expense-to-revenue ratio**) is a measure of productivity. It is calculated as non-interest expense divided by total revenue (on a taxable equivalent basis in the operating groups), expressed as a percentage. The **adjusted efficiency ratio** is calculated in the same manner, utilizing adjusted revenue and expense.

**Operating leverage** is the difference between revenue and expense growth rates. **Adjusted operating leverage** is the difference between adjusted revenue and adjusted expense growth rates.

## Non-Interest Expense

| (Canadian $ in millions) For the year ended October 31 | **2017** | 2016 | 2015 | **Change from 2016 (%)** |
|---|---|---|---|---|
| Performance-based compensation | **2,386** | 2,278 | 2,102 | **5** |
| Other employee compensation | **5,081** | 5,104 | 4,979 | **–** |
| Total employee compensation | **7,467** | 7,382 | 7,081 | **1** |
| Premises and equipment | **2,491** | 2,393 | 2,137 | **4** |
| Other | **2,859** | 2,778 | 2,553 | **3** |
| Amortization of intangible assets | **485** | 444 | 411 | **9** |
| Total non-interest expense | **13,302** | 12,997 | 12,182 | **2** |

## Adjusted Non-Interest Expense (1)

| (Canadian $ in millions) For the year ended October 31 | **2017** | 2016 | 2015 | **Change from 2016 (%)** |
|---|---|---|---|---|
| Performance-based compensation | **2,381** | 2,248 | 2,087 | **6** |
| Other employee compensation | **5,007** | 4,894 | 4,835 | **2** |
| Total employee compensation | **7,388** | 7,142 | 6,922 | **3** |
| Premises and equipment | **2,430** | 2,357 | 2,130 | **3** |
| Other | **2,853** | 2,761 | 2,519 | **3** |
| Amortization of intangible assets | **336** | 284 | 248 | **18** |
| Total adjusted non-interest expense | **13,007** | 12,544 | 11,819 | **4** |

(1) Adjusted non-interest expense excludes restructuring costs, the amortization of acquisition-related intangible assets and acquisition integration costs.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

## Provision for Income Taxes

The provision for income taxes reflected in the Consolidated Statement of Income is based upon transactions recorded in income, regardless of when such transactions are subject to taxation by taxing authorities, with the exception of the repatriation of retained earnings from subsidiaries, as outlined in Note 23 on page 189 of the consolidated financial statements.

Management assesses BMO's consolidated results and associated provision for income taxes on a GAAP basis. We assess the performance of the operating groups and associated income taxes on a taxable equivalent basis and report accordingly.

The provision for income taxes was $1,296 million in 2017, compared with $1,101 million in 2016. The reported effective tax rate in 2017 was 19.5%, compared with 19.2% in 2016. The adjusted provision for income taxes[(1)] was $1,357 million in 2017, compared with $1,249 million in 2016. The adjusted effective tax rate in 2017 was 19.8%, compared with 19.9% in 2016. The effective tax rate differs from the statutory rate predominantly because of tax-exempt income from securities. On a teb basis, the reported effective tax rate in 2017 was 25.8% and the adjusted effective tax rate in 2017 was 25.9%, both unchanged from the prior year.

BMO partially hedges, for accounting purposes, the foreign exchange risk arising from its foreign operations by funding the investments in the corresponding foreign currency. A gain or loss on hedging and an unrealized gain or loss on translation of foreign operations is charged or credited to shareholders' equity. For income tax purposes, a gain or loss on the hedging activities results in an income tax charge or credit in the current period that is charged or credited to shareholders' equity, while the associated unrealized gain or loss on the foreign operations does not incur income taxes until the investments are liquidated. The income tax charge/benefit arising from a hedging gain/loss is a function of the fluctuations in exchange rates from period to period. Hedging of foreign operations has given rise to an income tax expense in shareholders' equity of $8 million for the year, compared with an income tax expense of $10 million in 2016. Refer to the Consolidated Statement of Changes in Equity on page 142 of the consolidated financial statements for further details.

Changes in tax rates, tax law and policy, and its interpretation by taxing authorities can impact our earnings. See the discussion in the Critical Accounting Estimates section on page 113 for additional related details. In June 2016, the synthetic equity arrangement rules (SEA Rules) were passed into law in Canada. The SEA Rules impact the tax deductibility of Canadian dividends in certain circumstances and were effective as of May 1, 2017. The impact of the SEA Rules is to increase our effective tax rate.

Table 4 on page 125 details the $1,988 million of total government levies and taxes incurred by BMO in 2017. $1,363 million of this amount is incurred in Canada, with $867 million included in our provision for income taxes and the remaining $496 million included in total government levies other than income taxes. The increase from $1,827 million in 2016 was primarily due to a higher provision for income taxes.

(1) The adjusted rate is computed using adjusted net income rather than reported net income in the determination of income subject to tax.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

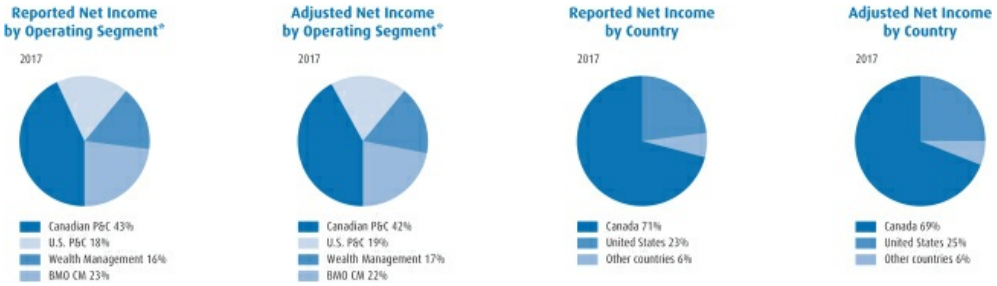
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# 2017 Operating Groups Performance Review

This section includes an analysis of the financial results of our operating groups and descriptions of their operating segments, businesses, strategies, strengths, challenges, key value drivers, achievements and outlooks.

| | BMO Financial Group | | | |
|---|---|---|---|---|
| **Operating Groups** | **Personal and Commercial (P&C) Banking** | | **BMO Wealth Management** | **BMO Capital Markets** |
| **Operating Segments** | **Canadian P&C** | **U.S. P&C** | | |
| **Lines of Business** | • Personal Banking<br>• Commercial Banking | • Personal Banking<br>• Commercial Banking | • BMO Nesbitt Burns<br>• BMO Private Banking<br>• BMO InvestorLine<br>• BMO Global Asset Management<br>• BMO Insurance | • Investment and Corporate Banking<br>• Trading Products |
| | **Corporate Services, including Technology and Operations** | | | |

BMO's business mix is well diversified by operating segment and by geography. Our mix is a source of strength that makes our revenue and net income more resilient over time, and provides more avenues for profitable growth.




*Percentages determined excluding results in Corporate Services.

MANAGEMENT'S DISCUSSION AND ANALYSIS

## How BMO Reports Operating Group Results

Periodically, certain business lines and units within the business lines are transferred between client and corporate support groups to more closely align BMO's organizational structure with its strategic priorities. In addition, revenue and expense allocations are updated to more accurately align with current experience. Results for prior periods are restated to conform to the current presentation.

Corporate Services results prior to 2016 reflected certain items in respect of the 2011 purchased loan portfolio, including recognition of the reduction in the credit mark that is reflected in net interest income over the term of the purchased loans and provisions and recoveries of credit losses on the purchased portfolio. Beginning in the first quarter of 2016, the reduction in the credit mark that is reflected in net interest income and the provision for credit losses on the purchased performing portfolio are being recognized in U.S. P&C, consistent with the accounting for the acquisition of BMO Transportation Finance, and given that these amounts have reduced substantially in size. Results for prior periods have not been reclassified. Recoveries or provisions on the credit impaired portfolio purchased in 2011 and recoveries or provisions related to the legacy U.S. impaired real estate portfolio continue to be recognized in Corporate Services. Purchased loan accounting impacts related to BMO Transportation Finance are recognized in U.S. P&C.

Also effective in the first quarter of 2016, income from equity investments has been reclassified from net interest income to non-interest revenue in Canadian P&C, Wealth Management and Corporate Services. Results for prior periods have been reclassified.

Restructuring costs and acquisition and integration costs that impact more than one operating group are also included in Corporate Services.

BMO analyzes revenue at the consolidated level based on GAAP revenue reflected in the consolidated financial statements rather than on a taxable equivalent basis (teb), which is consistent with our Canadian peer group. Like many banks, we analyze revenue on a teb basis at the operating group level. Revenue and the provision for income taxes are increased on tax-exempt securities to an equivalent before-tax basis to facilitate comparisons of income between taxable and tax-exempt sources. The offset to the group teb adjustments is reflected in Corporate Services revenue and provision for income taxes.

# Personal and Commercial Banking

| (Canadian $ in millions, except as noted) | Canadian P&C | | | U.S. P&C | | | Total P&C | | |
|---|---|---|---|---|---|---|---|---|---|
| As at or for the year ended October 31 | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 |
| Net interest income (teb) | **5,262** | 5,060 | 4,806 | **3,607** | 3,538 | 2,845 | **8,869** | 8,598 | 7,651 |
| Non-interest revenue | **2,182** | 1,909 | 1,833 | **1,066** | 1,119 | 787 | **3,248** | 3,028 | 2,620 |
| Total revenue (teb) | **7,444** | 6,969 | 6,639 | **4,673** | 4,657 | 3,632 | **12,117** | 11,626 | 10,271 |
| Provision for credit losses | **505** | 542 | 496 | **295** | 257 | 119 | **800** | 799 | 615 |
| Non-interest expense | **3,600** | 3,464 | 3,342 | **2,942** | 2,906 | 2,392 | **6,542** | 6,370 | 5,734 |
| Income before income taxes | **3,339** | 2,963 | 2,801 | **1,436** | 1,494 | 1,121 | **4,775** | 4,457 | 3,922 |
| Provision for income taxes (teb) | **827** | 761 | 698 | **370** | 409 | 284 | **1,197** | 1,170 | 982 |
| Reported net income | **2,512** | 2,202 | 2,103 | **1,066** | 1,085 | 837 | **3,578** | 3,287 | 2,940 |
| Amortization of acquisition-related intangible assets (1) | **3** | 2 | 4 | **46** | 50 | 53 | **49** | 52 | 57 |
| Adjusted net income | **2,515** | 2,204 | 2,107 | **1,112** | 1,135 | 890 | **3,627** | 3,339 | 2,997 |
| **Key Performance Metrics and Drivers** | | | | | | | | | |
| Net income growth (%) | **14.0** | 4.7 | 4.5 | **(1.7)** | 29.5 | 27.7 | **8.8** | 11.8 | 10.2 |
| Adjusted net income growth (%) | **14.0** | 4.6 | 4.5 | **(1.9)** | 27.4 | 25.8 | **8.6** | 11.4 | 10.0 |
| Revenue growth (%) | **6.8** | 5.0 | 3.7 | **0.3** | 28.2 | 15.0 | **4.2** | 13.2 | 7.4 |
| Non-interest expense growth (%) | **3.9** | 3.7 | 4.9 | **1.2** | 21.5 | 15.0 | **2.7** | 11.1 | 8.9 |
| Adjusted non-interest expense growth (%) | **3.9** | 3.7 | 4.9 | **1.4** | 22.2 | 15.7 | **2.8** | 11.3 | 9.1 |
| Return on equity (%) | | | | | | | **16.9** | 15.9 | 16.2 |
| Adjusted return on equity (%) | | | | | | | **17.1** | 16.2 | 16.5 |
| Operating leverage (teb) (%) | **2.9** | 1.3 | (1.2) | **(0.9)** | 6.7 | – | **1.5** | 2.1 | (1.5) |
| Adjusted operating leverage (teb) (%) | **2.9** | 1.3 | (1.2) | **(1.1)** | 6.0 | (0.7) | **1.4** | 1.9 | (1.7) |
| Efficiency ratio (teb) (%) | **48.4** | 49.7 | 50.3 | **63.0** | 62.4 | 65.9 | **54.0** | 54.8 | 55.8 |
| Adjusted efficiency ratio (teb) (%) | **48.3** | 49.7 | 50.3 | **61.6** | 60.9 | 64.0 | **53.4** | 54.2 | 55.1 |
| Net interest margin on average earning assets (teb) (%) | **2.53** | 2.54 | 2.54 | **3.75** | 3.63 | 3.47 | **2.92** | 2.89 | 2.82 |
| Average common equity | | | | | | | **20,849** | 20,241 | 17,862 |
| Average earning assets | **207,815** | 199,527 | 189,505 | **96,244** | 97,538 | 82,046 | **304,059** | 297,065 | 271,551 |
| Average net loans and acceptances | **215,667** | 205,813 | 195,183 | **90,453** | 90,752 | 74,500 | **306,120** | 296,565 | 269,683 |
| Average deposits | **152,492** | 142,132 | 132,767 | **85,927** | 87,881 | 78,032 | **238,419** | 230,013 | 210,799 |
| Assets under administration | **29,267** | 25,439 | 22,848 | **148,753** | 159,448 | 126,513 | **178,020** | 184,887 | 149,361 |
| Full-time equivalent employees | **14,554** | 14,803 | 15,713 | **7,122** | 7,055 | 7,606 | **21,676** | 21,858 | 23,319 |

(1) Before tax amounts of $66 million in 2017, $71 million in 2016 and $73 million in 2015 are included in non-interest expense.

The Personal and Commercial Banking (P&C) operating group represents the sum of our two retail and business banking operating segments, Canadian Personal and Commercial Banking (Canadian P&C) and U.S. Personal and Commercial Banking (U.S. P&C). The combined P&C banking business net income of $3,578 million was up $291 million or 9% from a year ago. Adjusted net income, which excludes the amortization of acquisition-related intangible assets, was $3,627 million, up $288 million or 9%. These operating segments are reviewed separately in the sections that follow.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

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# Canadian Personal and Commercial Banking

Canadian Personal and Commercial Banking provides a full range of financial products and services to eight million customers. We're here to help our customers make the right financial decisions as they do business with us seamlessly across our channels: getting advice from our employees at their place of business, in over 900 branches, on their mobile devices, online, over the telephone, and at over 3,300 automated teller machines across the country.

**Cameron Fowler**
Group Head
Canadian Personal and Commercial Banking, BMO Financial Group (1)



## Lines of Business

**Personal Banking** provides customers with a wide range of products and services, including chequing and savings accounts, credit cards, mortgages, creditor insurance and everyday financial and investment advice. Our employees are focused on providing all of our customers with an exceptional experience every time they interact with us.

**Commercial Banking** provides small business and commercial banking customers with a broad suite of commercial products and services, including business deposit accounts, commercial credit cards, business loans and commercial mortgages, cash management solutions, foreign exchange and specialized banking programs. Our Commercial bankers partner with our customers to help them grow and manage their business.

## Strengths and Value Drivers

- Highly engaged team of dedicated employees focused on providing a personalized banking experience, anticipating customers' needs and finding new ways to help.
- Leading commercial banking business, as evidenced by BMO's number two ranking in Canadian market share for business loans up to $25 million.
- Strong retail banking business including leading digital sales, with nearly 20% of applications submitted through our digital channel.
- Largest Mastercard® card issuer in Canada for both retail and commercial cards.
- Consistently applied credit risk management practices that provide customers with reliable access to appropriate financing solutions. Prudent underwriting standards to support responsible personal lending and long-term financial sustainability.
- Proud to be the official bank of the Canadian defence community, serving the unique needs of Canadian military members and their families since 2008.

## Strategy and Key Priorities

Capture key growth and loyalty opportunities by delivering a leading digital experience and personalized advice.

| Key Priority | 2017 Achievements | 2018 Focus |
|---|---|---|
| **Continue our focus on customer loyalty and growth** | • Achieved strong employee engagement survey results, above leading company benchmarks, particularly around customer focus, demonstrating our employees' ongoing commitment to deliver a leading customer experience.<br>• Created dedicated teams focused on improving moments that matter, to help improve overall service.<br>• Upgraded 21 branches across Canada, including two new Smart Branch locations in Winnipeg and Toronto, providing customers with the best of our innovative technologies in a unique, smaller format tailored to their needs.<br>• Continued enhancing our automated teller machines (ATM) network this year by including the flexibility to choose bill denominations in 40% of our ATMs across Canada.<br><br>**Personal banking**<br>• Ran effective campaigns in support of key offerings ranging from home financing to Everyday Banking, helping to increase our new-to-BMO customer base.<br>• Grew our mix of advice-based roles, strengthening our ability to engage with customers on the financial issues important to them, whenever and however they choose to interact.<br>• Launched free Interac® eTransfers for all BMO customers. | Continue to focus on improving customer loyalty by deepening relationships.<br><br>In personal banking, deliver a leading customer experience leveraging new digital channels and existing networks. |

(1) Effective November 1, 2017, Cameron Fowler was appointed President, North American Personal and Business Banking, BMO Financial Group.

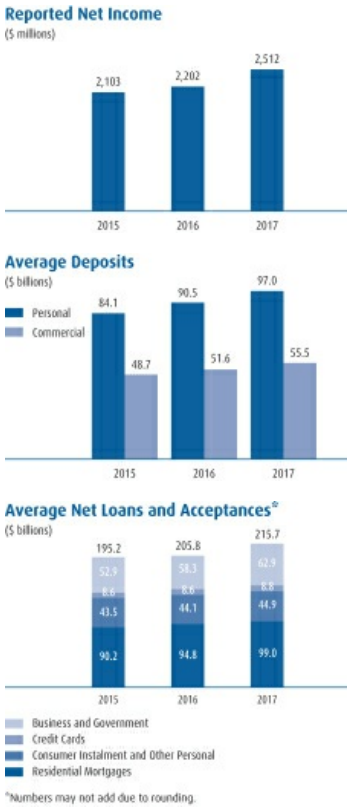
| Key Priority | 2017 Achievements | 2018 Focus |
|---|---|---|
| **Continue our focus on customer loyalty and growth (continued)** | **Commercial banking**<br>• Improved processes and increased platform efficiencies, allowing our sales force to spend more time directly engaging with customers.<br>• Launched eBusiness Plan for small business clients who prefer to bank through self-serve electronic transactions, as well as a new suite of commercial Mastercard® products.<br>• Named Best Commercial Bank in Canada for the third consecutive year by *World Finance Magazine* at its 2017 Banking Awards in recognition of our strong regional and industry focus, as well as our commitment to building customer relationships and providing innovative solutions, notably in the area of Aboriginal banking. | In commercial banking, target opportunities through diversification across high-value sectors and businesses, while maintaining core strengths. |
| **Deliver a leading digital experience** | • Continued to grow digital channel sales volume, up nearly 24% from the prior year and now equivalent to the total sales volume at approximately 125 branches.<br>• Continued to enhance and simplify the account opening process, and extended our industry-leading mobile account opening journey to desktop platforms.<br>• Introduced Android Pay™, allowing customers to make secure purchases easily with their BMO credit and debit cards.<br>• Enhanced credit card features to enable easy online viewing of credit card rewards balances, alerts and pending transactions.<br>• Received the 2017 Model Bank Award from the global research and advisory firm Celent, for work in advancing process automation through the effective deployment of new technology. | Continue to increase digital sales and service transactions. |

## Canadian P&C

(Canadian $ in millions, except as noted)

| As at or for the year ended October 31 | **2017** | 2016 | 2015 |
|---|---|---|---|
| Net interest income | **5,262** | 5,060 | 4,806 |
| Non-interest revenue | **2,182** | 1,909 | 1,833 |
| Total revenue (teb) | **7,444** | 6,969 | 6,639 |
| Provision for credit losses | **505** | 542 | 496 |
| Non-interest expense | **3,600** | 3,464 | 3,342 |
| Income before income taxes | **3,339** | 2,963 | 2,801 |
| Provision for income taxes | **827** | 761 | 698 |
| Reported net income | **2,512** | 2,202 | 2,103 |
| Amortization of acquisition-related intangible assets (1) | **3** | 2 | 4 |
| Adjusted net income | **2,515** | 2,204 | 2,107 |
| **Key Performance Metrics and Drivers** | | | |
| Personal revenue | **4,715** | 4,554 | 4,414 |
| Commercial revenue | **2,729** | 2,415 | 2,225 |
| Net income growth (%) | **14.0** | 4.7 | 4.5 |
| Revenue growth (%) | **6.8** | 5.0 | 3.7 |
| Non-interest expense growth (%) | **3.9** | 3.7 | 4.9 |
| Adjusted non-interest expense growth (%) | **3.9** | 3.7 | 4.9 |
| Operating leverage (%) | **2.9** | 1.3 | (1.2) |
| Adjusted operating leverage (%) | **2.9** | 1.3 | (1.2) |
| Efficiency ratio (%) | **48.4** | 49.7 | 50.3 |
| Net interest margin on average earning assets (%) | **2.53** | 2.54 | 2.54 |
| Average earning assets | **207,815** | 199,527 | 189,505 |
| Average net loans and acceptances | **215,667** | 205,813 | 195,183 |
| Average deposits | **152,492** | 142,132 | 132,767 |
| Full-time equivalent employees | **14,554** | 14,803 | 15,713 |

(1) Before tax amounts of $2 million in 2017, $3 million in 2016 and $5 million in 2015 are included in non-interest expense.



## Financial Review

Canadian P&C reported net income of $2,512 million increased $310 million or 14% and adjusted net income of $2,515 million, which excludes the amortization of acquisition-related intangible assets, increased $311 million or 14% from the prior year.

Revenue increased $475 million or 7% to $7,444 million. In our personal banking business, revenue increased $161 million or 4% due to higher balances across most products and increased non-interest revenue. In our commercial banking business, revenue increased $314 million or 13% due to the gain on sale of Moneris US in the first quarter of 2017, higher balances across most products and increased non-interest revenue. The gain on sale contributed approximately 8% to net income growth and 3% to revenue growth.

Net interest margin decreased 1 basis point to 2.53%.

The provision for credit losses decreased $37 million or 7% to $505 million, reflecting lower consumer and commercial provisions.

Non-interest expense was $3,600 million, up $136 million or 4% from a year ago, reflecting continued investment in the business, including a focus on our digital strategy and select sales force investment.

Average net loans and acceptances increased $9.9 billion or 5% from a year ago to $215.7 billion. Total personal lending balances (excluding retail cards) increased 4% year over year, with residential mortgage growth of 4%. Commercial loan balances (excluding corporate cards) increased 8% year over year, with good growth across a number of industry sectors.

Average deposits increased $10.4 billion or 7% to $152.5 billion. Personal deposit balances increased 7%, including growth in chequing account balances of 12%. Commercial deposit balance growth was broad-based, with balances growing 7% year over year.

## Business Environment, Outlook and Challenges

The personal and commercial banking business in Canada is highly competitive in a rapidly changing environment. Traditional competitors have embraced new technologies and strengthened their focus on the customer experience. Non-traditional competitors (such as fintech companies) have continued to gain momentum and are increasingly collaborating with banks to enhance their products and customer experience.

Growth in the Canadian economy is expected to moderate in 2018. Consumer loan growth is expected to moderate, while residential mortgage growth is projected to slow in response to regulatory changes to the market. We expect to see continued growth in business lending. On the deposit side, growth in both personal and commercial operating deposits is expected to decelerate as interest rates trend steadily higher. While we expect margins to increase slightly, benefiting from improvements in the interest rate environment, growth may be dampened by the effects of competitive pricing in the market. Credit losses are expected to rise, driven by volume growth, compared to the relatively lower losses experienced in 2017.

We expect to generate growth by capturing acquisition opportunities and increasing our customer share of wallet, while growing our advisory sales force and targeting commercial opportunities across geographic regions, market segments and industry sectors. We remain confident that technology will continue to play a growing role in delivering a leading experience for our customers while improving the efficiency of our operations; in 2017, the number of digital transactions was more than double the number of branch transactions.

The Canadian economic environment in 2017 and outlook for 2018 are discussed in more detail in the Economic Developments and Outlook section on page 32.

**Caution**

This Canadian P&C Banking section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# U.S. Personal and Commercial Banking

Through a strong and well-established position in the U.S. Midwest, BMO Harris Bank offers a broad range of financial services to more than two million customers. Our personal banking team serves retail and small and mid-sized business customers seamlessly through over 570 branches, dedicated contact centres, digital banking platforms and nationwide access to more than 43,000 automated teller machines. Our commercial banking team provides a combination of sector expertise, local knowledge and a breadth of products and services, working to help our clients with their financial needs.

**Alexandra Dousmanis-Curtis**
Group Head
U.S. Retail and Business Banking

**David R. Casper**
President and Chief Executive Officer BMO Harris Bank N.A. and Group Head Commercial Banking



## Lines of Business

**Personal Banking** offers a broad range of products and services, including deposits, mortgages, consumer credit, business lending, credit cards and other banking services. Our goal in everything we do is to help our customers make sense of complexity, enabling them to make better choices in saving, investing and borrowing, and have confidence in their financial decisions.

**Commercial Banking** provides business customers with a broad range of banking products and services, including lending, deposits and credit cards, as well as treasury management and risk management solutions. We believe in partnering with our clients to anticipate their financial needs and sharing our expertise and knowledge to help them grow their businesses.

## Strengths and Value Drivers

- Rich heritage of 170 years in the U.S. Midwest, with a deep commitment to our communities and helping our customers succeed.
- Strong and experienced team that understands our customers and knows how to compete and perform in our markets.
- Strong foundation for accelerated growth in retail banking, with a large, growing and loyal customer base, an extensive branch network, a broad suite of products and services and a continuing focus on digital capabilities.
- Large-scale, diversified national commercial business, centred in the U.S. Midwest and supported by in-depth industry knowledge, best-in-class customer experience and top-tier market share in our flagship businesses.
- Comprehensive and integrated control structure to actively manage risk and regulatory compliance.

## Strategy and Key Priorities

We aim to grow our business and be a leader in our markets by creating a differentiated and intuitive partnership with our customers to address all of their financial needs.

| Key Priority | 2017 Achievements | 2018 Focus |
|---|---|---|
| **Deliver a great customer experience to a loyal and growing customer base** | • Further improved customer loyalty as measured by Net Promoter Score in both commercial and business banking by improving our product offerings, deepening our understanding of our clients' needs and enhancing our digital solutions.<br>• Strong customer growth, with leading net deposit household acquisition in retail and continued improvement in commercial net customer acquisition.<br>• Maintained our second place ranking in deposit market share in our core Chicago and Wisconsin markets and our fourth place across our Midwest footprint.<br>• Released BMO Harris Bank Masterpass™, Android Pay™ and Samsung Pay™ digital wallets, offering a seamless way for customers to pay for purchases in-store, in-app, and online.<br>• Improved our ranking to eighth among 39 leading American banks in the 2017 Survey of Bank Reputations published by *American Banker*, which recognizes banking institutions for their governance, products and services, and innovation. | Continue to invest in digital capabilities that will enhance our competitive position and improve our cost structure, while increasing collaboration across our businesses to deliver comprehensive "One Bank" financial solutions to our clients. |

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| Key Priority | 2017 Achievements | 2018 Focus |
|---|---|---|
| **Accelerate personal banking by leveraging the strong foundation and growth we have achieved to build scale, improve profitability, and meet our customers' evolving needs** | • Expanded customer access to include more than 43,000 ATMs in the United States and 12,000 international ATMs through our partnership with Allpoint®.<br>• Introduced a new suite of chequing products tailored to match the lifestyles of our customers and focused on bringing simplicity to banking at every stage of life.<br>• Launched People Pay, a secure way to send money to friends and family using the BMO Harris Mobile Banking ® app.<br>• Partnered with 1871 – a leading technology and entrepreneurship ecosystem currently home to nearly 500 high-growth start-ups – to mentor early-stage fintech start-ups and identify opportunities for continued growth and innovation.<br>• Continued to execute our multi-year strategy to improve efficiency and digitize the customer experience, including an enhanced account opening experience and investments in Smart Branch technology. | Further accelerate deposit and customer growth, enhance our lending operating model and expand our front-end and back-end digital capabilities. |
| **Continue to deliver local access and industry expertise to commercial banking clients across more sectors and an expanding geographic footprint through a proven and effective operating model** | • Expanded coverage to Texas and Ohio and into new product segments – healthcare real estate and mezzanine finance.<br>• Strengthened our presence in dealer finance by expanding into San Diego, Boston, and North Carolina and by improving coordination with our retail auto business.<br>• Successfully completed the integration of BMO Transportation Finance, allowing us to leverage the combined capabilities and suite of financial solutions to better meet our customers' needs.<br>• Expanded our cross-border service group and offering as part of our continuing commitment to delivering a consistent, seamless and integrated client experience across the enterprise.<br>• Launched a new suite of Mastercard® products that consolidates multiple types of business expenses – purchasing, travel and fleet spending – into a single card. | Continue to grow the commercial banking franchise by deepening market share in our flagship businesses, investing in high-growth markets and specialty businesses and improving share of wallet by delivering comprehensive solutions to meet all of our clients' needs. |

## U.S. P&C

| (Canadian $ equivalent in millions, except as noted) As at or for the year ended October 31 | 2017 | 2016 | 2015 |
|---|---|---|---|
| Reported net income | **1,066** | 1,085 | 837 |
| Adjusted net income | **1,112** | 1,135 | 890 |
| Net income growth (%) | **(1.7)** | 29.5 | 27.7 |
| Adjusted net income growth (%) | **(1.9)** | 27.4 | 25.8 |
| (US$ in millions, except as noted) | | | |
| Net interest income (teb) (1) | **2,761** | 2,671 | 2,267 |
| Non-interest revenue | **817** | 845 | 627 |
| Total revenue (teb) (1) | **3,578** | 3,516 | 2,894 |
| Provision for credit losses (1) | **225** | 194 | 95 |
| Non-interest expense | **2,252** | 2,193 | 1,906 |
| Income before income taxes | **1,101** | 1,129 | 893 |
| Provision for income taxes (teb) | **284** | 310 | 226 |
| Reported net income | **817** | 819 | 667 |
| Amortization of acquisition-related intangible assets (2) | **36** | 37 | 42 |
| Adjusted net income | **853** | 856 | 709 |
| **Key Performance Metrics and Drivers** (US$ basis) | | | |
| Personal revenue | **1,427** | 1,466 | 1,455 |
| Commercial revenue | **2,151** | 2,050 | 1,439 |
| Net income growth (%) | **(0.3)** | 22.9 | 11.3 |
| Adjusted net income growth (%) | **(0.5)** | 20.8 | 9.7 |
| Revenue growth (%) | **1.8** | 21.5 | 0.3 |
| Non-interest expense growth (%) | **2.7** | 15.1 | 0.2 |
| Adjusted non-interest expense growth (%) | **2.9** | 15.7 | 0.8 |
| Operating leverage (teb) (%) | **(0.9)** | 6.4 | 0.1 |
| Adjusted operating leverage (teb) (%) | **(1.1)** | 5.8 | (0.5) |
| Efficiency ratio (teb) (%) | **62.9** | 62.4 | 65.9 |
| Adjusted efficiency ratio (teb) (%) | **61.6** | 60.9 | 63.9 |
| Net interest margin on average earning assets (teb) (%) | **3.75** | 3.63 | 3.47 |
| Average earning assets | **73,661** | 73,639 | 65,383 |
| Average net loans and acceptances | **69,233** | 68,514 | 59,353 |
| Average deposits | **65,724** | 66,343 | 62,152 |
| Full-time equivalent employees | **7,122** | 7,055 | 7,606 |

(1) Beginning in the first quarter of 2016, the reduction in the credit mark that is reflected in net interest income and the provision for credit losses on the purchased performing loan portfolio are being recognized in U.S. P&C, consistent with the accounting for the acquisition of BMO Transportation Finance, and given that these amounts have reduced substantially in size. Results for prior periods have not been reclassified.

(2) Before tax amounts of US$49 million in 2017, US$52 million in 2016 and US$55 million in 2015 are included in non-interest expense.




# Financial Review

U.S. P&C reported net income of $1,066 million decreased $19 million and adjusted net income of $1,112 million decreased $23 million from the prior year, due to the weaker U.S. dollar. Adjusted net income excludes the amortization of acquisition-related intangible assets. All amounts in the remainder of this section are on a U.S. dollar basis.

Reported net income of $817 million and adjusted net income of $853 million were both relatively flat compared to the prior year.

Revenue of $3,578 million increased $62 million or 2%, primarily due to higher deposit revenue and increased loan volumes, net of loan spread compression and the impact of the loss on the sale of a portion of the indirect auto loan portfolio in the first quarter of 2017. The loss on the loan sale had a negative impact of approximately 3% on reported and adjusted net income growth and 1% on revenue growth.

In our commercial banking business, revenue increased $101 million or 5% to $2,151 million, primarily due to increased loan volumes and improved deposit spreads, net of loan spread compression.

In our personal banking business, revenue decreased by $39 million or 3% to $1,427 million, primarily due to declines in loan volumes and spreads and the impact of the loss on the loan sale, partially offset by increased deposit spreads and volumes.

Net interest margin increased 12 basis points to 3.75%, driven by higher deposit revenue due to increased interest rates, and a benefit from a reduction in low spread assets, net of loan spread compression.

The provision for credit losses of $225 million increased $31 million or 16% from a year ago, reflecting higher commercial provisions, partially offset by lower consumer provisions.

Non-interest expense of $2,252 million and adjusted non-interest expense of $2,203 million both increased 3%, mainly due to higher technology investments and marketing costs.

Average net loans and acceptances increased $0.7 billion or 1% to $69.2 billion, driven by commercial loan growth of 9%, partially offset by declines of $3.4 billion in personal loan volumes, including the loan sale of $1.9 billion.

Average deposits of $65.7 billion decreased $0.6 billion or 1%, as growth in personal volumes across all deposit products was more than offset by an expected decline in commercial volumes given higher interest rates.

## Business Environment, Outlook and Challenges

U.S. P&C operations are primarily concentrated in six contiguous states in the U.S. Midwest region (Illinois, Wisconsin, Indiana, Minnesota, Missouri and Kansas). In addition to our core footprint, we have personal banking locations in Florida and Arizona.

The personal and commercial banking environment remains competitive, with tightened lending standards and continued pressure on pricing strategies given commercial loan growth opportunities. Relative to our peers, we have a strong and proven commercial lending model, which has allowed us to build a strong national presence in key specialties such as financial institutions, dealer finance and transportation finance, and created a position of strength in our core footprint. With relatively low mortgage rates and increased demand from young millennials, we expect an upturn in home sales and residential mortgage lending. As we move forward, we will maintain a diversified and high-quality loan portfolio that adheres to our risk appetite, with loss rates expected to remain stable. Additional anticipated short-term rate increases are expected to benefit margins.

The pace of expansion in the U.S. Midwest region should improve modestly in 2018 and continue to contribute to U.S. P&C's growth. Personal banking loan growth is expected to improve in retail and business banking, reflecting a strong commitment to improving our performance, particularly in our mortgage business. We believe that our retail banking transformation, along with improved product offerings, will help accelerate growth from customer deposits and improve our share of wallet. We anticipate continued loan growth in commercial banking, which remains our flagship business. On the deposit side, we expect strong consumer growth with continued pressure on lower spread commercial deposits, as we anticipate that large commercial clients will seek alternative investments in a rising rate environment.

The personal and commercial banking business remains committed to a customer-focused growth strategy. We expect to generate growth in mortgages through a redefined sales model, streamlined processes and optimized pricing. We are invested in improving the digital experience to enhance our competitive position and streamline our cost structure, and we are committed to providing best-in-class products. Building on this momentum, we will continue to focus on strengthening our franchise and growing our business, while operating within our risk appetite.

The U.S. economic environment in 2017 and the outlook for 2018 are discussed in more detail in the Economic Developments and Outlook section on page 32.

**Caution**

This U.S. P&C Banking section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# BMO Wealth Management

BMO's wealth business serves a full range of client segments, from mainstream to ultra-high net worth and institutional, with a broad offering of wealth management products and services, including insurance. BMO Wealth Management is a global business with an active presence in markets across Canada, the United States, EMEA and Asia.

**Joanna Rotenberg**
Group Head
BMO Wealth Management

**Gilles Ouellette**
Group Head, BMO Asset Management and
Vice-Chair, International, BMO Financial Group



## Lines of Business

**BMO Nesbitt Burns**, our full-service investing business in Canada, offers a broad range of client-focused investment and wealth advisory services delivered with our comprehensive wealth planning capabilities, as well as Canada's first bank-owned digital portfolio management platform, SmartFolio®.

**BMO InvestorLine** is an online investing service that offers clients two ways to invest: our top-ranked self-directed service, which provides tools to help investors make independent investment decisions; or adviceDirect™, which provides investors with online advice and investment recommendations for their portfolios.

**BMO's Private Banking** businesses operate in Canada, the United States, Hong Kong and Singapore, offering a comprehensive range of financial services and solutions to high net worth and ultra-high net worth clients and, under BMO Harris Financial Advisors, to mass affluent clients in the United States.

**BMO Global Asset Management (GAM)** is a globally significant asset management organization that provides investment management, trust and custody services to institutional, retail and high net worth investors around the world.

**BMO Insurance** provides life insurance and wealth solutions. We create life insurance, accident and sickness insurance, annuity products and segregated funds that are marketed through advisors to individuals and group pension customers. We also offer group creditor and travel insurance to bank customers and reinsurance solutions to international reinsurers.

## Strengths and Value Drivers

- Planning and advice-based approach that integrates investment, insurance, specialized wealth management and core banking solutions offered by a team of highly skilled wealth professionals committed to providing a great client experience.
- Diversified portfolio of solutions ranging from digital self-directed investment to professional money management and holistic trust/banking services for both retail and institutional clients.
- Strong presence in North American wealth management for individuals, as well as private banking capabilities in Asia.
- Globally significant asset manager with broad distribution capabilities in North America, Europe, the Middle East and Africa (EMEA) and Asia.
- Prestigious brand that is widely recognized and trusted, and access to BMO's broad client base and distribution networks.
- Strong risk management framework, enabling us to operate within our risk appetite and respond to heightened regulatory expectations.

## Strategy and Key Priorities

Deliver on our clients' current and evolving personal wealth, insurance and institutional asset management needs through an exceptional client experience, a focus on productivity and innovation, and strong collaboration across BMO, while maintaining a strong risk management framework.

| Key Priority | 2017 Achievements | 2018 Focus |
|---|---|---|
| **Deliver on our clients' current and evolving personal wealth management and insurance needs, with an exceptional client experience** | • Transformed and digitized critical client journeys such as onboarding and account maintenance, including enhanced online/mobile channel capabilities.<br>• Doubled our high net worth sales force in the United States, while also improving advisor productivity and the client experience.<br>• Launched BMO SmartApp to enable online applications for life insurance, making it easier for advisors to do business with us.<br>• Enhanced our cross-border banking capabilities, making it easier for clients to transfer and access funds.<br>• Expanded our BMO for Women program to meet the unique needs of women entrepreneurs and clients. | Continue to invest in market-leading product innovations, digital capabilities and wealth planning solutions tailored to meeting our clients' evolving needs. |

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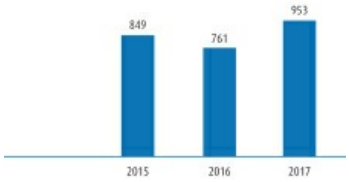
| Key Priority | 2017 Achievements | 2018 Focus |
|---|---|---|
| **Deliver on our clients' current and evolving personal wealth management and insurance needs, with an exceptional client experience (continued)** | • Continued to drive improvements in client experience scores across our business.<br>• Continued to expand our Private Banking footprint in Asia through accelerated hiring to drive client acquisition.<br>• Introduced a new BMO Whole Life Product that is simple and flexible and has strong guarantees.<br>• Entered the pension buy-in market to meet the longevity risk management needs of Canadian companies. | Continue to invest in market-leading product innovations, digital capabilities and wealth planning solutions tailored to meeting our clients' evolving needs. (continued) |
| **Build on our leadership position in asset management key markets through enhanced investment and distribution capabilities** | • Streamlined our organizational structure to simplify decision-making, improve collaboration globally and reduce operating costs.<br>• Strong investment performance, with a majority of assets under management outperforming the relevant benchmark over a five-year period.<br>• Solidified our position as the #2 ETF provider in Canada and #1 in net sales in the market.<br>• Sharpened our investment focus, with an emphasis on globally relevant and consultant-credible products. | Continue to grow BMO Global Asset Management's global platform through a sharpened investment focus, targeted distribution strategy and streamlined organizational structure. |
| **Bring the best of BMO to our clients through strong collaboration** | • Focused on driving even stronger collaboration across BMO to offer our clients solutions that meet their financial needs at every stage of their lives.<br>• More co-location arrangements for our banking, planning, estate and trust and investment teams, including with our business banking partners, to meet the diverse needs of our clients more efficiently.<br>• Increased collaboration between BMO GAM and our bank affiliate partners to leverage strong distribution channels and investment capabilities. | Increase collaboration within Wealth Management and across the bank to deliver an exceptional client experience. |

## BMO Wealth Management

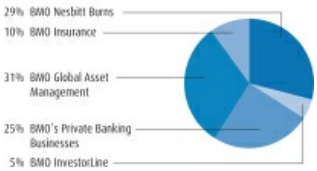
| (Canadian $ in millions, except as noted)<br>As at or for the year ended October 31 | **2017** | 2016 | 2015 |
|---|---|---|---|
| Net interest income | **700** | 614 | 565 |
| Non-interest revenue | **5,492** | 5,274 | 5,198 |
| Total revenue | **6,192** | 5,888 | 5,763 |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) | **1,538** | 1,543 | 1,254 |
| Revenue, net of CCPB | **4,654** | 4,345 | 4,509 |
| Provision for credit losses | **8** | 9 | 7 |
| Non-interest expense | **3,347** | 3,337 | 3,358 |
| Income before income taxes | **1,299** | 999 | 1,144 |
| Provision for income taxes | **346** | 238 | 295 |
| Reported net income | **953** | 761 | 849 |
| Acquisition integration costs (1) | **–** | 30 | 37 |
| Amortization of acquisition-related intangible assets (2) | **65** | 71 | 68 |
| Adjusted net income | **1,018** | 862 | 954 |
| **Key Performance Metrics and Drivers** | | | |
| Traditional wealth businesses net income | **717** | 539 | 609 |
| Traditional wealth businesses adjusted net income | **782** | 640 | 714 |
| Insurance net income | **236** | 222 | 240 |
| Net income growth (%) | **25.2** | (10.3) | 9.0 |
| Adjusted net income growth (%) | **18.1** | (9.6) | 13.3 |
| Revenue growth (%) | **5.2** | 2.2 | 8.0 |
| Revenue growth, net of CCPB (%) | **7.1** | (3.6) | 17.6 |
| Non-interest expense growth (%) | **0.3** | (0.6) | 18.2 |
| Adjusted non-interest expense growth (%) | **1.8** | (0.4) | 16.8 |
| Return on equity (%) | **15.7** | 12.4 | 14.8 |
| Adjusted return on equity (%) | **16.8** | 14.1 | 16.6 |
| Operating leverage, net of CCPB (%) | **6.8** | (3.0) | (0.6) |
| Adjusted operating leverage, net of CCPB (%) | **5.3** | (3.2) | 0.8 |
| Efficiency ratio, net of CCPB (%) | **71.9** | 76.8 | 74.5 |
| Adjusted efficiency ratio (%) | **52.8** | 54.5 | 55.9 |
| Adjusted efficiency ratio, net of CCPB (%) | **70.2** | 73.9 | 71.5 |
| Net interest margin on average earning assets (%) | **2.50** | 2.37 | 2.38 |
| Average common equity | **6,040** | 6,078 | 5,688 |
| Average earning assets | **28,026** | 25,898 | 23,784 |
| Average net loans and acceptances | **18,063** | 16,458 | 14,550 |
| Average deposits | **33,289** | 29,931 | 27,377 |
| Assets under administration (3) | **359,773** | 469,694 | 465,742 |
| Assets under management | **429,448** | 405,695 | 397,959 |
| Full-time equivalent employees | **6,320** | 6,282 | 6,506 |
| **U.S. Business Select Financial Data** (US$ in millions) | | | |
| Total revenue | **650** | 629 | 806 |
| Non-interest expense | **543** | 575 | 652 |
| Reported net income | **78** | 39 | 99 |
| Adjusted net income | **90** | 54 | 118 |
| Average earning assets | **3,348** | 3,446 | 3,242 |
| Average net loans and acceptances | **3,300** | 3,200 | 2,965 |
| Average deposits | **5,783** | 5,602 | 6,010 |

(1) F&C acquisition integration costs before tax amounts of $nil in 2017, $38 million in 2016 and $46 million in 2015 are included in non-interest expense.
(2) Before tax amounts of $80 million in 2017, $88 million in 2016 and $88 million in 2015 are included in non-interest expense.
(3) We have certain assets under management that are also administered by us and included in assets under administration.

**Reported Net Income**
($ millions)




**2017 Net Revenue by Line of Business**
(%)



## Financial Review

Wealth Management reported net income of $953 million increased $192 million or 25% from the prior year. Adjusted net income of $1,018 million, which excludes the amortization of acquisition-related intangible assets and acquisition integration costs, increased $156 million or 18%.

Traditional wealth reported net income of $717 million increased $178 million or 33% from the prior year. Adjusted net income in traditional wealth of $782 million increased $142 million or 22%, primarily due to higher income related to an increase in assets under management from improved equity markets and the accumulation of net new client assets, growth in deposit and loan balances, up 11% and 10%, respectively, and benefits from productivity initiatives. The prior year included a write-down of an equity investment net of a gain on its subsequent sale. Adjusted net income in insurance of $236 million increased $14 million or 6%, as the benefits from favourable market movements in the current year relative to unfavourable impacts in the prior year and business growth were largely offset by elevated claims of $112 million in our reinsurance business largely resulting from the impact of hurricanes Irma, Maria and Harvey.

Revenue of $6,192 million increased $304 million or 5% from the prior year. Revenue, net of CCPB, of $4,654 million increased $309 million or 7%. Revenue in traditional wealth of $4,187 million increased $264 million or 7%, due to the factors noted above, with revenue growth reduced by the impact of the weaker British pound and U.S. dollar, and divestitures. Insurance revenue, net of CCPB, of $467 million increased $45 million or 11%, due to the factors noted above. The weaker British pound reduced revenue by $34 million. The weaker U.S. dollar reduced revenue by $13 million.

The provision for credit losses was $8 million, compared to $9 million in the prior year.

Non-interest expense was $3,347 million, compared to $3,337 million in the prior year. Adjusted non-interest expense was $3,267 million compared to $3,211 million in the prior year, reflecting higher revenue-based costs, partially offset by the impact of the weaker British pound and U.S. dollar, and divestitures. The weaker British pound decreased non-interest expense by $31 million. The weaker U.S. dollar decreased non-interest expense by $12 million.

Assets under management and administration declined $86 billion or 10% from a year ago to $789 billion, due to the divestiture of a non-strategic business in the fourth quarter, which reduced assets under administration by $138 billion, and unfavourable foreign exchange movements, partially offset by market appreciation and growth in new client assets.

## Business Environment, Outlook and Challenges

The wealth management sector is highly competitive, with our Canadian peer group competitors expanding their wealth management businesses as part of their strategy to drive overall bank performance. All competitors are focused on enhancing the customer experience by leveraging new technologies, products and services to meet their clients' evolving needs. Changing demographics, particularly in the retirement, mass affluent and high net worth sectors, continue to reshape the wealth management sector.

Moderate growth in the Canadian and U.S. economies is expected in 2018, which we anticipate will result in a sustained level of client trading activity that will continue to drive transaction volumes and asset levels. We anticipate good growth in net new assets; market appreciation is expected to be moderate and is subject to equity market performance. Long-term interest rates in Canada and the United States are expected to rise only moderately, with minimal impact expected on our brokerage and insurance businesses. Expanding digital capabilities and changes in the regulatory environment could result in downward pressure on fees for products and services. We will focus on maintaining our disciplined approach to expense management, while making investments to further grow our businesses.

The Canadian and U.S. economic environment in 2017 and the outlook for 2018 are discussed in more detail in the Economic Developments and Outlook section on page 32.

**Caution**

This Wealth Management section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# BMO Capital Markets

BMO Capital Markets is a North American-based financial services provider offering a complete range of products and services to corporate, institutional and government clients. BMO Capital Markets has approximately 2,500 professionals in 30 locations around the world, including 16 offices in North America.

**Patrick Cronin**
Group Head
BMO Capital Markets



## Lines of Business

**Investment and Corporate Banking** offers clients debt and equity capital-raising services, as well as loan origination and syndication, balance sheet management solutions and treasury management services. We provide strategic advice on mergers and acquisitions, restructurings and recapitalizations, as well as valuation and fairness opinions. We also offer trade finance and risk mitigation services to support the international business activities of our clients, and we provide a wide range of banking and other operating services tailored to North American and international financial institutions.

**Trading Products** offers research and access to global markets for institutional, corporate and retail clients through an integrated suite of sales and trading solutions that include debt, foreign exchange, interest rate, credit, equity, securitization and commodities. We also offer new product development and origination services, as well as risk management (derivatives) advice and services to hedge against fluctuations in a variety of key inputs, including interest rates and commodities prices. In addition, we provide funding and liquidity management to our clients.

## Strengths and Value Drivers

- Unified coverage and integrated distribution across our North American platform and complementary global footprint, delivering a seamless and exceptional client experience.
- Innovative ideas and tailored solutions delivered through a comprehensive coverage team, dedicated to anticipating, understanding and meeting client needs.
- Top-ranked Canadian equity and fixed income economic research, sales and trading capabilities with deep expertise in core sectors.
- Strong first-line-of-defence risk management and regulatory and compliance capabilities, enabling effective decision-making in support of our strategic priorities.
- Well-diversified platform and business mix – by sector, geography, product and currency, including a strong, scalable and relevant U.S. business – positioning BMO well in several key markets and over the long term.

## Strategy and Key Priorities

BMO Capital Markets vision is to be the lead North American investment bank enabling clients to achieve their goals. We offer an integrated platform, differentiated by innovative ideas and unified coverage.

| Key Priority | 2017 Achievements | 2018 Focus |
|---|---|---|
| **Continue to maintain our leadership position in Canada through our top-tier coverage team** | • Continued to win key mandates in core Canadian industries, acting as exclusive advisor to Milestone Apartments Real Estate Investment Trust (REIT) on the largest multi-family property REIT transaction in Canadian history.<br>• Led Canadian dollar corporate hybrid bond offerings for TransCanada on its $1.5 billion 60NC10 year inaugural Canadian hybrid bond transaction, and for Enbridge Inc. on its combined $1.65 billion 60NC10 year inaugural Canadian hybrid bond transactions.<br>• Named a 2017 Greenwich Share Leader and Quality Leader across a range of Canadian equity sales, trading and research areas.<br>• Named Best House in Canada for Structured Products at the 2017 SRP Wealth Management and Derivatives Awards.<br>• Named Best Bank for the Canadian Dollar by *FX Week* magazine for the seventh consecutive year. | Continue to earn leading market share in Canada by strengthening our client relationships and driving incremental market share growth. |

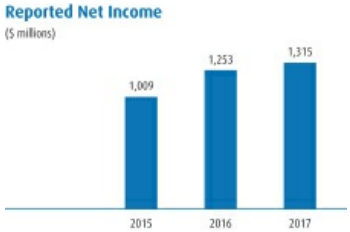
| Key Priority | 2017 Achievements | 2018 Focus |
|---|---|---|
| **Continue to drive performance in our U.S. platform with a focused strategy and selectively grow our U.S. corporate bank where we are competitively advantaged** | • Expanded our lending and advisory mandates with leading roles in marquee transactions, such as, in the global energy sector, our largest U.S. equity transaction to date with Parsley Energy, and with Broadcom in its $5.9 billion acquisition of Brocade Communications Systems.<br>• Continued to win significant cross-border mandates, including acting on behalf of Canadian-based, U.S.-backed, Jamieson Wellness Inc. in its initial public offering that raised $345 million.<br>• Closed 43 U.S. M&A transactions, up 30% from the prior year, with a total deal volume of $65.4 billion.<br>• Acted as bookrunner on 228 equity and debt capital raising transactions, up almost 50% from last year.<br>• Ranked #1 in the Institutional Investor 2017 All-America Fixed Income Research Team Survey for U.S. Rates Strategy and Technical Analysis. | Continue to leverage our key strategic investment to increase growth from our U.S. platform, and selectively grow our U.S. corporate bank where we are competitively advantaged. |
| **Leverage our strong North American capabilities and presence in select international markets** | • Named World's Best Metals & Mining Investment Bank for the eighth consecutive year by *Global Finance* and hosted one of the industry's most important events, the 26th Annual Global Metals & Mining Conference, which brought together more than a thousand industry professionals representing 500 companies from 32 countries.<br>• Named Best Forex Provider in North America/China for the seventh consecutive year by *Global Banking and Finance Review*.<br>• Continued to expand our mandates in select global sectors, including as financial advisor to Chrysaor on its $3 billion acquisition of certain UK North Sea assets from Shell, and leading a convertible bond offering to refinance the outstanding portion of the Sibanye-Stillwater bridge loan raised for the acquisition of Stillwater, an American palladium and platinum-mining company.<br>• Expanded our Global Trade business in Singapore, broadening the reach of our suite of trade and supply chain finance services.<br>• Leveraged our presence in China, completing our first cross-border Chinese bond trade to a central bank.<br>• Established a European Commercial Paper program to help our clients meet their increased regulatory demands.<br>• Expanded our presence in the Supranational Sub-sovereign Agency (SSA) market and won key mandates, including the World Bank's first U.S. dollar benchmark offering of 2017. | Continue to leverage our strong North American and global capabilities to expand our footprint and strategic relationships in select international markets. |

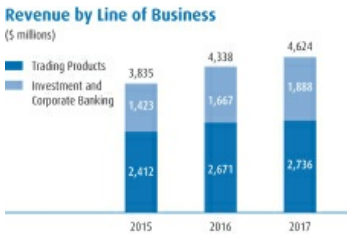
## BMO Capital Markets

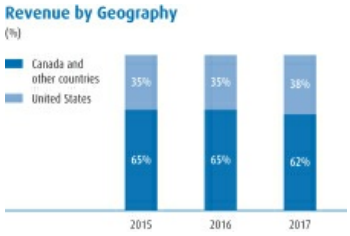
(Canadian $ in millions, except as noted)

| As at or for the year ended October 31 | **2017** | 2016 | 2015 |
|---|---|---|---|
| Net interest income (teb) | **1,288** | 1,483 | 1,307 |
| Non-interest revenue | **3,336** | 2,855 | 2,528 |
| Total revenue (teb) | **4,624** | 4,338 | 3,835 |
| Provision for credit losses | **44** | 81 | 26 |
| Non-interest expense | **2,778** | 2,574 | 2,480 |
| Income before income taxes | **1,802** | 1,683 | 1,329 |
| Provision for income taxes (teb) | **487** | 430 | 320 |
| Reported net income | **1,315** | 1,253 | 1,009 |
| Amortization of acquisition-related intangible assets (1) | **2** | 1 | 2 |
| Adjusted net income | **1,317** | 1,254 | 1,011 |
| **Key Performance Metrics and Drivers** | | | |
| Trading Products revenue | **2,736** | 2,671 | 2,412 |
| Investment and Corporate Banking revenue | **1,888** | 1,667 | 1,423 |
| Net income growth (%) | **5.0** | 24.1 | (6.0) |
| Revenue growth (%) | **6.6** | 13.1 | 3.3 |
| Non-interest expense growth (%) | **7.9** | 3.8 | 5.5 |
| Return on equity (%) | **15.8** | 16.0 | 14.5 |
| Operating leverage (teb) (%) | **(1.3)** | 9.3 | (2.2) |
| Efficiency ratio (teb) (%) | **60.1** | 59.3 | 64.7 |
| Net interest margin on average earning assets (teb) (%) | **0.48** | 0.58 | 0.55 |
| Average common equity | **7,900** | 7,387 | 6,536 |
| Average earning assets | **266,928** | 254,370 | 238,835 |
| Average assets | **306,319** | 304,031 | 290,672 |
| Average net loans and acceptances | **51,358** | 46,109 | 37,113 |
| Average deposits | **147,306** | 150,068 | 141,038 |
| Full-time equivalent employees | **2,502** | 2,353 | 2,183 |
| **U.S. Business Select Financial Data** (US$ in millions) | | | |
| Total revenue (teb) | **1,343** | 1,144 | 1,074 |
| Non-interest expense | **927** | 860 | 887 |
| Reported net income | **285** | 184 | 126 |
| Average earning assets | **88,135** | 78,704 | 76,565 |
| Average assets | **93,344** | 86,222 | 85,459 |
| Average net loans and acceptances | **15,551** | 15,068 | 11,034 |
| Average deposits | **52,471** | 52,459 | 55,942 |

(1) Before tax amounts of $3 million in 2017, $1 million in 2016 and $2 million in 2015 are included in non-interest expense.



## Financial Review

BMO Capital Markets reported net income of $1,315 million increased $62 million or 5% from the prior year. Adjusted net income of $1,317 million, which excludes the amortization of acquisition-related intangible assets, increased $63 million or 5% due to increased revenue and lower loan loss provisions, partially offset by higher expenses. The impact of the weaker U.S. dollar on revenue growth was not significant. Net income in our BMO Capital Markets' U.S. segment increased 55% from the prior year on a U.S. dollar basis.

Revenue of $4,624 million increased $286 million or 7%, due to higher client activity in investment banking and loan growth, as well as solid performance in our Trading Products business.

Investment and Corporate Banking revenue increased $221 million or 13% from the prior year, driven by strong underwriting activity and higher mergers and acquisitions advisory activity, as well as higher corporate banking-related revenue.

Trading Products revenue increased $65 million or 2% from the prior year, due to higher revenue from new fixed income issuances and higher net securities gains, partially offset by lower trading revenue.

The provision for credit losses of $44 million decreased $37 million from the prior year, largely due to lower new provisions, primarily in the oil and gas sector.

Non-interest expense increased $204 million or 8% to $2,778 million, or 9% excluding the impact of the weaker U.S. dollar, due to continued investment in the business and higher employee-related costs.

Average assets of $306.3 billion increased $2.3 billion from the prior year. Excluding the impact of the weaker U.S. dollar, average assets increased $3.7 billion. Higher levels of securities and net loans and acceptances due to increases in corporate banking activity were partially offset by lower derivative financial asset balances and lower levels of reverse repos.

## Business Environment, Outlook and Challenges

BMO Capital Markets is a North American-based financial services provider. The operating environment in Canada and the United States is highly competitive among the major banks, regional banks, boutique investment banks and non-bank competitors. Traditional banking competitors have focused on expanding client relationships, maintaining disciplined risk management practices and operating within a heightened regulatory environment. Non-bank competitors are continuing to seek new opportunities to disintermediate banks in certain trading and investment banking products.

Looking ahead to fiscal 2018, we remain focused on executing our well-defined and consistent strategy of building a highly integrated, client-focused North American capital markets business. In the United States, our largest market opportunity, we expect to grow our sector-focused platform by deepening existing client relationships, acquiring new clients and growing our loan book. In Canada, we expect to maintain our leading market positions, while providing a strong and stable foundation for our growth. In Europe and Asia, we are selectively expanding our capabilities to better serve North American-based clients that have a global presence. From a regulatory perspective, our investment in risk management technology infrastructure has positioned us well to meet new risk reporting requirements next year. Stability in the markets could be impacted by macroeconomic concerns, but assuming that markets remain constructive, we are confident that we can achieve our strategic objectives.

The Canadian and U.S. economic environment in 2017 and the outlook for 2018 are discussed in more detail in the Economic Developments and Outlook section on page 32.

**Caution**

This BMO Capital Markets section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

# Corporate Services, including Technology and Operations

Corporate Services consists of Corporate Units and Technology and Operations (T&O). Corporate Units provide enterprise-wide expertise and governance support in a variety of areas, including strategic planning, risk management, finance, legal and regulatory compliance, marketing, communications and human resources. T&O manages, maintains and provides governance over information technology, operations services, real estate and procurement for BMO Financial Group.

The costs of these Corporate Units and T&O services are largely transferred to the three client operating groups (Personal and Commercial Banking, Wealth Management and BMO Capital Markets), with remaining amounts retained in Corporate Services results. As such, Corporate Services results largely reflect the impact of residual treasury and asset-liability management activities, the elimination of taxable equivalent adjustments, the results from certain impaired real estate secured assets, certain purchased loan accounting impacts, residual unallocated expenses, certain acquisition integration costs, restructuring costs and adjustments to the collective allowance for credit losses.

Corporate Services focuses on enterprise-wide priorities related to maintaining a sound risk and control environment and efficiency while supporting our businesses in meeting their customer experience objectives. Notable achievements during the year included:

- Continued to proactively invest in defences and procedures to further improve our ability to prevent, detect, respond to and manage cyber security threats at BMO, as well as performed assessments of controls at third parties and service providers to verify that programs and controls meet BMO standards.
- Accelerated the deployment of digital technology to transform our business, including commencing the upgrade of a U.S. digital platform to accelerate digital developments across personal segments.
- Invested in information technology initiatives to meet regulatory requirements, including market risk, client tax reporting and responding to new accounting standards, while also deploying new capabilities to reduce time to market and strengthen our technology foundation.
- Enhanced our Data & Analytics platform to add new governance, analytics and robotics capabilities in support of business initiatives: demonstrated the value of machine learning to further improve fraud and anti-money laundering management, introduced robotics to automate processes in operations and Corporate Services, and enhanced Enterprise Reference Data capabilities in support of emerging regulatory requests and revenue-generating initiatives.
- Contributed to our customer channels strategy through technology innovation and real estate reconfiguration.
- Continued operational efficiencies within the Anti-Money Laundering/Anti-Terrorist Financing and Sanctions Program by reducing manual processes, particularly within the Financial Intelligence Units, and improving our data foundation.

## Financial Review

Corporate Services reported net loss for the year was $496 million, compared with a reported net loss of $670 million a year ago. Adjusted net loss for the year was $454 million, compared with an adjusted net loss of $435 million a year ago. Adjusted results exclude a decrease in the collective allowance in the current year and a negative cumulative accounting adjustment in the prior year, as well as restructuring costs and acquisition integration costs in both years. Adjusted results declined due to lower credit recoveries and higher expenses, partially offset by higher revenue excluding teb. Reported results increased mainly due to lower restructuring costs in the current year, the prior year's negative cumulative accounting adjustment and the decrease in the collective allowance in the current year, partially offset by the net impact of the drivers noted above.

## Corporate Services, including Technology and Operations

| (Canadian $ in millions, except as noted)<br>As at or for the year ended October 31 | **2017** | 2016 | 2015 |
|---|---|---|---|
| Net interest income before group teb offset (1) | **(283)** | (313) | (236) |
| Group teb offset | **(567)** | (510) | (524) |
| Net interest income (teb) (1) | **(850)** | (823) | (760) |
| Non-interest revenue | **177** | 58 | 280 |
| Total revenue (teb) (1) | **(673)** | (765) | (480) |
| Recovery of credit losses (1) | **(78)** | (74) | (36) |
| Non-interest expense | **635** | 716 | 610 |
| Loss before income taxes | **(1,230)** | (1,407) | (1,054) |
| Recovery of income taxes (teb) | **(734)** | (737) | (661) |
| Reported net loss | **(496)** | (670) | (393) |
| Acquisition integration costs (2) | **55** | 41 | 6 |
| Cumulative accounting adjustment (3) | **–** | 62 | – |
| Restructuring costs (4) | **41** | 132 | 106 |
| Decrease in the collective allowance for credit losses (5) | **(54)** | – | – |
| Adjusted net loss | **(454)** | (435) | (281) |
| Adjusted total revenue (teb) (1) | **(673)** | (681) | (478) |
| Adjusted recovery of credit losses (1) | **(2)** | (74) | (36) |
| Adjusted non-interest expense | **489** | 461 | 456 |
| Adjusted net loss | **(454)** | (435) | (281) |
| Full-time equivalent employees | **14,702** | 14,741 | 14,345 |
| **U.S. Business Select Financial Data** (US$ in millions) | | | |
| Total revenue (teb) (1) | **(111)** | (124) | (73) |
| Recovery of credit losses (1) | **(23)** | (81) | (79) |
| Non-interest expense | **244** | 218 | 273 |
| Recovery of income taxes (teb) (1) | **(114)** | (75) | (130) |
| Reported net loss | **(218)** | (186) | (137) |
| Adjusted total revenue (teb) (1) | **(111)** | (124) | (73) |
| Adjusted recovery of credit losses (1) | **(2)** | (56) | (30) |
| Adjusted non-interest expense | **170** | 119 | 229 |
| Adjusted net loss | **(185)** | (140) | (138) |

### Corporate Services Provision for Credit Losses

| (Canadian $ in millions) As at or for the year ended October 31 | 2017 | 2016 | 2015 |
|---|---|---|---|
| Impaired real estate loans | **2** | (16) | 28 |
| Interest on impaired loans | **–** | – | 17 |
| Purchased credit impaired loans | **(4)** | (58) | (86) |
| Purchased performing loans | **–** | – | 5 |
| Recovery of (provision for) credit losses, adjusted basis | **(2)** | (74) | (36) |
| Decrease in the collective allowance for credit losses | **(76)** | – | – |
| Recovery of credit losses, reported basis | **(78)** | (74) | (36) |
| Average loans and acceptances | **63** | 96 | 242 |
| Year-end loans and acceptances | **53** | 80 | 182 |

(1) Beginning in the first quarter of 2016, the reduction in the credit mark that is reflected in net interest income and the provision for credit losses on the purchased performing portfolio are being recognized in U.S. P&C, consistent with the accounting for the acquisition of BMO Transportation Finance, and given that these amounts have reduced substantially in size. Results for prior periods have not been reclassified.
(2) Acquisition integration costs related to the acquisition of BMO Transportation Finance are primarily included in non-interest expense.
(3) Cumulative accounting adjustment recognized in other non-interest revenue related to foreign currency translation.
(4) Restructuring charges before tax amounts of: $59 million in 2017 and $188 million in 2016, as we continue to accelerate the use of technology to enhance customer experience and focus on driving operational efficiencies; and $149 million in 2015, primarily due to restructuring to drive operational efficiencies, are included in non-interest expense.
(5) Decrease in the collective allowance for credit losses before tax amount of $76 million.

Adjusted results in this table are non-GAAP amounts or non-GAAP measures. Please see the Non-GAAP Measures section.

## Summary Quarterly Earnings Trends

BMO's results and performance measures for the past eight quarters are outlined on page 63.

BMO's quarterly earnings, revenue and expense are modestly affected by seasonal factors. Our second fiscal quarter has 89 days (90 in a leap year) and other quarters have 92 days, resulting in lower second-quarter results relative to other quarters due to fewer calendar days, and thus fewer business days. The fourth quarter can also have a higher level of expenses. The December holiday season also contributes to a slowdown in some activities. Quarterly earnings are also affected by foreign currency translation.

Reported and adjusted results have generally trended upwards over the past eight quarters, with the exception of the impact of elevated reinsurance claims on Wealth Management in the fourth quarter of 2017, and an investment write-down in the second quarter of 2016. Reported results were also impacted by restructuring charges in the fourth quarter of 2017 and the second quarter of 2016, a decrease in the collective allowance in the third quarter of 2017, and a cumulative accounting adjustment in the first quarter of 2016.

Canadian P&C delivered positive year-over-year net income growth in each of the last eight quarters, reflecting revenue growth driven by higher balances and non-interest revenue. Canadian P&C results in the first quarter of 2017 included a $168 million after-tax gain on sale. U.S. P&C growth in 2016 largely reflected the results of the acquired BMO Transportation Finance business. U.S. P&C results in 2017 reflect revenue and loan growth, partially offset by higher expenses and an increased provision for credit losses. Results also reflect an after-tax loss of $35 million on the sale of a portion of the indirect auto loan portfolio recognized in the first quarter of 2017. Wealth Management's results in the first half of 2016 were impacted by lower equity markets, improving in the second half of 2016. Equity markets in Canada were relatively flat in 2017, and rebounded in the fourth quarter of the year. Equity markets in the United States were strong throughout 2017. The fourth quarter of 2016 benefited from a gain on sale of an equity investment. Quarterly insurance results have been subject to variability, resulting primarily from impacts of interest rates, equity markets and reinsurance claims, as well as methodology and actuarial assumptions changes. BMO Capital Markets' results reflect continued momentum due to good results in 2016 and 2017, driven by performance from both Investment and Corporate Banking and Trading Products businesses in the current year, particularly in the United States. Corporate Services results can vary from quarter to quarter, in large part due to the inclusion of adjusting items, which are largely recorded in Corporate Services.

BMO's PCL measured as a percentage of loans and acceptances has been relatively stable, with some quarter-to-quarter variability. Overall, oil and gas provisions were lower in 2017. The decrease in the third quarter of 2017 was due to a decrease in the collective allowance, included in reported results, and the increase in the second quarter of 2017 was due to higher provisions in BMO Capital Markets and the P&C businesses.

The effective income tax rate can vary, as it depends on tax rates, tax laws and policy, and its interpretation by taxing authorities.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

### Summarized Statement of Income and Quarterly Financial Measures

| (Canadian $ in millions, except as noted) | Q4-2017 | Q3-2017 | Q2-2017 | Q1-2017 | Q4-2016 | Q3-2016 | Q2-2016 | Q1-2016 |
|---|---|---|---|---|---|---|---|---|
| Net interest income | **2,535** | **2,533** | **2,409** | **2,530** | 2,498 | 2,474 | 2,420 | 2,480 |
| Non-interest revenue | **3,120** | **2,926** | **3,332** | **2,875** | 2,780 | 3,159 | 2,681 | 2,595 |
| Total revenue | **5,655** | **5,459** | **5,741** | **5,405** | 5,278 | 5,633 | 5,101 | 5,075 |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) | **573** | **253** | **708** | **4** | 79 | 691 | 407 | 366 |
| Revenue, net of CCPB | **5,082** | **5,206** | **5,033** | **5,401** | 5,199 | 4,942 | 4,694 | 4,709 |
| Provision for credit losses – specific (see below) | **208** | **210** | **259** | **173** | 174 | 257 | 201 | 183 |
| Provision for (recovery of) credit losses – collective | **–** | **(76)** | **–** | **–** | – | – | – | – |
| Non-interest expense | **3,369** | **3,278** | **3,276** | **3,379** | 3,323 | 3,092 | 3,312 | 3,270 |
| Income before provision for income taxes | **1,505** | **1,794** | **1,498** | **1,849** | 1,702 | 1,593 | 1,181 | 1,256 |
| Provision for income taxes | **278** | **407** | **250** | **361** | 357 | 348 | 208 | 188 |
| Reported net income (see below) | **1,227** | **1,387** | **1,248** | **1,488** | 1,345 | 1,245 | 973 | 1,068 |
| Acquisition integration costs (1) | **15** | **13** | **13** | **14** | 21 | 19 | 16 | 15 |
| Amortization of acquisition-related intangible assets (2) | **26** | **28** | **34** | **28** | 29 | 31 | 31 | 33 |
| Cumulative accounting adjustment (3) | **–** | **–** | **–** | **–** | – | – | – | 62 |
| Restructuring costs (4) | **41** | **–** | **–** | **–** | – | – | 132 | – |
| Decrease in the collective allowance for credit losses (5) | **–** | **(54)** | **–** | **–** | – | – | – | – |
| Adjusted net income (see below) | **1,309** | **1,374** | **1,295** | **1,530** | 1,395 | 1,295 | 1,152 | 1,178 |
| **Operating group reported net income** | | | | | | | | |
| Canadian P&C reported net income | **624** | **614** | **531** | **743** | 588 | 560 | 525 | 529 |
| Amortization of acquisition-related intangible assets (2) | **1** | **1** | **–** | **1** | – | 1 | – | 1 |
| Canadian P&C adjusted net income | **625** | **615** | **531** | **744** | 588 | 561 | 525 | 530 |
| U.S. P&C reported net income | **280** | **278** | **248** | **260** | 288 | 278 | 268 | 251 |
| Amortization of acquisition-related intangible assets (2) | **11** | **11** | **12** | **12** | 13 | 12 | 12 | 13 |
| U.S. P&C adjusted net income | **291** | **289** | **260** | **272** | 301 | 290 | 280 | 264 |
| Wealth Management reported net income | **172** | **264** | **251** | **266** | 279 | 201 | 134 | 147 |
| Acquisition integration costs (1) | **–** | **–** | **–** | **–** | 7 | 9 | 5 | 9 |
| Amortization of acquisition-related intangible assets (2) | **14** | **15** | **21** | **15** | 16 | 17 | 19 | 19 |
| Wealth Management adjusted net income | **186** | **279** | **272** | **281** | 302 | 227 | 158 | 175 |
| BMO Capital Markets reported net income | **326** | **292** | **321** | **376** | 392 | 317 | 287 | 257 |
| Amortization of acquisition-related intangible assets (2) | **–** | **1** | **1** | **–** | – | 1 | – | – |
| BMO Capital Markets adjusted net income | **326** | **293** | **322** | **376** | 392 | 318 | 287 | 257 |
| Corporate Services reported net income | **(175)** | **(61)** | **(103)** | **(157)** | (202) | (111) | (241) | (116) |
| Acquisition integration costs (1) | **15** | **13** | **13** | **14** | 14 | 10 | 11 | 6 |
| Cumulative accounting adjustment (3) | **–** | **–** | **–** | **–** | – | – | – | 62 |
| Restructuring costs (4) | **41** | **–** | **–** | **–** | – | – | 132 | – |
| Decrease in the collective allowance for credit losses (5) | **–** | **(54)** | **–** | **–** | – | – | – | – |
| Corporate Services adjusted net income | **(119)** | **(102)** | **(90)** | **(143)** | (188) | (101) | (98) | (48) |
| Basic earnings per share ($) | **1.82** | **2.05** | **1.85** | **2.23** | 2.03 | 1.87 | 1.46 | 1.59 |
| Diluted earnings per share ($) | **1.81** | **2.05** | **1.84** | **2.22** | 2.02 | 1.86 | 1.45 | 1.58 |
| Adjusted diluted earnings per share ($) | **1.94** | **2.03** | **1.92** | **2.28** | 2.10 | 1.94 | 1.73 | 1.75 |
| Net interest margin on average earning assets (%) | **1.57** | **1.55** | **1.52** | **1.55** | 1.57 | 1.58 | 1.61 | 1.58 |
| PCL-to-average net loans and acceptances (annualized) (%) | **0.22** | **0.14** | **0.28** | **0.19** | 0.19 | 0.29 | 0.23 | 0.21 |
| Specific PCL-to-average net loans and acceptances (annualized) (%) | **0.22** | **0.22** | **0.28** | **0.19** | 0.19 | 0.29 | 0.23 | 0.21 |
| Effective tax rate (%) | **18.5** | **22.7** | **16.7** | **19.5** | 21.0 | 21.9 | 17.6 | 15.0 |
| Adjusted effective tax rate (%) | **19.3** | **22.5** | **17.1** | **19.8** | 21.2 | 22.0 | 19.6 | 16.2 |
| Canadian/U.S. dollar average exchange rate ($) | **1.2621** | **1.2974** | **1.3412** | **1.3288** | 1.3216 | 1.3029 | 1.3016 | 1.3737 |

(1) Acquisition integration costs before tax are included in non-interest expense. Wealth Management amounts of: $nil in each of Q4-2017, Q3-2017, Q2-2017 and Q1-2017; $10 million in Q4-2016; $10 million in Q3-2016; $6 million in Q2-2016; and $12 million in Q1-2016. Corporate Services amounts of: $24 million in Q4-2017; $20 million in Q3-2017; $21 million in Q2-2017; $22 million in Q1-2017; $21 million in Q4-2016; $17 million in Q3-2016; $18 million in Q2-2016; and $10 million in Q1-2016.

(2) Amortization of acquisition-related intangible assets was charged to the non-interest expense of the operating groups. Canadian P&C amounts of: $nil in Q4-2017; $1 million in Q3-2017; $nil in Q2-2017; and $1 million in each of Q1-2017, Q4-2016 and Q3-2016; $nil in Q2-2016; and $1 million in Q1-2016. U.S. P&C amounts of: $16 million in each of Q4-2017, Q3-2017, Q2-2017 and Q1-2017; $17 million in Q4-2016; $16 million in Q3-2016; $17 million in Q2-2016; and $18 million in Q1-2016. Wealth Management amounts of: $18 million in Q4-2017; $17 million in Q3-2017; $26 million in Q2-2017; $19 million in Q1-2017; $19 million in Q4-2016; $22 million in Q3-2016; $23 million in Q2-2016; and $24 million in Q1-2016. BMO Capital Markets amounts of: $nil in Q4-2017; $1 million in each of Q3-2017, Q2-2017 and Q1-2017; $nil in Q4-2016; $1 million in Q3-2016; and $nil in each of Q2-2016 and Q1-2016.

(3) Cumulative accounting adjustment recognized in other non-interest revenue related to foreign currency translation that largely impacted prior periods.

(4) Restructuring charges before tax amounts included in non-interest expense in Corporate Services of $59 million in Q4-2017 and $188 million in Q2-2016.

(5) Adjustments to the collective allowance for credit losses before-tax amount of $76 million in Q3-2017 are recorded in Corporate Services provision for (recovery of) credit losses.

**Caution**

This Summary Quarterly Earnings Trends section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

In the opinion of Bank of Montreal management, information that is derived from unaudited financial information, including information as at and for the interim periods, includes all adjustments necessary for a fair presentation of such information. All such adjustments are of a normal and recurring nature. Financial ratios for interim periods are stated on an annualized basis, where appropriate, and the ratios, as well as interim operating results, are not necessarily indicative of actual results for the full fiscal year.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# Review of Fourth Quarter 2017 Performance

Reported net income was $1,227 million for the fourth quarter of 2017, down $118 million or 9% from the prior year. Adjusted net income was $1,309 million, down $86 million or 6% from the prior year. Adjusted results for the quarter exclude a restructuring charge of $59 million ($41 million after-tax) and the amortization of acquisition-related intangible assets of $34 million ($26 million after-tax), which were charged to the non-interest expense of the operating groups, and acquisition integration costs of $24 million ($15 million after-tax), which were primarily recorded in non-interest expense. Acquisition integration costs related to the acquired BMO Transportation Finance business were charged to Corporate Services.

Reported EPS of $1.81 was down $0.21 or 10%, and adjusted EPS of $1.94 was down $0.16 or 8% from the prior year. Net income this quarter included claims of $112 million in our reinsurance business largely resulting from the impact of hurricanes Irma, Maria and Harvey, which reduced earnings per share by $0.17 and net income growth by approximately 8%.

Summary income statements and data for the quarter and comparative quarters are outlined on page 63.

The combined Personal and Commercial banking business reported net income of $904 million and adjusted net income of $916 million were both up 3%, or 5% excluding the impact of the weaker U.S. dollar, from the fourth quarter a year ago. Canadian P&C reported net income of $624 million increased $36 million or 6% and adjusted net income of $625 million increased $37 million or 6% due to higher balances across most products and higher net interest margin, partially offset by higher expenses and an increased provision for credit losses. On a Canadian dollar basis, U.S. P&C reported and adjusted net income both decreased 3% due to the weaker U.S. dollar. On a U.S. dollar basis, U.S. P&C reported and adjusted net income both increased $5 million or 2%, mainly due to higher deposit revenue and increased commercial loan volumes, partially offset by loan spread compression and higher expenses. Wealth Management reported net income of $172 million and adjusted net income of $186 million both decreased 38%. Elevated reinsurance claims in the fourth quarter of 2017 and a gain on sale of an equity investment in the fourth quarter of 2016 had a negative impact of 52% on reported net income growth and 48% on adjusted net income growth. Traditional wealth reported net income was $189 million compared to $201 million in the prior year, and adjusted net income was $203 million compared to $224 million, as improved equity markets and business growth, including higher deposit and loan revenue, were more than offset by the gain on sale of an equity investment in the fourth quarter of 2016. Insurance reported a net loss of $17 million due to the elevated reinsurance claims in the fourth quarter of 2017, partially offset by the benefits from favourable market movements and the impact of investment portfolio related changes. This compared to insurance net income of $78 million in the prior year. BMO Capital Markets reported and adjusted net income of $326 million both decreased $66 million or 17% from record performance in the fourth quarter of 2016, primarily due to lower revenue in our Investment and Corporate Banking business, higher expenses, and a higher provision for credit losses. Corporate Services adjusted results increased due to lower expenses, in part due to a gain on the sale of an office building, and higher revenue excluding teb, partially offset by lower credit recoveries. Corporate Services reported results increased due to the net impact of the drivers noted above, partially offset by the restructuring charge.

Total revenue of $5,655 million increased $377 million or 7% from the fourth quarter a year ago. Total revenue, net of CCPB, of $5,082 million decreased $117 million or 2%, or 1% excluding the impact of the weaker U.S. dollar. Net revenue included elevated reinsurance claims of $112 million. Canadian P&C revenue increased 5%, mainly due to higher balances across most products, higher net interest margin and higher non-interest revenue. U.S. P&C revenue decreased 2% on a Canadian dollar basis due to the impact of the weaker U.S. dollar. U.S. P&C revenue increased 3% on a U.S. dollar basis, driven by higher deposit revenue and increased commercial loan volumes, net of loan spread compression and lower non-interest revenue. Traditional wealth revenue was relatively unchanged, as improved equity markets and business growth, including higher deposit and loan revenue in the fourth quarter of 2017, were offset by a gain on sale of an equity investment in the fourth quarter of 2016. Net insurance revenue was $42 million, compared to $136 million in the prior year, due to the elevated reinsurance claims, partially offset by benefits from favourable market movements and the impact of investment portfolio related changes. BMO Capital Markets revenue decreased 4%, as Investment and Corporate Banking revenue decreased from a particularly strong quarter last year, primarily due to lower mergers and acquisitions advisory activity and lower net securities gains, partially offset by higher corporate banking-related revenue. Trading Products revenue was largely unchanged from the prior year. Corporate Services revenue decreased due to a higher group teb adjustment, partially offset by higher revenue excluding teb.

Net interest income increased $37 million or 2% to $2,535 million, or 3% excluding the impact of the weaker U.S. dollar, primarily due to higher deposit spreads in the Personal and Commercial banking businesses, partially offset by lower net interest income from certain trading businesses. Average earning assets increased $11.2 billion or 2% to $642.5 billion, or 4% excluding the impact of the weaker U.S. dollar, due to higher securities and loan growth. BMO's overall net interest margin of 1.57% was flat compared to the prior year. Net interest margin (excluding trading) improved 4 basis points from the prior year to 1.91%, primarily driven by higher deposit spreads in the Personal and Commercial banking businesses.

Net non-interest revenue of $2,547 million decreased $154 million or 6%, or 4% excluding the impact of the weaker U.S. dollar, mainly due to the elevated reinsurance claims in the fourth quarter of 2017, a gain on sale of an equity investment in the prior year and lower underwriting and advisory fees.

Gross insurance revenue increased $396 million from a year ago, largely due to decreases in long-term interest rates increasing the fair value of insurance investments in the fourth quarter of 2017 compared to increases in long-term interest rates decreasing the fair value of insurance investments in the fourth quarter of 2016 and higher annuity sales. These fair value changes are largely offset by changes in the fair value of policy benefit liabilities, the impact of which is reflected in insurance claims, commissions and changes in policy benefit liabilities, as discussed below.

The total provision for credit losses was $208 million, an increase of $34 million from the prior year, due to higher provisions in BMO Capital Markets, Corporate Services and Canadian P&C. There was no net change to the collective allowance in the quarter.

Insurance claims, commissions and changes in policy benefit liabilities (CCPB) were $573 million in the fourth quarter of 2017, up $494 million from $79 million in the fourth quarter of 2016 due to decreases in long-term interest rates increasing the fair value of policy benefit liabilities compared to increases in long-term interest rates in the fourth quarter of 2016 decreasing the fair value of policy benefit liabilities, elevated reinsurance claims and the impact of higher annuity sales. The increases related to the fair value of policy benefit liabilities and annuity sales were largely offset in revenue.

Reported non-interest expense of $3,369 million increased $46 million or 1% from the fourth quarter a year ago. Adjusted non-interest expense of $3,252 million decreased $3 million. Adjusted non-interest expense increased 2% excluding the impact of the weaker U.S. dollar. Adjusted non-interest expense excludes a restructuring charge in the fourth quarter of 2017 and acquisition integration costs and the amortization of acquisition-related intangible assets in both quarters. Higher technology costs and professional fees were largely offset by a gain on the sale of an office building in the quarter and lower employee-related expenses.

The provision for income taxes of $278 million decreased $79 million from the fourth quarter of 2016. The effective tax rate for the quarter was 18.5%, compared with 21.0% a year ago. The adjusted provision for income taxes of $313 million decreased $62 million from a year ago. The adjusted effective tax rate was 19.3% in the fourth quarter of 2017, compared with 21.2% a year ago. The lower reported and adjusted tax rates in the fourth quarter of 2017 relative to the fourth quarter of 2016 were primarily due to higher tax-exempt income from securities. On a teb basis, the reported effective tax rate for the quarter was 27.1%, compared with 26.3% a year ago. On a teb basis, the adjusted effective tax rate for the quarter was 27.2%, compared with 26.3% a year ago.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

## 2016 Financial Performance Review

The preceding discussions in the MD&A focused on our performance in fiscal 2017. This section summarizes our performance in fiscal 2016 relative to fiscal 2015. As noted on page 26, certain prior-year data has been reclassified to conform to the presentation in 2017, including restatements arising from transfers between operating groups. Further information on restatements is provided on page 46.

### Net Income

Net income was $4,631 million in 2016, up $226 million or 5% from the previous year. Adjusted net income excludes restructuring costs, the amortization of acquisition-related intangible assets, acquisition integration costs and a negative cumulative accounting adjustment related to foreign currency translation that largely impacted prior periods. Adjusted net income was $5,020 million, up $339 million or 7%. On a reported and adjusted basis, higher revenue exceeded incremental costs, contributing to growth in net income, as discussed below. There was a higher provision for credit losses and a higher effective income tax rate.

### Return on Equity

Reported ROE was 12.1% and adjusted ROE was 13.1% in 2016, compared with 12.5% and 13.3%, respectively, in 2015. ROE declined in 2016, primarily due to growth in common equity exceeding growth in income. There was an increase of $219 million or 5% in net income available to common shareholders and $332 million or 7% in adjusted net income available to common shareholders in 2016. Average common shareholders' equity increased $2.9 billion or 8% from 2015, primarily due to increased retained earnings and the impact of the stronger U.S. dollar on our investments in foreign operations. The reported return on tangible common equity (ROTCE) was 15.3%, compared with 15.8% in 2015 and adjusted ROTCE was 16.1%, compared with 16.4% in 2015.

### Revenue

Revenue, net of CCPB, increased $1,409 million or 8% to $19,544 million. Adjusted revenue differs from reported revenue largely due to a negative cumulative accounting adjustment recognized in 2016 in other non-interest revenue. Adjusted revenue, net of CCPB, increased $1,491 million or 8% to $19,628 million, or 6% excluding the impact of the stronger U.S. dollar. Reported and adjusted revenue increased due to revenue growth in the P&C businesses, which benefited from the acquired BMO Transportation Finance business and organic growth, and in BMO Capital Markets, with a decrease in Wealth Management and Corporate Services.

### Insurance Claims, Commissions and Changes in Policy Benefit Liabilities

Insurance claims, commissions and changes in policy benefit liabilities were $1,543 million in 2016, up $289 million from $1,254 million in 2015 due to lower long-term interest rates increasing the fair value of policy benefit liabilities and the impact of growth in the underlying business, partially offset by decreased reinsurance liabilities. The increase was largely offset in revenue.

### Provision for Credit Losses

The provision for credit losses was $815 million in 2016, up from $612 million in 2015, due to higher provisions in the P&C businesses and BMO Capital Markets, partially offset by higher net recoveries in Corporate Services.

### Non-Interest Expense

Non-interest expense increased $815 million or 7% to $12,997 million in 2016. Adjusted non-interest expense excludes restructuring costs, the amortization of acquisition-related intangible assets and acquisition integration costs. Adjusted non-interest expense increased $725 million or 6% to $12,544 million, or 4% excluding the impact of the stronger U.S. dollar. Reported and adjusted expenses increased primarily due to the impact of the acquired BMO Transportation Finance business and business growth and investment, partially offset by the benefits of divestitures and our focus on disciplined expense management.

### Provision for Income Taxes

The provision for income taxes was $1,101 million in 2016, compared with $936 million in 2015. The reported effective tax rate in 2016 was 19.2%, compared with 17.5% in 2015. The adjusted provision for income taxes[1] was $1,249 million in 2016, compared with $1,025 million in 2015. The adjusted effective tax rate in 2016 was 19.9%, compared with 18.0% in 2015. The change in the reported and adjusted tax rates from year to year was attributable to a higher proportion of income from higher tax rate jurisdictions and lower tax-exempt income from securities.

(1) The adjusted rate is calculated using adjusted net income rather than net income in the determination of income subject to tax.

## Canadian P&C

Reported net income was $2,202 million in 2016, up $99 million or 5% from 2015. Adjusted net income, which excludes the amortization of acquisition-related intangible assets, was $2,204 million, up $97 million or 5%. Revenue increased $330 million or 5% to $6,969 million, mainly driven by higher balances and increased non-interest revenue. The provision for credit losses increased $46 million or 9% to $542 million, due to higher provisions in both the consumer and commercial portfolios. Non-interest expense was $3,464 million, up $122 million or 4% from 2015, primarily due to continued investment in the business, net of disciplined expense management. Adjusted operating leverage was consistently positive throughout 2016, demonstrating the benefits of revenue growth and actions we took to contain expenses.

## U.S. P&C

Reported net income of $1,085 million increased $248 million or 30% from 2015. Adjusted net income, which excludes the amortization of acquisition-related intangible assets, was $1,135 million, up $245 million or 27%. Revenue grew $1,025 million or 28% to $4,657 million. All amounts in the remainder of this section are on a U.S. dollar basis.

Reported net income of $819 million increased $152 million or 23% from 2015. Adjusted net income of $856 million increased $147 million or 21%, primarily due to the acquired BMO Transportation Finance business, which contributed approximately 14% to both revenue and expenses in the year, and organic growth. Revenue of $3,516 million increased $622 million or 21%, primarily due to the benefit of the acquired BMO Transportation Finance business, as well as organic loan and deposit growth, improvements in deposit spreads and higher commercial lending and treasury management fees, net of loan spread compression and lower mortgage banking revenue. The provision for credit losses of $194 million increased $99 million or 104% from 2015, largely reflecting higher commercial provisions, mainly due to the acquired BMO Transportation Finance business. Non-interest expense of $2,193 million increased $287 million or 15% and adjusted non-interest expense of $2,141 million increased $290 million or 16%, largely due to the acquired BMO Transportation Finance business.

## Wealth Management

Reported net income was $761 million in 2016, compared to $849 million in 2015. Adjusted net income, which excludes the amortization of acquisition-related intangible assets and acquisition integration costs, was $862 million in 2016, compared to $954 million in 2015. Traditional wealth reported net income was $539 million, compared to $609 million in 2015. Adjusted net income in traditional wealth was $640 million, compared to $714 million in 2015, as solid underlying growth was more than offset by the prior-year benefits of a gain on the sale of BMO's U.S. retirement services business, as well as the write-down of an equity investment net of a gain on its subsequent sale in 2016. Net income in insurance was $222 million in 2016, compared to $240 million in 2015, primarily due to higher actuarial benefits in the prior year and above-trend benefits in 2015 from changes in our investment portfolio to improve asset-liability management, partially offset by growth in the underlying business. Revenue, net of CCPB, of $4,345 million was down $164 million or 4% from 2015, due to the factors noted above. Non-interest expense was $3,337 million, down $21 million or 1%. Adjusted non-interest expense was $3,211 million, down $13 million, as the impact of divestitures and the weaker British pound was partially offset by the impact of the stronger U.S. dollar and continued investment in the business.

## BMO Capital Markets

Reported net income increased $244 million or 24% to $1,253 million from the prior year. Adjusted net income, which excludes the amortization of acquisition-related intangible assets, was $1,254 million, an increase of $243 million or 24%. Strong revenue performance was partially offset by higher expenses and higher loan loss provisions. Revenue increased $503 million or 13% to $4,338 million from the prior year. Excluding the impact of the stronger U.S. dollar, revenue increased $424 million or 11%, reflecting improved trading revenue performance, strong mergers and acquisitions advisory activity and higher lending revenue, partially offset by lower net securities gains and the sale of our municipal bond trading business. The provision for credit losses was $55 million higher than the prior year, mainly due to higher oil and gas provisions. Non-interest expense increased $94 million or 4% to $2,574 million. Excluding the impact of the stronger U.S. dollar, non-interest expense increased $34 million or 1%, reflecting our focus on disciplined expense management and the sale of our municipal bond trading business.

## Corporate Services

Corporate Services reported net loss was $670 million in 2016, compared with a reported net loss of $393 million in 2015. Reported results in both years included a restructuring charge and acquisition integration costs. The adjusted net loss was $435 million in 2016, compared with an adjusted net loss of $281 million in 2015. Both reported and adjusted results declined due to lower revenue, driven by a recovery under a legal settlement in 2015, lower impaired real estate gains and lower purchase accounting revenue, partially offset by higher credit recoveries in 2016. Reported expenses increased, primarily due to higher acquisition integration costs related to the acquired BMO Transportation Finance business and higher restructuring costs in 2016, and reported revenue was lower in 2016 due to a negative cumulative accounting adjustment related to foreign currency translation that largely impacted 2015.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

# Financial Condition Review

## Summary Balance Sheet

(Canadian $ in millions)

| As at October 31 | 2017 | 2016 | 2015 |
|---|---|---|---|
| **Assets** | | | |
| Cash and interest bearing deposits with banks | **39,089** | 36,102 | 47,677 |
| Securities | **163,198** | 149,985 | 130,918 |
| Securities borrowed or purchased under resale agreements | **75,047** | 66,646 | 68,066 |
| Net loans | **361,672** | 358,730 | 322,717 |
| Derivative instruments | **28,951** | 39,183 | 38,238 |
| Other assets | **41,623** | 37,289 | 34,265 |
| Total assets | **709,580** | 687,935 | 641,881 |
| **Liabilities and Shareholders' Equity** | | | |
| Deposits | **483,488** | 473,372 | 438,169 |
| Derivative instruments | **27,804** | 38,227 | 42,639 |
| Securities lent or sold under repurchase agreements | **55,119** | 40,718 | 39,891 |
| Other liabilities | **93,786** | 88,851 | 76,853 |
| Subordinated debt | **5,029** | 4,439 | 4,416 |
| Shareholders' equity | **44,354** | 42,304 | 39,422 |
| Non-controlling interest in subsidiaries | **–** | 24 | 491 |
| Total liabilities and shareholders' equity | **709,580** | 687,935 | 641,881 |

## Overview

Total assets of $709.6 billion increased $21.6 billion from October 31, 2016. This increase includes an $11.2 billion reduction in assets, excluding derivative assets, resulting from the weaker U.S. dollar. Total liabilities of $665.2 billion increased $19.6 billion from October 31, 2016. This increase includes a $10.7 billion reduction in liabilities, excluding derivative liabilities resulting from the weaker U.S. dollar. Shareholders' equity increased $2.0 billion from October 31, 2016.

## Cash and Interest Bearing Deposits with Banks

Cash and interest bearing deposits with banks increased $3.0 billion, or $4.6 billion excluding the impact of the weaker U.S. dollar, due to higher balances held with central banks.

## Securities

(Canadian $ in millions)

| As at October 31 | 2017 | 2016 | 2015 |
|---|---|---|---|
| Trading | **99,069** | 84,458 | 72,460 |
| Available-for-sale | **54,075** | 55,663 | 48,006 |
| Held-to-maturity | **9,094** | 8,965 | 9,432 |
| Other | **960** | 899 | 1,020 |
| Total securities | **163,198** | 149,985 | 130,918 |

Securities increased $13.2 billion from October 31, 2016 due to increases in trading securities related to client activities in BMO Capital Markets and higher levels of supplemental liquidity.

## Securities Borrowed or Purchased Under Resale Agreements

Securities borrowed or purchased under resale agreements increased $8.4 billion, driven by client activities in BMO Capital Markets.

## Net Loans

(Canadian $ in millions)

| As at October 31 | 2017 | 2016 | 2015 |
|---|---|---|---|
| Residential mortgages | **115,258** | 112,277 | 105,918 |
| Non-residential mortgages | **11,744** | 11,376 | 10,981 |
| Consumer instalment and other personal | **61,944** | 64,680 | 65,598 |
| Credit cards | **8,071** | 8,101 | 7,980 |
| Businesses and governments | **166,488** | 164,221 | 134,095 |
| Gross loans | **363,505** | 360,655 | 324,572 |
| Allowance for credit losses | **(1,833)** | (1,925) | (1,855) |
| Total net loans | **361,672** | 358,730 | 322,717 |

Net loans increased $2.9 billion, or $8.3 billion excluding the impact of the weaker U.S. dollar, largely due to an increase in business and government loans in the Personal and Commercial Banking businesses and BMO Capital Markets, and higher residential mortgages in Canadian P&C, partially offset by the sale of US$1.9 billion of U.S. indirect auto loans, reflected in consumer instalment and other personal loans.

Table 7 on page 128 provides a comparative summary of loans by geographic location and product. Table 9 on page 129 provides a comparative summary of net loans in Canada by province and industry. Loan quality is discussed on pages 89 and 90 and further details on loans are provided in Notes 4, 6 and 25 on pages 152, 157 and 192 of the consolidated financial statements.

## Derivative Financial Assets

Derivative financial assets decreased $10.2 billion primarily due to a decrease in the fair value of interest rate contracts.

## Other Assets

Other assets include customers' liability under acceptances, premises and equipment, goodwill and intangible assets, current and deferred tax assets, accounts receivable and prepaid expenses. Other assets increased $4.3 billion primarily due to a $3.5 billion increase in customers' liability under acceptances.

## Deposits

(Canadian $ in millions)

| As at October 31 | **2017** | 2016 | 2015 |
|---|---|---|---|
| Banks | **31,107** | 34,271 | 32,609 |
| Businesses and governments | **284,070** | 276,214 | 258,144 |
| Individuals | **168,311** | 162,887 | 147,416 |
| Total deposits | **483,488** | 473,372 | 438,169 |

Deposits increased $10.1 billion, or $19.1 billion excluding the impact of the weaker U.S. dollar, reflecting higher levels of customer and wholesale deposits. Deposits by businesses and governments increased $13.7 billion and deposits by individuals increased $7.6 billion, partially offset by a decrease in deposits by banks of $2.3 billion. Further details on the composition of deposits are provided in Note 13 on page 168 of the consolidated financial statements and in the Liquidity and Funding Risk section on page 99.

## Derivative Financial Liabilities

Derivative liabilities decreased $10.4 billion due to the decline in the fair value of interest rate and foreign exchange contracts.

## Securities Lent or Sold Under Repurchase Agreements

Securities lent or sold under repurchase agreements increased $14.4 billion, driven by client activities in BMO Capital Markets.

## Other Liabilities

Other liabilities mainly include securities sold but not yet purchased, securitization and structured entities liabilities and acceptances. Other liabilities increased $4.9 billion, primarily due to a $3.5 billion increase in customers' liability under acceptances and a $1.1 billion increase in insurance related liabilities. Further details on the composition of other liabilities are provided in Note 14 on page 169 of the consolidated financial statements.

## Subordinated Debt

Subordinated debt increased $590 million from the prior year. Further details on the composition of subordinated debt are provided in Note 15 on page 171 of the consolidated financial statements.

## Equity

(Canadian $ in millions)

| As at October 31 | **2017** | 2016 | 2015 |
|---|---|---|---|
| Share capital | | | |
| Preferred shares | **4,240** | 3,840 | 3,240 |
| Common shares | **13,032** | 12,539 | 12,313 |
| Contributed surplus | **307** | 294 | 299 |
| Retained earnings | **23,709** | 21,205 | 18,930 |
| Accumulated other comprehensive income | **3,066** | 4,426 | 4,640 |
| Total shareholders' equity | **44,354** | 42,304 | 39,422 |
| Non-controlling interest in subsidiaries | **–** | 24 | 491 |
| Total equity | **44,354** | 42,328 | 39,913 |

Total equity increased $2.0 billion due to a $2.5 billion increase in retained earnings and a $0.9 billion increase in share capital, partially offset by a $1.4 billion decrease in accumulated other comprehensive income. Accumulated other comprehensive income decreased primarily due to the impact of the weaker U.S. dollar on accumulated other comprehensive income on translation of net foreign operations of $0.9 billion, net of hedging impacts.

The increase in share capital was driven by the issuance of common shares under the Shareholder Dividend Reinvestment and Share Purchase Plan (DRIP) and Stock Option Plan, as well as the issuance of preferred shares net of maturities, partially offset by the impact of common shares repurchased for cancellation. BMO's DRIP is described in the Enterprise-Wide Capital Management section that follows. Our Consolidated Statement of Changes in Equity on page 142 provides a summary of items that increase or reduce shareholders' equity, while Note 16 on page 172 of the consolidated financial statements provides details on the components of and changes in share capital. Details on our enterprise-wide capital management practices and strategies can be found on the following page.

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# Enterprise-Wide Capital Management

## Capital Management

### Objective

BMO is committed to a disciplined approach to capital management that balances the interests and requirements of shareholders, regulators, depositors, fixed income investors and rating agencies. Our objective is to maintain a strong capital position in a cost-effective structure that:

- is appropriate given our target regulatory capital ratios and internal assessment of required economic capital;
- is consistent with our target credit ratings;
- underpins our operating groups' business strategies; and
- supports depositor, investor and regulator confidence, while building long-term shareholder value.

### Capital Management Framework




The principles and key elements of BMO's capital management framework are outlined in our Capital Management Corporate Policy and in our annual capital plan, which includes the results of our Internal Capital Adequacy Assessment Process (ICAAP).

ICAAP is an integrated process that uses stress testing and other tools to evaluate capital adequacy on both a regulatory and an economic capital basis. It is used in the establishment of capital targets and implementation of capital strategies that take into consideration the strategic direction and risk appetite of the enterprise. The capital plan is developed considering the results of our ICAAP and in conjunction with our annual business plan, promoting alignment between our business and risk strategies, regulatory and economic capital requirements and the availability of capital. Enterprise-wide stress testing and scenario analysis are used to assess the impact of various stress conditions on BMO's risk profile and capital requirements. The framework seeks to ensure that we are adequately capitalized given the risks we take in the normal course of business, as well as under stress, and it supports the determination of limits, targets and performance measures that are used to manage balance sheet positions, risk levels and capital requirements at both the consolidated entity and operating group levels. BMO evaluates assessments of actual and forecast capital adequacy against the capital plan throughout the year, making updates to reflect changes in business activities, risk profile, operating environment or regulatory expectations.

BMO uses regulatory and economic capital to evaluate business performance and considers capital implications in its strategic, tactical and transactional decision-making. By allocating our capital to operating groups, setting and monitoring capital limits and metrics and measuring the groups' performance against these limits and metrics, we seek to optimize our risk-adjusted return to shareholders while maintaining a well-capitalized position. This approach aims to protect our stakeholders from the risks inherent in our various businesses, while still allowing the flexibility to deploy resources to support the strategic growth activities of our operating groups.

Refer to the Enterprise-Wide Risk Management section on page 78 for further discussion of the risks underlying our business activities.

### Governance

The Board of Directors, either directly or in conjunction with its Risk Review Committee, provides ultimate oversight and approval of capital management, including our Capital Management Corporate Policy framework, capital plan and capital adequacy assessments. The Board regularly reviews BMO's capital position and key capital management activities, and the Risk Review Committee reviews the ICAAP-determined capital adequacy assessment results. The Balance Sheet and Capital Management Committee provides senior management oversight, including the review of significant capital management policies, issues and activities and, along with the Risk Management Committee, the capital required to support the execution of our enterprise-wide strategy. Finance and Risk Management are responsible for the design and implementation of the corporate policies and the framework related to capital and risk management and the ICAAP. The Corporate Audit Division, as the third line of defence, verifies our adherence to controls and identifies opportunities to strengthen our processes.

## Regulatory Capital Requirements

Regulatory capital requirements for BMO are determined in accordance with the Capital Adequacy Requirements (CAR) Guideline of the Office of the Superintendent of Financial Institutions Canada (OSFI), which is based on the capital standards developed by the Basel Committee on Banking Supervision (BCBS). The minimum capital ratios contained in the CAR Guideline are a 4.5% Common Equity Tier 1 (CET1) Ratio, 6% Tier 1 Capital Ratio and 8% Total Capital Ratio, which are calculated using a nine-year transitional phase-out of non-qualifying capital instruments ending in 2022. Since January 31, 2016, OSFI has expected Domestic Systemically Important Banks (D-SIBs) to attain a target CET1 Ratio of at least 8% (4.5% minimum plus a 3.5% Capital Conservation Buffer, including a 1% D-SIB Common Equity Surcharge). These expectations are also referred to as the "all-in" requirements as, except for the Credit Valuation Adjustment (CVA) risk capital charge mentioned below, there is no five-year transitional phase-in of regulatory adjustments as proposed by the BCBS.

The fully implemented requirements, along with the OSFI "all-in" capital requirements, are summarized in the following table.

| (% of risk-weighted assets) | Common Equity Tier 1 Ratio (1) | Tier 1 Capital Ratio | Total Capital Ratio | Leverage Ratio |
|---|---|---|---|---|
| Minimum capital requirements | 4.5 | 6.0 | 8.0 | 3.0 |
| Plus: Capital Conservation Buffer, including the D-SIB Common Equity Surcharge (1) | 3.5 | 3.5 | 3.5 | na |
| OSFI requirements (2) | **8.0** | **9.5** | **11.5** | **3.0** |

(1) The minimum 4.5% CET1 Ratio requirement is augmented by the 3.5% Capital Conservation Buffer, which can absorb losses during periods of stress. The Capital Conservation Buffer for BMO includes the addition of the 1% Common Equity Surcharge for D-SIBs. If a bank's capital ratios fall within the range of this combined buffer, restrictions on discretionary distributions of earnings (such as dividends, share repurchases and discretionary compensation) would ensue, with the degree of such restrictions varying according to the position of the bank's ratios within the buffer range.

(2) OSFI's requirements are the published capital requirements D-SIBs must meet in 2017 to avoid being subject to restrictions on discretionary distributions of earnings.

na – not applicable

## Regulatory Capital Ratios

The **Common Equity Tier 1 Ratio** reflects CET1 capital divided by CET1 capital RWA.

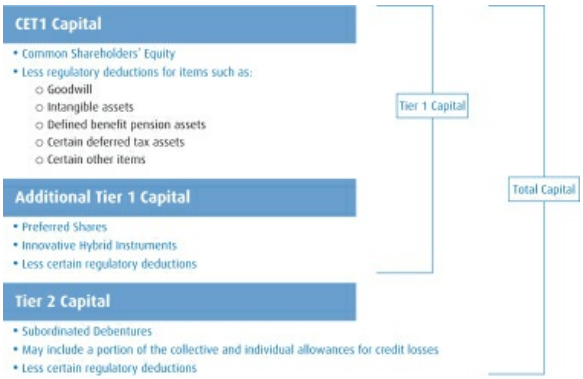
The **Tier 1 Capital Ratio** reflects Tier 1 capital divided by Tier 1 capital RWA.

The **Total Capital Ratio** reflects Total capital divided by Total capital RWA.

The **Leverage Ratio** reflects Tier 1 capital divided by the sum of on-balance sheet items and specified off-balance sheet items, net of specified adjustments.

## Regulatory Capital Elements

BMO maintains a capital structure that is diversified across instruments and tiers to ensure an appropriate mix of loss absorbency. The major components of our regulatory capital are summarized as follows:




OSFI's CAR Guideline also requires the implementation of BCBS guidance on non-viability contingent capital (NVCC). NVCC provisions require the conversion of certain capital instruments into a variable number of common shares in the event that OSFI announces that a bank is or is about to become non-viable, or if a federal or provincial government in Canada publicly announces that the bank has accepted or agreed to accept a capital injection, or equivalent support, to avoid non-viability.

Under OSFI's CAR Guideline, non-common share capital instruments that do not meet Basel III requirements, including NVCC requirements, are grandfathered and phased out over a nine-year period that began on January 1, 2013.

## Risk-Weighted Assets

Risk-Weighted Assets (RWA) measure a bank's exposures, weighted for their relative risk and calculated in accordance with OSFI's regulatory capital rules. RWA are calculated for credit, market (trading) and operational risks based on OSFI's prescribed rules.

BMO primarily uses the Advanced Internal Ratings Based (AIRB) Approach to determine credit RWA in our portfolio. The AIRB Approach utilizes sophisticated techniques to measure RWA at the exposure level based on sound risk management principles, including estimates of the probability of default, the downturn loss given default and exposure at default risk parameters, term to maturity and asset class type prescribed by the OSFI rules. These risk parameters are determined using historical portfolio data supplemented by benchmarking and are updated periodically. Validation procedures related to these parameters are in place and are enhanced periodically to quantify and differentiate risks appropriately so they reflect changes in economic and credit conditions. Credit RWA arising from certain Canadian and U.S. portfolios are determined using the Standardized Approach.

BMO's market risk RWA are primarily determined using the more advanced Internal Models Approach, but the Standardized Approach is used for some exposures.

BMO uses the Advanced Measurement Approach (AMA), a risk-sensitive capital model, along with the Standardized Approach in certain areas under OSFI rules, to determine capital requirements for operational risk.

For institutions using advanced approaches for credit risk or operational risk, there is a capital floor as prescribed in OSFI's CAR Guideline. In calculating regulatory capital ratios, there is a requirement to increase RWA when an amount calculated under the Basel I rules (covering RWA, capital deductions and allowances) is higher than a similar calculation under the risk-sensitive Basel III rules. The capital floor was operative for the bank in 2016 and 2017 and is reflected in our total RWA.

In accordance with guidance from OSFI, the CVA risk capital charge for Canadian banks has been phasing in since the first quarter of 2014. In 2016 and 2017, the CVA risk capital charge applicable to CET1 was 64% and 72% of the fully implemented charge, respectively, and it is expected to increase to 80% in 2018.

## Capital Regulatory Developments

A number of regulatory capital changes, some finalized and some under development, will put upward pressure on the amount of capital BMO is required to hold over time. The nature of these changes is outlined below.

OSFI implemented the countercyclical capital buffer in the first quarter of fiscal 2017. It is calculated as the weighted average of buffers in effect in jurisdictions where the bank has private sector credit exposures. The impact of the countercyclical capital buffer has been immaterial.

In March 2017, the BCBS issued a Pillar 3 standard that aims to improve comparability and consistency of financial regulatory disclosures through more standardized formats. The standard includes new disclosure requirements in respect of the Total Loss-Absorbing Capacity (TLAC) regime.

In June 2017, OSFI released a draft guideline on TLAC for comment. OSFI's draft guideline will apply to Canada's D-SIBs as part of the federal government's bail-in regime. The draft TLAC guideline is consistent with international standards developed by the Financial Stability Board (FSB), but is tailored to the Canadian context. Public disclosure of D-SIBs' TLAC ratios is anticipated to begin in the first quarter of fiscal 2019, and D-SIBs are, based on current guidance, expected to fully meet the TLAC requirements by November 2021. OSFI is expected to release the final TLAC guideline later in 2017 or in early 2018.

In conjunction with OSFI's release of the draft guideline on TLAC, the Department of Finance Canada introduced draft regulations setting out the details of the bail-in framework for Canada's six D-SIBs. The bail-in regulations are expected to come into force 180 days after the regulations are finalized. Under the new regulations, upon a determination by OSFI that the bank has ceased, or is about to cease, to be viable, the Governor in Council may, upon a recommendation of the Minister of Finance, make an order directing the Canada Deposit Insurance Corporation to convert all or a portion of certain shares and liabilities (i.e. with an original term to maturity greater than 400 days) of the bank into common shares of the bank. The bail-in regulations and TLAC guideline are not expected to have a material impact on BMO's funding strategy.

In July 2017, OSFI extended the Canadian implementation of the Minimum Capital Requirements for Market Risk (Fundamental Review of the Trading Book, or FRTB) rules by at least one year, with the first regulatory reporting under the FRTB rules to commence no earlier than the first quarter of fiscal 2021.

In October 2017, the BCBS signalled that it was close to finalizing the Basel III reforms, including an output floor, AIRB input restrictions, a new standardized credit risk weighting approach and a new operational risk weighting approach that replaces the AMA. Earlier in the year, OSFI stated that it is prepared to move forward ahead of the BCBS on related aspects of capital reform.

In October 2017, the BCBS issued final guidelines on step-in risk aiming to mitigate the risk of stress in shadow banking entities spilling over to banks. The guidelines entail no additional Pillar 1 capital or liquidity charge but focus on identifying entities that may have step-in risks. The BCBS expects the guidelines to apply no later than 2020.

In November 2017, OSFI released the final version of the CAR Guideline for implementation in the first quarter of fiscal 2018. Revisions mainly relate to the capital treatment of allowances as a result of the adoption of IFRS 9 *Financial Instruments*. OSFI also reiterated its intention to implement in the first quarter of fiscal 2019 the Standardized Approach to Counterparty Credit Risk, the revisions to the capital requirements for bank exposures to central counterparties and the revised securitization framework that was released by the BCBS in July 2016.

IFRS 9 will impact our reported capital as a result of the adjustment recorded in retained earnings on adoption of the standard; however, this impact is not expected to be significant. Refer to the Adoption of IFRS 9 *Financial Instruments* section on page 116 for further discussion.

We are also monitoring potential regulatory capital developments that may replace AMA with a new Standardized Measurement Approach for operational risk.

Capital ratios are impacted by deferred tax assets. Given our net U.S. deferred tax asset, under the proposals contained in the *Tax Cuts and Jobs Act*, a reduction in the U.S. federal tax rate from 35% to 20% would result in a net decrease of approximately 15 basis points in the CET1 Ratio. This one-time impact is expected to be offset over time by higher net income resulting from the reduction in the U.S. federal tax rate. The ultimate impact will depend on final tax changes and the effective date of the lower tax rate. Refer to the Critical Accounting Estimates – Income Taxes and Deferred Tax Assets section on page 114 for further discussion on the expected impact of the proposals.

### 2017 Regulatory Capital Review

BMO is well capitalized, with capital ratios that exceed OSFI's published requirements for large Canadian banks, including the 1% D-SIB Common Equity Surcharge implemented in 2016. Our CET1 Ratio was 11.4% at October 31, 2017, compared to 10.1% at October 31, 2016. The CET1 Ratio increased from the end of fiscal 2016 due to higher capital, largely from retained earnings growth and common shares issued through the Shareholder Dividend Reinvestment and Share Purchase Plan (DRIP) and the exercise of stock options, partially offset by share repurchases, with other items having largely offsetting impacts. The net impact of source currency RWA changes was relatively small, largely due to higher RWA from business growth being more than offset by the benefits of risk mitigation and capital management actions and methodology changes. The impact of foreign exchange movements was meaningful to RWA and CET1 capital, compared to October 31, 2016, but are managed by the enterprise such that the impacts largely offset. BMO's investments in foreign operations are primarily denominated in U.S. dollars. The foreign exchange impact of U.S. dollar-denominated RWA and U.S. dollar-denominated capital deductions may result in variability in the bank's capital ratios. BMO may offset the impact of foreign exchange movements on its capital ratios, and did so during 2017. Any such activities could also impact our book value and return on equity.

Our Tier 1 Capital and Total Capital Ratios were 13.0% and 15.1%, respectively, at October 31, 2017, compared to 11.6% and 13.6%, respectively, at October 31, 2016. The increase in the Tier 1 Capital Ratio was mainly due to the factors impacting the CET1 Ratio discussed above and issuances of preferred shares, partially offset by the redemptions of non-NVCC preferred shares. The increase in the Total Capital Ratio was mainly due to the factors impacting the Tier 1 Ratio.

BMO's Leverage Ratio was 4.4% at October 31, 2017, up from 4.2% at October 31, 2016 and in excess of the 3% minimum requirement established by OSFI.

While the ratios above reflect the bank's consolidated capital base, BMO conducts business through a variety of corporate structures, including subsidiaries and joint ventures. A framework is in place such that subsidiaries also manage their funding and capital appropriately.

As a bank holding company with total consolidated assets of US$50 billion or more, our subsidiary BMO Financial Corp. (BFC) is subject to the Federal Reserve Board's (FRB) Comprehensive Capital Analysis and Review (CCAR) and Dodd-Frank Act Stress Test (DFAST) requirements. CCAR is an annual exercise conducted by the FRB to assess whether the largest bank holding companies operating in the United States have sufficient capital to continue operations throughout times of economic and financial stress and have robust, forward-looking capital-planning processes that account for their unique risks. DFAST (a complementary exercise to CCAR) is a forward-looking exercise conducted by the FRB to assess whether the financial companies that they supervise have sufficient capital to absorb losses and support operations during adverse economic conditions. In June 2017, the FRB announced its decision not to object to BFC's capital plan as evaluated under the 2017 CCAR assessment. Also in June 2017, BFC and its bank subsidiary BMO Harris Bank N.A. (BHB) disclosed their results under the DFAST supervisory severely adverse scenario, indicating that BFC's and BHB's capital ratios are above well-capitalized levels. Under DFAST, BFC also conducts mid-cycle company run stress tests and disclosed its results in October 2017, indicating BFC's capital ratios continue to remain above well-capitalized levels.

**Regulatory Capital** (All-in basis (1))

(Canadian $ in millions)

| As at October 31 | **2017** | 2016 |
|---|---|---|
| **Common Equity Tier 1 capital: instruments and reserves** | | |
| Directly issued qualifying common share capital plus related stock surplus | **13,339** | 12,833 |
| Retained earnings | **23,709** | 21,205 |
| Accumulated other comprehensive income (and other reserves) | **3,066** | 4,426 |
| Goodwill and other intangibles (net of related tax liability) | **(7,885)** | (8,040) |
| Other common equity Tier 1 capital deductions | **(1,596)** | (2,265) |
| **Common Equity Tier 1 capital (CET1)** | **30,633** | 28,159 |
| **Additional Tier 1 capital: instruments** | | |
| Directly issued qualifying Additional Tier 1 instruments plus related stock surplus | **3,650** | 2,750 |
| Directly issued capital instruments subject to phase-out from Additional Tier 1 | **1,040** | 1,540 |
| Additional Tier 1 instruments (and CET1 instruments not otherwise included) issued by subsidiaries and held by third parties (amount allowed in group AT1) | **–** | – |
| *of which: instruments issued by subsidiaries subject to phase-out* | **–** | – |
| **Total regulatory adjustments applied to Additional Tier 1 capital** | **(215)** | (213) |
| **Additional Tier 1 capital (AT1)** | **4,475** | 4,077 |
| **Tier 1 capital (T1 = CET1 + AT1)** | **35,108** | 32,236 |
| **Tier 2 capital: instruments and provisions** | | |
| Directly issued qualifying Tier 2 instruments plus related stock surplus | **3,976** | 3,266 |
| Directly issued capital instruments subject to phase-out from Tier 2 | **1,053** | 1,873 |
| Tier 2 instruments (and CET1 and AT1 instruments not included) issued by subsidiaries and held by third parties (amount allowed in group Tier 2) | **–** | – |
| *of which: instruments issued by subsidiaries subject to phase-out* | **–** | – |
| Collective allowance | **509** | 538 |
| **Total regulatory adjustments to Tier 2 capital** | **(50)** | (51) |
| **Tier 2 capital (T2)** | **5,488** | 5,626 |
| **Total capital (TC = T1 + T2)** | **40,596** | 37,862 |

(1) "All-in" regulatory capital assumes that all Basel III regulatory adjustments are applied effective January 1, 2013, and that the capital value of instruments that no longer qualify as regulatory capital under Basel III rules is being phased out at a rate of 10% per year from January 1, 2013 to January 1, 2022.

Our CET1 capital and Tier 1 capital levels were $30.6 billion and $35.1 billion, respectively, at October 31, 2017, up from $28.2 billion and $32.2 billion, respectively, at October 31, 2016. CET1 capital increased mainly due to retained earnings growth, common shares issued through the DRIP and the exercise of stock options and a decrease in capital deductions, partially offset by the impact of foreign exchange movements on accumulated other comprehensive income and share repurchases. The increase in Tier 1 capital since October 31, 2016 was attributable to the growth in CET1 capital and the issuances of preferred shares, partially offset by the redemptions of non-NVCC preferred shares, as outlined in the Capital Management Activities section.

Total capital was $40.6 billion at October 31, 2017, up from $37.9 billion at October 31, 2016, attributable to the growth in Tier 1 capital mentioned above.

## Changes in Risk-Weighted Assets

Total RWA were $269.5 billion at October 31, 2017, down from $277.6 billion at October 31, 2016. Credit Risk RWA (CET1 basis) were $219.8 billion at October 31, 2017, down from $222.5 billion at October 31, 2016. The decrease was largely due to foreign exchange impact of approximately $5 billion, as well as changes in book quality and models, partially offset by business growth and changes in methodology. As noted above, impacts from foreign exchange movements are largely offset in the CET1 Ratio. Market Risk RWA were $8.4 billion at October 31, 2017, down from $9.0 billion at October 31, 2016, with the benefit largely attributable to enhancements in risk measurement methods. Operational Risk RWA were $32.8 billion at October 31, 2017, up from $30.5 billion at October 31, 2016, largely due to growth in the bank's average gross income. Basel I capital floor RWA were $8.4 billion at October 31, 2017, down from $15.6 billion at October 31, 2016, primarily due to the benefits of risk mitigation and capital management actions and changes in methodology, partially offset by business growth and changes in book quality and models.

(Canadian $ in millions)

| As at October 31 | **2017** | 2016 |
|---|---|---|
| Credit Risk | | |
| Wholesale | | |
| Corporate, including specialized lending | **100,421** | 104,488 |
| Corporate small and medium-sized enterprises | **35,246** | 33,755 |
| Sovereign | **1,627** | 1,976 |
| Bank | **5,892** | 4,486 |
| Retail | | |
| Residential mortgages, excluding home equity line of credit | **7,984** | 8,115 |
| Home equity line of credit | **5,426** | 6,135 |
| Qualifying revolving retail | **5,465** | 5,110 |
| Other retail, excluding small and medium-sized enterprises | **11,258** | 11,934 |
| Retail small and medium-sized enterprises | **7,582** | 7,696 |
| Equity | **1,626** | 1,403 |
| Trading book | **9,542** | 9,675 |
| Securitization | **2,476** | 1,878 |
| Other credit risk assets – non-counterparty managed assets | **15,631** | 16,197 |
| Scaling factor for credit risk assets under AIRB Approach (1) | **9,648** | 9,651 |
| Total Credit Risk | **219,824** | 222,499 |
| Market Risk | **8,448** | 8,962 |
| Operational Risk | **32,773** | 30,502 |
| CET1 Capital Risk-Weighted Assets before Capital floor | **261,045** | 261,963 |
| Basel I Capital Floor (2) | **8,421** | 15,599 |
| CET1 Capital Risk-Weighted Assets | **269,466** | 277,562 |
| Tier 1 Capital Risk-Weighted Assets before CVA and Capital floor | **261,045** | 261,963 |
| Additional CVA adjustment, prescribed by OSFI, for Tier 1 Capital | **290** | 380 |
| Basel I Capital Floor (2) | **8,131** | 15,219 |
| Tier 1 Capital Risk-Weighted Assets | **269,466** | 277,562 |
| Total Capital Risk-Weighted Assets before CVA and Capital floor | **261,045** | 261,963 |
| Additional CVA adjustment, prescribed by OSFI, for Total Capital | **522** | 705 |
| Basel I Capital Floor (2) | **7,899** | 14,894 |
| Total Capital Risk-Weighted Assets | **269,466** | 277,562 |

(1) The scaling factor is applied to the RWA amounts for credit risk under the AIRB Approach.

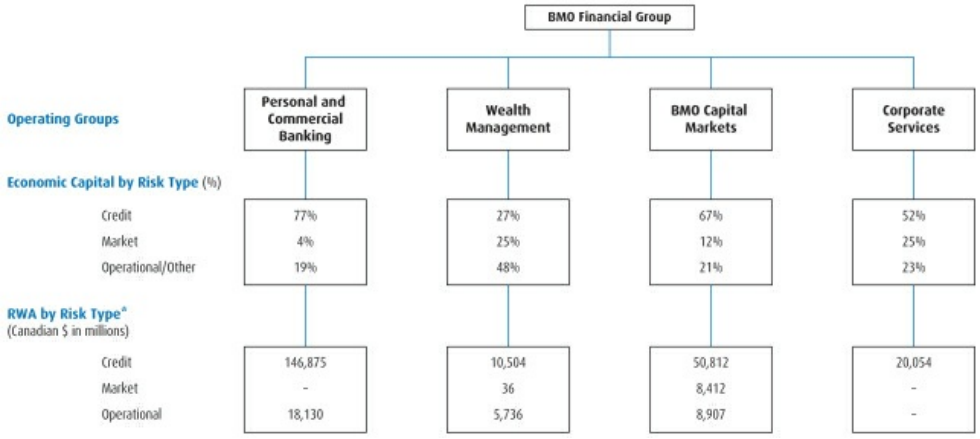
(2) For institutions using advanced approaches for credit risk or operational risk, there is a capital floor as prescribed in OSFI's CAR Guideline. In calculating regulatory capital ratios, there is a requirement to increase RWA when an amount calculated under the Basel I rules (covering both RWA and capital deductions) is higher than a similar calculation under the risk-sensitive Basel III rules.

## Economic Capital

Economic capital is an expression of the enterprise's capital demand requirement relative to the bank's view of the economic risks in its underlying business activities. It represents management's estimation of the likely magnitude of economic losses that could occur should severely adverse situations arise, and allows returns to be measured on a consistent basis across such risks. Economic loss is the loss in economic or market value incurred over a specified time horizon at a defined confidence level, relative to the expected loss over the same time horizon. Economic capital is calculated for various types of risk, including credit, market (trading and non-trading), operational and business, based on a one-year time horizon using a defined confidence level.

## Economic Capital and RWA by Operating Group and Risk Type

(As at October 31, 2017)




*Basel I capital floor RWA are included in Corporate Services.

## Capital Management Activities

We renewed our normal course issuer bid (NCIB) for one year effective May 1, 2017. Under the NCIB, we may repurchase up to 15 million of our common shares for cancellation. In June 2017, the Toronto Stock Exchange (TSX) approved amendments to the NCIB to allow us to repurchase common shares under the NCIB by way of private agreement or under a specific share repurchase program. The timing and amount of purchases under the NCIB are subject to management discretion based on factors such as market conditions and capital levels. The bank will consult with OSFI before making purchases under the NCIB. During 2017, we repurchased and cancelled 5 million common shares as part of the NCIB at an average cost of $87.88 per share, totalling $440 million. Of these common shares, 1 million were purchased on the TSX and 4 million were purchased pursuant to a specific share repurchase program. Specific share repurchases were made from an arm's-length third-party seller and at a discount to the prevailing market price of our common shares on the TSX at the time of purchases.

During 2017, BMO issued approximately 7 million common shares through the DRIP and the exercise of stock options.

During 2017, BMO completed the following Tier 1 and Tier 2 capital instrument issuances, redemptions and conversions.

## Share Issuances, Redemptions and Conversions

| (in millions)<br>As at October 31, 2017 | Issuance or redemption date | Number of shares | Amount |
|---|---|---|---|
| **Common shares issued** | | | |
| Stock options exercised | | 2.2 | $ 146 |
| DRIP issuance | | 4.8 | $ 448 |
| **Tier 1 Capital** (1) | | | |
| Issuance of Non-Cumulative 5-Year Rate Reset Class B Preferred Shares, Series 40 | March 9, 2017 | 20 | $ 500 |
| Issuance of Non-Cumulative 5-Year Rate Reset Class B Preferred Shares, Series 42 | June 29, 2017 | 16 | $ 400 |
| Redemption of Non-Cumulative Perpetual Class B Preferred Shares, Series 14 | May 25, 2017 | (10) | $ (250) |
| Redemption of Non-Cumulative Perpetual Class B Preferred Shares, Series 15 | May 25, 2017 | (10) | $ (250) |
| **Tier 2 Capital** (1) | | | |
| Maturity of Fixed Rate Series 16 Debentures | February 20, 2017 | | $ (100) |
| Issuance of Series I Medium-Term Notes, Second Tranche | May 31, 2017 | | $ 850 |
| Redemption of Trust Subordinated Notes – Series A | September 26, 2017 | | $ (800) |

(1) For further details on subordinated debt and share capital, see Notes 15 and 16 on pages 171 and 172, respectively, of the consolidated financial statements.

If an NVCC trigger event were to occur, our NVCC capital instruments, Non-Cumulative 5-Year Rate Reset Class B Preferred Shares Series 27, Series 29, Series 31, Series 33, Series 36, Series 38, Series 40 and Series 42, Non-Cumulative Perpetual Class B Preferred Shares Series 35, and Medium-Term Notes Series H First Tranche and Second Tranche, and Series I First Tranche and Second Tranche would be converted into BMO common shares

pursuant to automatic conversion formulas with a conversion price based on the greater of: (i) a floor price of $5.00, and (ii) the current market price of our common shares at the time of the trigger event (calculated using a 10-day weighted average). Based on a floor price of $5.00, these NVCC capital instruments would be converted into approximately 1.96 billion BMO common shares, assuming no accrued interest and no declared and unpaid dividends.

Further details are provided in Notes 15 and 16 on pages 171 and 172, respectively, of the consolidated financial statements.

## Outstanding Shares and Securities Convertible into Common Shares

| As at October 31, 2017 | Number of shares or dollar amount (in millions) | Dividends declared per share 2017 | 2016 | 2015 |
|---|---|---|---|---|
| **Common shares** | 648 | **$ 3.56** | $ 3.40 | $3.24 |
| **Class B Preferred shares** | | | | |
| Series 13 (1) | – | **–** | – | $0.56 |
| Series 14 (2) | – | **$ 0.66** | $ 1.31 | $1.31 |
| Series 15 (2) | – | **$ 0.73** | $ 1.45 | $1.45 |
| Series 16 (3) | $ 157 | **$ 0.85** | $ 0.85 | $0.85 |
| Series 17 (3) | $ 143 | **$ 0.55** | $ 0.53 | $0.60 |
| Series 23 (4) | – | **–** | – | $0.34 |
| Series 25 (5) | $ 236 | **$ 0.45** | $ 0.84 | $0.98 |
| Series 26 (5) | $ 54 | **$ 0.43** | $ 0.10 | – |
| Series 27 | $ 500 | **$ 1.00** | $ 1.00 | $1.00 |
| Series 29 | $ 400 | **$ 0.98** | $ 0.98 | $0.98 |
| Series 31 | $ 300 | **$ 0.95** | $ 0.95 | $0.95 |
| Series 33 | $ 200 | **$ 0.95** | $ 0.95 | $0.45 |
| Series 35 | $ 150 | **$ 1.25** | $ 1.25 | $0.41 |
| Series 36 | $ 600 | **$58.50** | $65.03 | – |
| Series 38 | $ 600 | **$ 1.33** | – | – |
| Series 40 | $ 500 | **$ 0.80** | – | – |
| Series 42 | $ 400 | **$ 0.45** | – | – |
| **Medium-Term Notes** | | | | |
| Series H – First Tranche (6) | $ 1,000 | **na** | na | na |
| Series H – Second Tranche (6) | $ 1,000 | **na** | na | na |
| Series I – First Tranche (6) | $ 1,250 | **na** | na | na |
| Series I – Second Tranche (6) | $ 850 | **na** | na | na |
| **Stock options** | | | | |
| Vested | 4.6 | | | |
| Non-vested | 2.9 | | | |

(1) Redeemed in May 2015.
(2) Redeemed in May 2017.
(3) In August 2013, approximately 5.7 million Series 16 Preferred Shares were converted into Series 17 Preferred Shares on a one-for-one basis.
(4) Redeemed in February 2015.
(5) In August 2016, approximately 2.2 million Series 25 Preferred Shares were converted into Series 26 Preferred Shares on a one-for-one basis.
(6) Note 15 on page 171 of the consolidated financial statements includes details on the Series H Medium-Term Notes, First Tranche and Second Tranche and Series I Medium-Term Notes, First Tranche and Second Tranche.

na – not applicable

Note 16 on page 172 of the consolidated financial statements includes details on share capital.

## Dividends

Dividends declared per common share in fiscal 2017 totalled $3.56. Annual dividends declared represented 43.6% of reported net income and 42.6% of adjusted net income available to common shareholders on a last twelve months basis.

Our target dividend payout range (common share dividends as a percentage of net income available to shareholders, less preferred share dividends, based on earnings over the last twelve months) is 40% to 50%, providing shareholders with a competitive dividend yield. BMO's target dividend payout range seeks to provide shareholders with stable income while ensuring sufficient earnings are retained to support anticipated business growth, fund strategic investments and support capital adequacy.

At year end, BMO's common shares provided a 3.6% annual dividend yield based on the year-end closing share price and dividends declared in the last four quarters. On December 5, 2017, BMO announced the Board of Directors had declared a quarterly dividend on common shares of $0.93 per share, up $0.03 per share or 3% from the prior quarter and up $0.05 per share or 6% from a year ago. The dividend is payable on February 27, 2018 to shareholders of record on February 1, 2018.

Common shareholders may elect to have their cash dividends reinvested in common shares of BMO in accordance with the DRIP. In the first and second quarters of 2017, common shares to supply the DRIP were issued from treasury at a 2% discount from their then-current market price. In the third quarter of 2017, common shares were issued from treasury without a discount. In the fourth quarter of 2017 and the first quarter of 2018, common shares to supply the DRIP were purchased on the open market.

## Eligible Dividends Designation

For the purposes of the *Income Tax Act* (Canada) and any similar provincial and territorial legislation, BMO designates all dividends paid or deemed to be paid on both its common and preferred shares as "eligible dividends", unless indicated otherwise.

**Caution**

This Enterprise-Wide Capital Management section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

# Select Financial Instruments

The Financial Stability Board (FSB) issued a report in 2012 encouraging enhanced disclosure related to financial instruments that market participants had come to regard as carrying higher risk. An index of the disclosures recommended by the Enhanced Disclosure Task Force of the FSB and where these disclosures appear in our Annual Report or Supplementary Financial Information is provided on page 120.

## Consumer Loans

In Canada, our Consumer Lending portfolio is comprised of three main asset classes: real estate secured lending (including residential mortgages and home equity products), instalment and other personal loans (including indirect automobile loans) and credit card loans. We do not have any subprime or Alt-A mortgage or home equity loan programs, nor do we purchase subprime or Alt-A loans from third-party lenders.

In the United States, our Consumer Lending portfolio is primarily comprised of three asset classes: residential first mortgages, home equity products and indirect automobile loans. The impact of aggressive market lending practices (e.g., high loan-to-value ratios and limited documentation), which were prevalent leading up to the global recession and drove high losses, continues to moderate. These lending practices were discontinued early into the recession and the existing portfolio has performed exceptionally well.

In both Canada and the United States, consumer lending products are underwritten to prudent standards relative to credit scores, loan-to-value ratios and capacity assessment. Our lending practices consider the ability of our borrowers to repay and the underlying collateral value.

Further discussion on the Consumer Lending portfolio related to the Canadian housing market is provided in the Top and Emerging Risks That May Affect Future Results section on page 79.

## Leveraged Finance

Leveraged finance loans are defined by BMO as loans to private equity businesses and mezzanine financings where our assessment indicates a higher level of credit risk. BMO has exposure to leveraged finance loans, which represented 1.8% of our total assets, with $12.7 billion outstanding at October 31, 2017 (1.8% and $12.5 billion, respectively, in 2016). Of this amount, $197 million or 1.6% of leveraged finance loans were classified as impaired ($387 million or 3.1% in 2016).

## BMO-Sponsored Securitization Vehicles

BMO sponsors various vehicles that fund assets originated by either BMO (which are then securitized through a bank securitization vehicle) or its customers (which are then securitized through several Canadian customer securitization vehicles and one U.S. customer securitization vehicle). We earn fees for providing services related to the customer securitization vehicles, including liquidity, distribution and financial arrangement fees for supporting the ongoing operations of the vehicles. These fees totalled approximately $44 million in 2017 and $92 million in 2016.

**Canadian Customer Securitization Vehicles**

The customer securitization vehicles we sponsor in Canada provide our customers with access to financing either directly from BMO or in the asset-backed commercial paper (ABCP) markets. Customers either sell their assets directly into these vehicles, or indirectly by selling an interest in the securitized assets into these vehicles, which then issue ABCP to either investors or BMO in order to fund the purchases. In all cases, the sellers remain responsible for servicing the transferred assets and are first to absorb any losses realized on the assets.

Our exposure to potential losses relates to our investments in ABCP issued by the vehicles, derivative contracts we have entered into with the vehicles and the liquidity support we provide to ABCP purchased by investors. We use our credit adjudication process in deciding whether to enter into these arrangements, just as we do when extending credit in the form of a loan.

Two of these customer securitization vehicles are funded in the market, while a third is funded directly by BMO. BMO does not control these entities and therefore they are not consolidated. Further information on the consolidation of customer securitization vehicles is provided in Note 7 on page 157 of the consolidated financial statements. No losses were recorded on any of BMO's exposures to these vehicles in 2017 and 2016.

The market-funded vehicles had a total of $3.8 billion of the ABCP outstanding at October 31, 2017 ($4.4 billion in 2016). The ABCP of the market-funded vehicles is rated R-1(high) by DBRS and P1 by Moody's. BMO's investment in ABCP of the market-funded vehicles totalled $6 million at October 31, 2017 ($14 million in 2016).

BMO provided liquidity support facilities for the market-funded vehicles totalling $5.0 billion at October 31, 2017 ($5.8 billion in 2016). This amount comprised part of our commitments outlined in Note 25 on page 192 of the consolidated financial statements. All of these facilities remain undrawn. The assets of each of these market-funded customer securitization vehicles consist primarily of exposure to diversified pools of Canadian automobile-related receivables and Canadian insured and conventional residential mortgages. These two asset classes represent 90% (87% in 2016) of the aggregate assets of these vehicles.

**U.S. Customer Securitization Vehicle**

We sponsor a customer securitization vehicle in the United States that we consolidate under IFRS. Further information on consolidation of customer securitization vehicles is provided in Note 7 on page 157 of the consolidated financial statements. This customer securitization vehicle provides our customers with access to financing in the U.S. ABCP markets. Our customers remain responsible for servicing the assets involved in the related financing and are first to absorb any losses realized on those assets.

Our exposure to potential losses relates to our investment in ABCP issued by the vehicle, any related derivative contracts we have entered into with the vehicle and the liquidity support we provide to the vehicle. We use our credit adjudication process in deciding whether to enter into these arrangements, as we do when extending credit in the form of a loan. No losses were recorded on any of BMO's exposures to the vehicle in 2017 and 2016.

The vehicle had US$3.1 billion of ABCP outstanding at October 31, 2017 (US$2.9 billion in 2016). The ABCP of the vehicle is rated A1 by S&P and P1 by Moody's. In order to comply with U.S. risk retention rules that came into effect during the year, BMO held US$185 million of the vehicle's ABCP at October 31, 2017 (US$nil in 2016).

BMO provides committed liquidity support facilities to the vehicle, with the undrawn amount totalling US$5.2 billion at October 31, 2017 (US$4.7 billion in 2016). This amount comprised part of our commitments outlined in Note 25 on page 192 of the consolidated financial statements. The assets of this customer securitization vehicle consist primarily of exposures to diversified pools of U.S. automobile-related receivables and U.S. government-guaranteed Federal Family Education Loan Program loans. These two asset classes represent 78% (72% in 2016) of the aggregate assets of the vehicle.

**Caution**

This Select Financial Instruments section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

# Off-Balance Sheet Arrangements

BMO enters into a number of off-balance sheet arrangements in the normal course of operations.

## Credit Instruments

In order to meet the financial needs of our clients, we use a variety of off-balance sheet credit instruments. These include guarantees and standby letters of credit, which represent our obligation to make payments to third parties on behalf of a customer if the customer is unable to make the required payments or meet other contractual requirements. We also write documentary and commercial letters of credit, which represent our agreement to honour drafts presented by a third party upon completion of specified activities. Commitments to extend credit are off-balance sheet arrangements that represent our commitment to customers to grant them credit in the form of loans or other financings for specific amounts and maturities, subject to meeting certain conditions.

There are a large number of credit instruments outstanding at any time. Our customers are broadly diversified, and we do not anticipate events or conditions that would cause a significant number of our customers to fail to perform in accordance with the terms of their contracts with us. We use our credit adjudication process in deciding whether to enter into these arrangements, just as we do when extending credit in the form of a loan. We monitor off-balance sheet instruments in order to avoid undue concentrations in any geographic region or industry.

The maximum amount payable by BMO in relation to these credit instruments was approximately $147 billion at October 31, 2017 ($146 billion in 2016). However, this amount is not representative of our likely credit exposure or liquidity requirements for these instruments, as it does not take into account customer behaviour, which suggests that only a portion of our customers will utilize the facilities related to these instruments, nor does it take into account any amounts that could be recovered under recourse and collateral provisions. Further information on these instruments can be found in Note 25 on page 192 of the consolidated financial statements.

For the credit commitments outlined in the preceding paragraphs, in the absence of an event that triggers a default, early termination by BMO may result in a breach of contract.

## Structured Entities (SEs)

Our interests in SEs are discussed in detail on page 76 in the BMO-Sponsored Securitization Vehicles section and in Note 7 on page 157 of the consolidated financial statements. Under IFRS, we consolidate our bank securitization vehicles, U.S. customer securitization vehicle, and certain capital and funding vehicles. We do not consolidate our Canadian customer securitization vehicles, structured finance vehicles, certain capital and funding vehicles, and various BMO managed and non-BMO managed investment funds.

## Guarantees

Guarantees include contracts under which we may be required to make payments to a counterparty based on changes in the value of an asset, liability or equity security that the counterparty holds. Contracts under which we may be required to make payments if a third party does not perform according to the terms of a contract and contracts under which we provide indirect guarantees of indebtedness are also considered guarantees. In the normal course of business, we enter into a variety of guarantees, including standby letters of credit, backstop and other liquidity facilities and derivatives contracts or instruments (including, but not limited to, credit default swaps), as well as indemnification agreements.

The maximum amount payable by BMO in relation to these guarantees was $24 billion at October 31, 2017 ($24 billion in 2016). However, this amount is not representative of our likely exposure, as it does not take into account customer behaviour, which suggests that only a portion of the guarantees will require us to make any payments, nor does it take into account any amounts that could be recovered under recourse and collateral provisions.

For a more detailed discussion of these arrangements, please see Note 25 on page 192 of the consolidated financial statements.

**Caution**

This Off-Balance Sheet Arrangements section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# Enterprise-Wide Risk Management

As a diversified financial services company providing banking, wealth management, capital market and insurance services, we are exposed to a variety of risks that are inherent in our business activities. A disciplined and integrated approach to managing risk is fundamental to the success of our operations. Our risk management framework provides independent risk oversight across the enterprise and is essential to building competitive advantage.

**Surjit Rajpal**
Chief Risk Officer
BMO Financial Group



## Strengths and Value Drivers

- Disciplined approach to risk-taking.
- Comprehensive and consistent risk frameworks.
- Risk appetite and metrics integrated into strategic planning and the ongoing management of businesses and risks.
- Sustained focus on continuous improvement to drive consistency and efficiency in the management of risk.

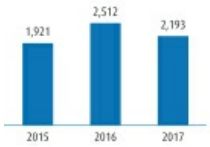
## Challenges

- Balancing risk and return in an uncertain economic and geopolitical environment.
- Technology improvements and investment required to meet customer expectations and the need to anticipate and respond to the risk of cyber and competitive threats.

## Priorities

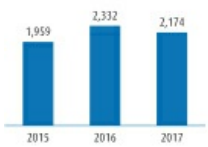
- Focus on our people and how we work together to enhance and strengthen our culture.
- Improve productivity and efficiency through simplification of processes and continuing to establish clear roles and responsibilities.
- Continue to invest in systems, data, processes and people to advance our capabilities and effectiveness.

**Gross Impaired Loan Formations** ($ millions)




Level of new impaired loan formations was 13% lower year over year, reflecting lower oil and gas impaired loan formations.

**Gross Impaired Loan Balances*** ($ millions)




Gross impaired loans were 7% lower year over year, reflecting lower oil and gas impaired loans.

* Excludes purchased credit impaired loans.

**Provision for Credit Losses** ($ millions)




The total provision for credit losses was 5% lower year over year, reflecting the decrease in the collective allowance, and lower provisions in BMO Capital Markets and Canadian P&C, partially offset by lower recoveries in Corporate Services and higher provisions in U.S. P&C.

**Total Allowance for Credit Losses*** ($ millions)




The total allowance for credit losses decreased 5% year over year due to the decrease in the collective allowance and the impact of the weaker U.S. dollar, and remains adequate.

* Excludes allowances related to Other Credit Instruments.

Text and tables presented in a blue-tinted font in the Enterprise-Wide Risk Management section of the MD&A form an integral part of the 2017 annual consolidated financial statements. They present required disclosures as set out by the International Accounting Standards Board in IFRS 7, *Financial Instruments – Disclosures*, which permits cross-referencing between the notes to the consolidated financial statements and the MD&A. See Note 1 on page 144 and Note 5 on page 156 of the consolidated financial statements.

Adjusted results in this Enterprise-Wide Risk Management section are non-GAAP and are discussed in the Non-GAAP Measures section on page 29.

# Risks That May Affect Future Results

## Top and Emerging Risks That May Affect Future Results

We are exposed to a variety of continually changing risks that have the potential to affect our business and financial condition. An essential part of our risk management process is to proactively identify, assess, monitor and manage a broad spectrum of top and emerging risks. Our top and emerging risk identification process consists of several forums for discussion with the Board, senior management and business thought leaders, combining both bottom-up and top-down approaches in considering risk. Our assessment of top and emerging risks is used to develop action plans and stress tests of our exposure to certain events.

In 2017, particular attention was given to the following top and emerging risks:

**Information and Cyber Security Risk**

Information security is integral to BMO's business activities, brand and reputation. Given our pervasive use of the internet and reliance on advanced digital technologies, we face common banking information security risks, including the threat of hacking, identity theft and corporate espionage, as well as the possibility of denial of service resulting from efforts targeted at causing system failure and service disruption. BMO continues to proactively invest in defensive technology, talent and processes to prevent or detect and manage cyber security threats within BMO and at service providers. These include benchmarking and review of best practices across the banking and cyber security industries, evaluation of the effectiveness of our key controls and development of new controls, as needed, with ongoing investments in both technology and human resources. BMO performs assessments of third-party service providers to monitor alignment with BMO standards. We also work with cyber security and software suppliers to bolster our internal resources and technology capabilities in order to better enable us to remain resilient in a rapidly evolving threat landscape.

**Geopolitical Risk**

Geopolitical risk has increased, largely as a result of escalating tensions between several countries, in particular North Korea and the United States, and strained U.S. relations with countries such as Russia and China. Heightened geopolitical risk can create uncertainty in global economic investment, potentially leading to market disruptions and a decrease in growth and trade. Our portfolio has limited direct exposure outside North America; however, our core customers and our international strategy depend on trade and growth. To mitigate our exposure to geopolitical risk, we continually monitor and test our portfolio and business strategies, and we establish contingency plans for possible adverse developments.

**Canadian Housing Market**

The Canadian housing market has appreciated considerably over the past number of years. The Greater Toronto Area (GTA) had experienced rapid housing price increases until the spring of 2017, at which time price increases moderated following the announcement of the Ontario Fair Housing Plan. While recent resale market results suggest this price adjustment in the GTA is largely complete, Bank of Canada rate hikes announced during the year and future rate hikes and regulatory changes could weigh on sales activity and home prices in this region as well as in the Greater Vancouver Area. In particular, future regulatory changes related to the qualifying rate for all uninsured mortgages could also reduce transactional activity and therefore home prices in these regions. Lower sales activity in these previously heated markets may impact mortgage origination volumes and, if housing values decline, the collateralization of our existing portfolio would be reduced. It is not possible to accurately predict the full impact of the recent changes and potential future changes, but robust economic conditions in these regions, including good economic growth, low unemployment and above-average population growth, support the expectations for low ongoing delinquency rates for real estate loans. Our prudent lending practices, which include the personal adjudication of higher-value and higher loan-to-value transactions and setting and close monitoring of regional, property type and customer segment concentration limits, support the soundness of our Canadian real estate lending portfolio. Further, our stress test analysis suggests that significant price declines and recessionary economic conditions would result in manageable losses.

**Trade Instability**

The risk of global trade instability stems from political, economic and trade policy uncertainty. Support for protectionism and anti-globalization sentiment in the United States and other countries may impact existing trade agreements, such as the North American Free Trade Agreement (NAFTA), which is currently under renegotiation, as well as overall global growth. In particular, the outcome of the NAFTA negotiations could result in new rules that could have a significant impact on our customers in the United States and Canada, resulting in disruptions in cross-border supply chains and trade and investment flows.

BMO benefits from an integrated North American strategy in diverse industries and geographies, with limited direct lending exposure outside of North America and a footprint that minimizes the effects of changes in commodity prices and foreign exchange movements, wherein price declines/rises often have offsetting impacts across different North American regions and industries. Although it is difficult to successfully predict and mitigate the potential economic and financial consequences of trade-related events that could adversely affect economic growth, we actively monitor global and North American trends and continually assess our portfolio and business strategies in the context of those developments. We stress test our portfolios, business plans and capital adequacy against severely adverse scenarios arising from shocks, and we establish contingency plans and mitigation strategies to react to and offset possible adverse political and/or economic developments.

Our credit exposure by geographic region is provided in Tables 7, 8 and 11 to 13 on pages 128 to 133 and Note 4 on page 152 of the consolidated financial statements. Further information on our direct and indirect European exposures is provided in the European Exposures section on page 92.

**Technology Disruption and Competition**

The financial services industry continues to undergo rapid change, as technology enables new non-traditional entrants to compete in certain segments of banking, in some cases with reduced regulatory requirements and oversight. New entrants may leverage new technologies, advanced data and analytical tools, lower cost to serve and/or faster processes to challenge traditional banks, including new business models in retail payments, consumer and commercial lending, foreign exchange and low-cost investment advisory services. Failure to keep pace with these new technologies and competition may potentially impact our overall revenues and earnings if customers choose the services of these new market entrants. While we closely monitor technology disruptors, we also continue to adapt by increasing our investment in technology and innovation to keep pace with dynamic client expectations. This includes improving our mobile and internet banking capabilities, building new branch formats, and

refining our credit decisioning, analytic and modelling data and tools and, where appropriate, bringing new and enhanced customer solutions to market. We further mitigate this risk by providing our customers with access to banking services across different channels, focusing on improving customer loyalty and trust, enhancing our advanced data and analytical tools, and leveraging current and future partnerships in order to deliver an exceptional customer experience with reduced costs and simplified processes. However, matching the pace of innovation exhibited by new and differently-situated competitors may require us and policy-makers to adapt at a faster pace.

## Other Factors That May Affect Future Results

**General Economic and Market Conditions in the Countries in Which We Conduct Business**

We operate in Canada, the United States and a number of other countries and the volume of business we conduct in these geographic regions may have an effect on our overall revenue and earnings. Factors such as fluctuations in interest rates, foreign exchange rates, consumer saving and spending, housing prices, consumer borrowing and repayment, business investment, and the rate of inflation affect the business and economic environments in which we operate, and may affect the value of our investments, the credit quality of our customer and counterparty loans and the funding markets that we access.

**Regulatory Requirements**

The financial services industry is highly regulated, and we have experienced changes and increased complexity in regulatory requirements as governments and regulators around the world continue to pursue major reforms intended to strengthen the stability of the financial system and protect key markets and participants. As a result, there is the potential for higher capital requirements and additional regulatory and compliance costs, which could lower our returns and affect our growth. These reforms could also affect the cost and availability of funding and the extent of market-making activities. Regulatory reforms may also impact fees and other revenues for certain of our operating groups. In addition, differences in laws and regulations enacted by various national regulatory authorities may provide advantages to our international competitors that could affect our ability to compete and result in loss of market share. We monitor such developments, and other potential changes such as reforms of the U.S. financial regulatory system or the potential impacts of a United Kingdom withdrawal from the European Union, so that BMO is well-positioned to respond to and implement any required changes. Failure to comply with applicable legal and regulatory requirements may result in litigation, financial losses, regulatory sanctions, enforcement actions, an inability to execute our business strategies, a decline in investor and customer confidence and harm to our reputation. Refer to the Legal and Regulatory Risk and Enterprise-Wide Capital Management sections on pages 109 and 69, respectively, for a more complete discussion of our legal and regulatory risk.

**Fiscal and Monetary Policies**

Our earnings are affected by fiscal, monetary, regulatory and other economic policies in Canada, the United States and other jurisdictions. Such policies may have the effect of increasing or reducing competition, profitability and uncertainty in businesses and markets, which may affect our customers and counterparties, potentially contributing to a greater risk of default.

Changes in fiscal and monetary policies are difficult to anticipate and predict. Fluctuations in interest rates and exchange rates that result from these changes can have an impact on our earnings and valuation. Prolonged low interest rates could lead to lower overall profitability in our retail and commercial businesses. Changes in the value of the Canadian dollar relative to the U.S. dollar could affect the results of our small business, corporate and commercial clients in Canada. A strengthening of the U.S. dollar could increase the value of our U.S.-dollar-denominated RWA and capital deductions, lowering our capital ratios. BMO may offset the impact of foreign exchange movements on its capital ratios, and did so during 2017. A decline in the U.S. dollar would reduce the strength of our U.S. operations' contribution to our Canadian dollar profitability. Hedging positions may be taken to manage interest rate exposures and partially offset the pre-tax effects of Canadian/U.S. dollar exchange rate fluctuations on financial results. Refer to the Foreign Exchange section on page 36, the Enterprise-Wide Capital Management section on page 69 and the Market Risk section on page 94 for a more complete discussion of our foreign exchange and interest rate risk exposures.

**Tax Legislation and Interpretations**

Changes in tax rates, tax law and policy, and its interpretation by taxing authorities can have an impact on our earnings. Tax laws, as well as the interpretation of tax laws and policy by taxing authorities, may change as a result of efforts by the G20 and the Organisation for Economic Co-operation and Development to broaden the tax base globally and increase tax related reporting. In addition, a reduction in income tax rates could lower the value of our deferred tax asset. Refer to the Critical Accounting Estimates section on page 113 for further discussion on income taxes and deferred tax assets.

**Acquisitions**

We conduct thorough due diligence before completing business or portfolio acquisitions. However, it is possible that we could make an acquisition that subsequently does not perform in line with our financial or strategic objectives or expectations. Our ability to successfully complete an acquisition may be subject to regulatory and shareholder approvals and we may not be able to determine when, if or on what terms the necessary approvals will be granted. Changes in the competitive and economic environment, as well as other factors, may result in lower revenue, while higher than anticipated integration costs and failure to realize expected cost savings after an acquisition could also adversely affect our earnings. Integration costs may increase as a result of higher regulatory costs related to an acquisition, unanticipated costs that were not identified in the due diligence process or demands on management time that are more significant than anticipated, as well as unexpected delays in implementing certain plans that in turn lead to delays in achieving full integration. Successful post-acquisition performance depends on retaining the clients and key employees of acquired companies and on integrating key systems and processes without disruption, and there can be no assurance that we will always succeed in doing so.

**Critical Accounting Estimates and Accounting Standards**

We prepare our consolidated financial statements in accordance with IFRS. Changes that the International Accounting Standards Board makes from time to time to these standards can be difficult to anticipate and may materially affect how we record and report our financial results. Significant accounting policies and future changes in accounting policies are discussed on pages 116 to 117 as well as in Note 1 on page 144 of the consolidated financial statements.

The application of IFRS requires management to make significant judgments and estimates, sometimes relying on financial and statistical models, that can affect the dates on which certain assets, liabilities, revenues and expenses are recorded in our consolidated financial statements, as well as their recorded values. In making these judgments and estimates, we rely on the best information available at the time. However, it is possible that circumstances may change, that new information may become available or that our models may prove to be imprecise.

Our financial results could be affected for the period during which any such new information or change in circumstances becomes apparent, and the extent of the impact could be significant. More information is included in the Critical Accounting Estimates section on page 113.

**Caution**

This Risks That May Affect Future Results section and the remainder of this Enterprise-Wide Risk Management section contain forward-looking statements.

Other factors beyond our control that may affect our future results are noted in the Caution Regarding Forward-Looking Statements on page 31. We caution that the preceding discussion of risks that may affect future results is not exhaustive.

## Risk Management Overview

At BMO, we believe that risk management is every employee's responsibility. We are guided by five key perspectives on risk that drive our approach to managing risk across the enterprise.

### Our Approach to Risk Management

- Understand and manage
- Protect our reputation
- Diversify. Limit tail risk
- Maintain strong capital and liquidity
- Optimize risk return

Our integrated and disciplined approach to risk management is fundamental to the success of our operations. All elements of our risk management framework work together in support of prudent and measured risk-taking, while striking an appropriate balance between risk and return. Our Enterprise Risk and Portfolio Management (ERPM) group develops our risk appetite, risk policies and limits, and provides independent review and oversight across the enterprise on risk-related issues to achieve prudent and measured risk-taking that is integrated with our business strategy.

## Framework and Risks

### Enterprise-Wide Risk Management Framework

Our enterprise-wide risk management framework assists the bank in managing its risk-taking activities and ensuring they are within our risk appetite.




These risk framework elements are discussed in more detail in the sections that follow.

MANAGEMENT'S DISCUSSION AND ANALYSIS

## Risk Governance

Our enterprise-wide risk management framework is founded on a governance approach that includes a robust committee structure and a comprehensive set of corporate policies and limits, each of which is approved by the Board of Directors or its committees, as well as specific corporate standards and operating procedures. Our corporate policies outline frameworks and objectives for every significant risk type, so that risks to which the enterprise is exposed are appropriately identified, measured, managed, monitored, mitigated and reported in accordance with our risk appetite. Specific policies govern our key risks, such as credit, market, liquidity and funding, model and operational risks. This enterprise-wide risk management framework is governed at all levels through a hierarchy of committees and individual responsibilities, as outlined in the diagram below.

Our risk management framework is reviewed on a regular basis by the Risk Review Committee of the Board of Directors to thereby guide our risk-taking activities. In each of our operating groups, management, as the first line of defence, is responsible for governance activities, controls, and the implementation and operation of our risk management processes and procedures to provide effective risk management. Enterprise Risk and Portfolio Management, as the primary second line of defence, oversees the implementation and operation of our risk processes and procedures with a view to effectively aligning outcomes with our overall risk management framework. Individual governance committees establish and monitor further risk management limits, consistent with and in furtherance of Board-approved limits.




In addition to the enterprise-level risk governance framework, appropriate risk governance frameworks, supported by our three lines of defence, are in place in all our material businesses and entities.

**Board of Directors** is responsible for supervising the management of the business and affairs of BMO. The Board, either directly or through its committees, is responsible for oversight in the following areas: strategic planning, defining risk appetite, the identification and management of risk, capital management, fostering a culture of integrity, internal controls, succession planning and evaluation of senior management, communication, public disclosure and corporate governance.

**Risk Review Committee of the Board of Directors (RRC)** assists the Board in fulfilling its risk management oversight responsibilities. This includes overseeing the identification and management of BMO's risks, including our risk culture, adherence by operating groups to risk management corporate policies and procedures, compliance with risk-related regulatory requirements and the evaluation of the Chief Risk Officer (CRO), including input into succession planning for the CRO. Our risk management framework is reviewed on a regular basis by the RRC in order to provide guidance for the governance of our risk-taking activities.

**Audit and Conduct Review Committee of the Board of Directors** assists the Board in fulfilling its oversight responsibilities for the integrity of BMO's financial reporting; the effectiveness of BMO's internal controls; the independent auditor's qualifications, independence and performance; BMO's compliance with legal and regulatory requirements; transactions involving related parties; conflicts of interest and confidential information; and standards of business conduct and ethics.

**Chief Executive Officer (CEO)** is directly accountable to the Board for all of BMO's risk-taking activities. The CEO is supported by the CRO and the rest of ERPM.

**Chief Risk Officer (CRO)** reports directly to the CEO and is head of ERPM and chair of RMC. The CRO is responsible for providing independent review and oversight of enterprise-wide risks and leadership on risk issues, developing and maintaining a risk management framework and fostering a strong risk culture across the enterprise.

**Risk Management Committee (RMC)** is BMO management's senior risk committee. RMC reviews and discusses significant risk issues and action plans that arise in executing the enterprise-wide strategy. RMC provides risk oversight and governance at the highest levels of management. This committee is chaired by the CRO and its members include the heads of our operating groups, the CEO and the CFO.

**RMC Sub-Committees** have oversight responsibility for the risk implications and balance sheet impacts of management strategies, governance practices, risk measurement, model risk management and contingency planning. RMC and its sub-committees provide oversight of the processes whereby the risks undertaken across the enterprise are identified, measured, managed, monitored, mitigated and reported in accordance with policy guidelines, and are held within limits and risk tolerances.

**Enterprise Risk and Portfolio Management (ERPM)**, as the risk management second line of defence, provides comprehensive risk management oversight. It promotes consistency in risk management practices and standards across the enterprise. ERPM supports a disciplined approach to risk-taking in fulfilling its responsibilities for independent transactional approval and portfolio management, policy formulation, risk reporting, stress testing, modelling and risk education. This approach seeks to meet enterprise objectives and to verify that any accepted risks are consistent with BMO's risk appetite.

**Operating Groups** are responsible for effectively managing risks by identifying, measuring, managing, monitoring, mitigating and reporting risk within their respective lines of business. They exercise business judgment and seek to ensure that effective policies, processes and internal controls are in place and that significant risk issues are reviewed with ERPM. Individual governance committees and ERPM establish and monitor further risk management limits that are consistent with and subordinate to the Board-approved limits.

## Three-Lines-of-Defence Operating Model

Our risk management framework is anchored in the three-lines-of-defence approach to managing risk, which is fundamental to our operating model, as described below:

- Our operating groups are the bank's **first line of defence**. They are accountable for the risks arising from their businesses, activities and exposures. They are expected to pursue business opportunities within our established risk appetite and to identify, measure, manage, monitor, mitigate and report all risks in or arising from their businesses, activities and exposures. The first line discharges its responsibilities by using risk management and reporting methodologies and processes developed by the business and by the ERPM group and other Corporate Support areas, and may rely on corporate functions or other service providers to help discharge these responsibilities. Businesses are responsible for establishing appropriate internal controls in accordance with our risk management framework and for monitoring the efficacy of such controls. Such processes and controls help ensure businesses act within their delegated risk-taking authority and risk limits as set out in corporate policies and our risk appetite framework.
- The **second line of defence** is comprised of the ERPM group and in targeted areas, Corporate Support areas. The second line provides independent oversight, effective challenge and independent assessment of risks and risk management practices, including transaction, product and portfolio risk management decisions, processes and controls in the first line of defence. The second line establishes enterprise-wide risk management policies, infrastructure, processes, methodologies and practices that the first and second lines use to identify, assess, manage and monitor risks across the enterprise.
- Corporate Audit Division is the **third line of defence**. It provides an independent assessment of the effectiveness of internal controls across the enterprise, including controls that support our risk management and governance processes.

## Risk Culture

At BMO, we believe that risk management is the responsibility of every employee within the organization. This key tenet shapes and influences our corporate culture and is evident in the actions and behaviours of our employees and leaders as they identify, interpret and discuss risks, and make decisions that balance risks and opportunities and seek to optimize risk-adjusted returns. Our senior management plays a critical role in fostering a strong risk culture among all employees by communicating this responsibility effectively, by the example of their own actions and by establishing and enforcing compensation plans and other incentives which are designed to drive desired behaviours. Our risk culture is deeply embedded within our policies, business processes, risk management framework, risk appetite, limits and tolerances, capital management and compensation practices, and is evident in every aspect of the way we operate across the enterprise. We actively solicit feedback on the effectiveness of our risk culture, including through standardized and anonymous employee surveys.

Our risk culture is grounded in a "Being BMO" risk management approach that encourages openness, constructive challenge and personal accountability. "Being BMO" values include integrity and a responsibility to make tomorrow better and "Being BMO" behaviours include balancing risk and opportunity, taking ownership, following through on commitments, speaking up and being candid. Timely and transparent sharing of information is also essential in engaging stakeholders in key decisions and strategy discussions, thereby bringing rigour and discipline to our decision-making. This not only leads to the timely identification, escalation and resolution of issues, but also encourages open communication, independent challenge and an understanding of the key risks faced by our organization, so that our employees are equipped and empowered to make decisions and take action in a coordinated and consistent manner, supported by a strong monitoring and control framework. Our governance and leadership forums, committee structures, learning curriculums and proactive communication also reinforce and foster our risk culture.

Certain elements of our risk culture that are embedded throughout the enterprise include:

- **Risk appetite** – promotes a clear understanding of the most prevalent risks that our businesses face, facilitates alignment of business strategies with our risk appetite, and provides a control and early warning framework through our key risk metrics, thereby leading to sound business decision-making and execution, supported by a strong monitoring framework.
- **Communication and escalation channels** – encourage engagement and sharing of information between ERPM and the operating groups, leading to greater transparency and open and effective communication. We also foster a culture that encourages the escalation of concerns associated with potential or emerging risks to senior management so that they can be evaluated and appropriately addressed.
- **Compensation philosophy** – pay is aligned with prudent risk-taking so that compensation and other incentives reward the appropriate use of capital and respect for the rules and principles in our enterprise-wide risk management framework, and do not encourage excessive risk-taking. Our risk managers have input into the design of incentive programs which may affect risk-taking, and provide input into the performance assessment of employees who take material risks or who are responsible for losses or events creating an unexpected risk of loss.
- **Training and education** – our programs are designed to foster a deep understanding of BMO's capital and risk management frameworks across the enterprise, providing employees and management with the tools and awareness they need to fulfill their responsibilities for independent oversight, regardless of their position in the organization. Our education strategy has been developed in partnership with BMO's Institute for Learning, our risk management professionals, external risk experts and teaching professionals.
- **Rotation programs** – two-way rotation allows employees to transfer between ERPM and the operating groups, effectively embedding our strong risk culture across the enterprise and ensuring many of our risk management professionals have a practical grounding in our business activities.

## Risk Appetite Framework

Our Risk Appetite Framework consists of our Risk Appetite Statement and key risk metrics, and is supported by our corporate policies, standards and guidelines, including the related limits, concentration levels and controls defined therein. Our risk appetite defines the amount of risk that BMO is willing to assume given our guiding principles and capital capacity, and thus supports sound business initiatives, appropriate returns and targeted growth. Our risk appetite is integrated into our strategic and capital planning processes and performance management system. On an annual basis, senior management recommends our Risk Appetite Statement and key risk metrics to the RMC and the Board of Directors for approval. Our Risk Appetite Statement is articulated and applied consistently across the enterprise, with key businesses and entities developing their own respective risk appetite statements within this framework. Among other things, our approach to risk management through our Risk Appetite Statement requires BMO to:

**Understand and Manage Risk**

- take only those risks that are transparent, understood, measured, monitored and managed
- incorporate risk measures and risk-adjusted returns into our performance management system, including an assessment of performance against our risk appetite and return objectives in compensation decisions
- protect the assets of BMO and BMO's clients by maintaining a system of prudent risk limits and strong operational risk controls

**Protect our Reputation**

- be guided in everything we do by principles of honesty, integrity and respect, as well as high ethical standards
- maintain effective policies, procedures, guidelines, compliance standards and controls, and provide training and management that will guide the business practices and risk-taking activities of all employees so that they are able to optimize risk-adjusted returns and adhere to all legal and regulatory obligations, thus protecting BMO's reputation

**Diversify. Limit Tail Risk**

- use economic capital, regulatory capital and stress testing methodologies to understand our risks and guide our risk-return assessments
- limit exposure to low-frequency, high-severity events that could jeopardize BMO's credit ratings, capital or liquidity position or reputation

**Maintain Strong Capital and Liquidity**

- maintain strong capital, liquidity and funding positions that meet or exceed regulatory requirements and the expectations of the market
- maintain a robust recovery framework that enables an effective and efficient response in an extreme crisis
- maintain an investment grade credit rating at a level that allows competitive access to funding

**Optimize Risk Return**

- subject new products and initiatives to rigorous review and approval, and assess whether new acquisitions provide a good strategic, financial and cultural fit, and have a high likelihood of creating value for our shareholders
- set capital limits based on our risk appetite and strategy and require our lines of business to optimize risk-adjusted returns within those limits

## Risk Limits

Our risk limits reflect our risk appetite framework, and inform our business strategies and decisions. In particular, we consider risk diversification, exposure to loss and risk-adjusted returns when setting limits. These limits are reviewed and approved by the Board of Directors and/or management committees and include:

- Credit and Counterparty Risk – limits on group and single-name exposures and material country, industry, and portfolio/product segments;
- Market Risk – limits on economic value and earnings exposures to stress scenarios and significant movements;
- Insurance Risk – limits on policy exposure and reinsurance arrangements;
- Liquidity and Funding Risk – limits on minimum levels of liquid assets and maximum levels of asset pledging and wholesale funding, as well as limits related to liability diversification and credit and liquidity facility exposures;
- Operational Risk – limits on specific operational risks and key risk metrics for measuring operational risks; and
- Model Risk – limits on model approval and modification exceptions, material deficiency extensions, and scheduled review extensions.

The Board of Directors, after considering recommendations from the RRC and the RMC, annually reviews and approves key risk limits and in turn delegates overall authority for these limits to the CEO. The CEO then delegates more specific authorities to the senior executives of the operating groups (first line of defence), who are responsible for the management of risk in their respective areas, and to the CRO (second line of defence). These delegated authorities allow risk officers to set risk tolerances, approve geographic and industry sector exposure limits within defined parameters, and establish underwriting and inventory limits for trading and investment banking activities. The criteria whereby more specific authorities may be delegated across the organization, as well as the requirements relating to documentation, communication and monitoring of those specific delegated authorities, are set out in corporate policies and standards.

## Risk Identification, Review and Approval

Risk identification is an essential step in recognizing the key inherent risks that we face, understanding the potential for loss and then acting to mitigate this potential. A Risk Taxonomy is maintained to comprehensively identify and manage key risks, supporting the implementation of the bank's Risk Appetite Framework and assisting in identifying the primary risk categories for which economic capital is reported and stress capital consumption is estimated. Our enterprise-wide and targeted (industry/portfolio-specific or ad hoc) stress testing processes have been developed to assist in identifying and evaluating these risks. Risk review and approval processes are established based on the nature, size and complexity of the risks involved. Generally, this involves a formal review and approval by either an individual or a committee, independent of the originator. Delegated authorities and approvals by category are outlined below.

**Portfolio transactions** – transactions are approved through risk assessment processes for all types of transactions at all levels of the enterprise, which include operating group recommendations and ERPM approval of credit risk, and transactional and position limits for market risk.

**Structured transactions** – new structured products and transactions with significant legal, regulatory, accounting, tax or reputation risk are reviewed by the Reputation Risk Management Committee or the Trading Products Risk Committee, as appropriate, and are reviewed under our operational risk management process if they involve structural or operational complexity which may create operational risk.

**Investment initiatives** – documentation of risk assessments is formalized through our investment spending approval process, which is reviewed and approved by Corporate Support areas.

**New products and services** – policies and procedures for the approval of new or modified products and services offered to our customers are the responsibility of the first line of defence, including appropriate senior business leaders, and are reviewed and approved by subject matter experts and senior managers in Corporate Support areas, as well as by other senior management committees, including the Operational Risk Committee and Reputation Risk Management Committee, as appropriate.

## Risk Monitoring

Enterprise-level risk transparency and monitoring and associated reporting are critical components of our risk management framework and corporate culture that allow senior management, committees and the Board of Directors to exercise their business management, risk management and oversight responsibilities at the enterprise, operating group and key legal entity levels. Internal reporting includes a synthesis of the key risks and associated metrics that the enterprise currently faces. Our reporting highlights our most significant risks, including assessments of our top and emerging risks, to provide the Board of Directors, its committees and any other appropriate executive and senior management committees with timely, actionable and forward-looking risk reporting. This reporting includes supporting metrics and materials to facilitate assessment of these risks relative to our risk appetite and the relevant limits established within our Risk Appetite Framework.

On a regular basis, reporting on risk issues is also provided to stakeholders, including regulators, external rating agencies and our shareholders, as well as to others in the investment community.

## Risk-Based Capital Assessment

Two measures of risk-based capital are used by BMO: economic capital and advanced-approach regulatory capital. Both are aggregate measures of the risk that we take on in pursuit of our financial objectives and enable us to evaluate returns on a risk-adjusted basis. Our operating model provides for the direct management of each type of risk, as well as the management of all material risks on an integrated basis. Measuring the economic profitability of transactions or portfolios incorporates a combination of both expected and unexpected losses to assess the extent and correlation of risk before authorizing new exposures. Both expected and unexpected loss measures for a transaction or a portfolio reflect current market conditions, the inherent risk in the position and, as appropriate, its credit quality. Risk-based capital methods and material models are reviewed at least annually and, if appropriate, recalibrated or revalidated. Our risk-based capital models provide a forward-looking estimate of the difference between our maximum potential loss in economic (or market) value and our expected loss, measured over a specified time interval and using a defined confidence level.

## Stress Testing

Stress testing is a key element of our risk and capital management frameworks. It is integrated in our enterprise and group risk appetite statements and embedded in our management processes. To evaluate our risks, we regularly test a range of scenarios that vary in frequency, severity and complexity in our businesses and portfolios and across the enterprise. In addition, we participate in regulatory stress tests in multiple jurisdictions. Governance of the stress testing framework resides with senior management, including the Enterprise Stress Testing Steering Committee. This committee is comprised of business, risk and finance executives and is accountable for reviewing and challenging enterprise scenarios and stress test results. Stress testing and enterprise-wide scenarios associated with the Internal Capital Adequacy Assessment Process (ICAAP), including recommendations for actions that the enterprise could take in order to manage the impact of a stress event, are established by senior management and presented to the Board of Directors. Stress testing associated with the Comprehensive Capital Analysis and Review (CCAR) and the mid-year Dodd-Frank Act Stress Test (DFAST) – which are U.S. regulatory requirements for our subsidiary BMO Financial Corp. (BFC) – is similarly governed at the BFC level.

Quantitative models and qualitative approaches are utilized to assess the impact of changes in the macroeconomic environment on our income statement and balance sheet and the resilience of our capital over a forecast horizon. Models used for stress testing are approved and governed under the Model Risk Management framework and are used to establish a better understanding of our risks and to test our capital adequacy.

### Enterprise Stress Testing

Enterprise stress testing supports our ICAAP and target-setting through analysis of the potential effects of low-frequency, high-severity events on our balance sheet, earnings, and liquidity and capital positions. Scenario selection is a multi-step process that considers the enterprise's material and idiosyncratic risks and the potential impact of new or emerging risks on our risk profile, as well as the macroeconomic environment. Scenarios may be defined by senior management or regulators, and the economic impacts are determined by our Economics group. The Economics group does this by translating the scenarios into macroeconomic and market variables that include but are not limited to GDP growth, yield curve estimates, unemployment rates, real estate prices, stock index growth and changes in corporate profits. These macroeconomic variables drive our stress loss models and the qualitative assessments that determine our estimated stress impacts. The scenarios are used by our operating, risk and finance groups to assess a broad range of financial impacts which could arise under a specific stress and the ordinary course and extraordinary actions that would be anticipated in response to that stress.

Stress test results, including mitigating actions, are benchmarked and challenged by relevant business units and senior management, including the Enterprise Stress Testing Steering Committee.

**Targeted Portfolio and Ad Hoc Stress Testing**

Our stress testing framework integrates stress testing at the line of business, portfolio, industry, geographic and product level and embeds it in strategy, business planning and decision-making. Targeted portfolio, industry and geographic analysis is conducted by risk management and by the lines of business to test risk appetite, limits, concentration and strategy. Ad hoc stress testing is conducted in response to changing economic or market conditions and to test business strategies.

### Risk Types

Our enterprise-wide risk management framework provides for the robust management of individual risk types that could have a material impact on our business. These risk types are all managed with the same focus on the effective implementation and operation of our risk processes and procedures. These risk types are shown below, with risk types that lend themselves to management via quantitative analysis presented above those risks primarily managed through more qualitative techniques. Details on each of these risk types are provided starting on page 86.




We leverage our enterprise-wide risk management framework, including our policy framework and corresponding risk limits or risk tolerance guidance, to manage each of these risk types within our risk appetite through our first-line and second-line-of-defence business and risk management processes. As discussed below, management oversight of risk types is provided by management and Board committees and is supported by a robust control framework.

## Credit and Counterparty Risk

**Credit and counterparty risk** is the potential for loss due to the failure of a borrower, endorser, guarantor or counterparty to repay a loan or honour another predetermined financial obligation.

Credit and counterparty risk underlies every lending activity that BMO enters into, and also arises in the holding of investment securities, transactions related to trading and other capital markets products and activities related to securitization. Credit risk is the most significant measurable risk BMO faces. Proper management of credit risk is essential to our success, since failure to effectively manage credit risk could have an immediate and significant impact on our earnings, financial condition and reputation.

### Credit and Counterparty Risk Governance

The objective of our credit risk management framework is to ensure all material credit risks to which the enterprise is exposed are identified, measured, managed, monitored, mitigated and reported. The RRC has oversight of the management of all material risks faced by the enterprise, including the credit risk management framework. BMO's credit risk management framework incorporates governing principles that are defined in a series of corporate policies and standards and are applied to more specific operating procedures. These are reviewed on a regular basis and modified when necessary to keep them current and consistent with BMO's risk appetite. The structure, limits, collateral requirements, monitoring, reporting and ongoing management of our credit exposures are all governed by these credit risk management principles.

Lending officers in the operating groups are responsible for recommending credit decisions based on the completion of appropriate due diligence, and they assume accountability for the risks. Credit officers in ERPM approve these credit decisions and are accountable for providing both an objective assessment of the lending recommendations and independent oversight of the risks assumed by the lending officers. All of these skilled and experienced individuals are subject to a rigorous lending qualification process and operate in a disciplined environment with clear delegation of decision-making authority, including individually delegated lending limits, which are reviewed annually. The Board annually reviews our Credit Risk Management Policy and delegates to the CEO key exposure limits for further specific delegation to senior officers. Credit decision-making is conducted at the management level appropriate to the size and risk of each transaction in accordance with comprehensive corporate policies, standards and procedures governing the conduct of activities in which credit risk arises. Corporate Audit Division reviews and tests management processes and controls and samples credit transactions in order to assess adherence to credit terms and conditions, as well as to all applicable governing policies, standards and procedures.

All credit risk exposures are subject to regular monitoring. Performing accounts are reviewed on a regular basis, with most commercial and corporate accounts reviewed at least annually. The frequency of review increases in accordance with the likelihood and size of potential credit losses, with deteriorating higher-risk situations referred to specialized account management groups for closer attention, when appropriate. In addition, regular portfolio and sector reviews are carried out, including stress testing and scenario analysis based on current, emerging or prospective risks. Reporting is provided at least quarterly to RRC and senior management committees in order to keep them informed of credit risk developments in our portfolios, including changes in credit risk concentrations, watchlist accounts, impaired loans, allowance for credit losses, negative credit migration and significant emerging credit risk issues, and to facilitate any measures that they may decide to take, when necessary.

Counterparty credit risk (CCR) creates a bilateral risk of loss because the market value of a transaction can be positive or negative for either counterparty. CCR exposures are subject to the same credit oversight, limit framework and approval process as outlined above. However, given the nature of the risk, CCR exposures are also monitored through the market risk framework and many are collateralized. In order to reduce our CCR, we

often use a central counterparty (CCP) that intermediates between counterparties for contracts in financial markets. CCPs aim to mitigate the risk through the use of margin requirements (both initial and variation) and a default management process, including a default fund and other resources.

## Credit and Counterparty Risk Management

### Collateral Management

Collateral is used for credit risk mitigation purposes to minimize losses that would otherwise be incurred in the event of a default. Depending on the type of borrower or counterparty, the assets available and the structure and term of the credit obligations, collateral can take various forms. For corporate and commercial borrowers, collateral can take the form of pledges of the assets of a business, such as accounts receivable, inventory, machinery, real estate, or personal assets pledged in support of guarantees. For counterparties, we may enter into legally enforceable netting agreements for on-balance sheet credit exposures, where possible. In our securities financing transaction business (including repurchase agreements and securities lending), we take eligible financial collateral that we control and can readily liquidate.

On a periodic basis, collateral is subject to regular revaluation specific to asset type. For loans, the value of collateral is initially established at the time of origination, and the frequency of revaluation is dependent on the type of collateral. For collateral in the form of investor-owned commercial real estate, a full external appraisal of the property is obtained at the time of loan origination, except where the loan is below a specified threshold amount, in which case an internal evaluation and a site inspection are conducted. Internal evaluations may consider property tax assessments, purchase prices, real estate listings or realtor opinions. The case for an updated appraisal is reviewed annually, with consideration given to the borrower risk rating, existing tenants and lease contracts, as well as current market conditions. In the event a loan is classified as impaired, depending on its size, a current external appraisal, evaluation or restricted use appraisal is obtained and updated every twelve months while the loan is classified as impaired. In Canada, for residential real estate that has a loan-to-value (LTV) ratio of less than 80%, an external property appraisal is routinely obtained at the time of loan origination. In certain low LTV ratio cases, we may use an external service provided by Canada Mortgage and Housing Corporation to assist in determining whether a full property appraisal is necessary. For high LTV ratio (greater than 80%) insured mortgages in Canada, we determine the value of the property through appraisal techniques and the default insurer confirms the value.

Collateral for our trading counterparty exposures is primarily comprised of cash and high-quality liquid securities (U.S. and Canadian treasury securities, U.S. agency securities and Canadian provincial government securities) that are monitored and revalued on a daily basis. Collateral is obtained under the contractual terms of standardized industry documentation. With limited exceptions, we utilize the International Swaps and Derivatives Association Inc. Master Agreement with a Credit Support Annex to document our collateralized trading relationships with our counterparties for over-the-counter (OTC) derivatives that are not centrally cleared. Credit Support Annexes entitle a party to demand collateral (or other credit support) when its OTC derivatives exposure to the other party exceeds an agreed amount (threshold). Collateral transferred can include an independent amount (initial margin) and/or variation margin. Credit Support Annexes contain, among other things, provisions setting out acceptable types of collateral and how they are to be valued (discounts are often applied to the market values), as well as thresholds, whether or not the collateral can be re-pledged by the recipient and how interest is to be calculated.

To document our contractual securities financing relationships with our counterparties, we utilize master repurchase agreements for repurchase transactions and, for securities lending transactions, we utilize master securities lending agreements. Many G20 jurisdictions will continue to implement new regulations that will require certain counterparties with significant OTC derivatives exposures to post or collect prescribed types and amounts of collateral for uncleared OTC derivatives transactions. See Legal and Regulatory Risk – Derivatives Reform on page 110.

### Portfolio Management and Concentrations of Credit and Counterparty Risk

BMO's credit risk governance policies require an acceptable level of diversification to help ensure we avoid undue concentrations of credit risk. Concentrations of credit risk may exist if a number of clients are engaged in similar activities, are located in the same geographic region or have similar economic characteristics such that their ability to meet contractual obligations could be similarly affected by changes in economic, political or other conditions. Limits may be specified for several portfolio dimensions, including industry, specialty segments (e.g., hedge funds and leveraged lending), country, product and single-name concentrations. The diversification of our credit exposure may be supplemented by the purchase or sale of credit protection through guarantees, insurance or credit default swaps.

Our credit assets consist of a well-diversified portfolio representing millions of clients, the majority of them consumers and small to medium-sized businesses. From an industry viewpoint, our most significant exposure at October 31, 2017 was to individual consumers, comprising $223,962 million ($224,041 million in 2016).

### Wrong-way Risk

Wrong-way risk occurs when exposure to a counterparty is highly correlated with the credit quality of collateral or some other intended mitigant of the risk related to that counterparty. There is specific wrong-way risk, which arises when the counterparty and the market risk factors affecting that mitigant display a high correlation, and general wrong-way risk, which arises when the credit quality of the counterparty, for non-specific reasons, is highly correlated with macroeconomic or other factors that affect the value of the mitigant. Our procedures require that specific wrong-way risk be identified in transactions and accounted for in the assessment of risk. Stress testing of replacement risk is conducted monthly and can be used to identify existing or emerging concentrations of general wrong-way risk in our portfolios.

## Credit and Counterparty Risk Measurement

We quantify credit risk at both the individual borrower or counterparty and the portfolio level. In order to limit earnings volatility, manage expected credit losses and minimize unexpected losses, credit risk is assessed and measured using the following risk-based parameters:

**Exposure at Default (EAD)** represents an estimate of the outstanding amount of a credit exposure at the time a default may occur.

**Loss Given Default (LGD)** is a measure of our economic loss, such as the amount that may not be recovered in the event of a default, presented as a proportion of the exposure at default.

**Probability of Default (PD)** represents the likelihood that a borrower or counterparty will go into default over a one-year time horizon.

**Expected Loss (EL)** is a measure representing the loss that is expected to occur in the normal course of business in a given period of time. EL is calculated as a function of EAD, LGD and PD.

For inclusion in regulatory capital calculations, OSFI permits three approaches for the measurement of credit risk: Standardized, Foundation Internal Ratings Based and Advanced Internal Ratings Based (AIRB). We apply the AIRB Approach for the measurement of credit risk in most of our portfolios, including portfolios of our subsidiary BMO Financial Corp. The risk-weighted assets determined through this and other advanced approaches are currently subject to a Basel I standardized floor. The Basel III Standardized Approach is currently being used for regulatory capital calculations related to the acquired Marshall & Isley Corporation and BMO Transportation Finance portfolios, and for a few other exposures that are considered to be immaterial. We continue to transition all material parts of these portfolios to the AIRB Approach.

Both our regulatory capital and economic capital frameworks use EAD to assess credit and counterparty risk. Exposures are classified as follows:

- Drawn loans include loans, acceptances, deposits with regulated financial institutions, and certain securities. For off-balance sheet amounts and undrawn amounts, EAD includes an estimate of any further amounts that may be drawn at the time of default.
- Undrawn commitments cover all unutilized authorizations associated with the drawn loans noted above, including those which are unconditionally cancellable. EAD for undrawn commitments is model generated based on internal empirical data.
- OTC derivatives are those in our proprietary accounts that attract credit risk in addition to market risk. EAD for OTC derivatives is equal to the positive replacement cost, after considering netting, plus any potential credit exposure amount.
- Other off-balance sheet exposures include items such as guarantees, standby letters of credit and documentary credits. EAD for other off-balance sheet items is based on management's best estimate.
- Repo-style transactions include repos, reverse repos and securities lending transactions, which represent both asset and liability exposures. EAD for repo-style transactions is the total amount drawn.
- Capital is calculated based on exposures that, where applicable, have been redistributed to a more favourable PD band or a different Basel asset class as a result of applying credit risk mitigation and considering credit risk mitigants, including collateral and netting.

Total non-trading exposures at default by industry sector, as at October 31, 2017 and 2016, based on the Basel III classifications are as follows:

| (Canadian $ in millions) | Drawn | | Commitments (undrawn) | | OTC derivatives | | Other off-balance sheet items | | Repo-style transactions | | Total (1) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| Financial institutions | **89,681** | 95,392 | **19,457** | 20,590 | **1,474** | 23 | **4,137** | 3,773 | **139,188** | 76,994 | **253,937** | 196,772 |
| Governments | **36,829** | 35,569 | **2,243** | 2,563 | **–** | – | **682** | 863 | **10,626** | 3,583 | **50,380** | 42,578 |
| Manufacturing | **19,737** | 18,430 | **12,258** | 12,279 | **9** | 14 | **1,360** | 1,216 | **–** | – | **33,364** | 31,939 |
| Real estate | **26,991** | 24,310 | **6,472** | 6,101 | **–** | – | **829** | 783 | **–** | – | **34,292** | 31,194 |
| Retail trade | **18,242** | 17,314 | **3,410** | 3,952 | **–** | – | **523** | 497 | **–** | – | **22,175** | 21,763 |
| Service industries | **34,723** | 33,650 | **11,207** | 11,503 | **1** | 1 | **2,831** | 2,909 | **–** | – | **48,762** | 48,063 |
| Wholesale trade | **11,440** | 10,726 | **4,675** | 4,282 | **1** | – | **481** | 413 | **–** | – | **16,597** | 15,421 |
| Oil and gas | **8,185** | 7,877 | **7,706** | 7,340 | **–** | – | **1,496** | 1,318 | **–** | – | **17,387** | 16,535 |
| Individual | **180,612** | 182,358 | **43,223** | 41,533 | **–** | – | **127** | 150 | **–** | – | **223,962** | 224,041 |
| Others (2) | **35,523** | 31,900 | **15,709** | 14,954 | **3** | – | **6,617** | 6,063 | **–** | – | **57,852** | 52,917 |
| Total exposure at default | **461,963** | 457,526 | **126,360** | 125,097 | **1,488** | 38 | **19,083** | 17,985 | **149,814** | 80,577 | **758,708** | 681,223 |

(1) Credit exposure excluding equity, securitization, trading book and other assets such as non-significant investments, goodwill, deferred tax assets and intangibles.
(2) Includes industries having a total exposure of less than 2%.

Certain comparative figures have been reclassified to conform with the current year's presentation.

## Risk Rating Systems

BMO's risk rating systems are designed to assess and measure the risk of any exposure.

Credit risk-based parameters are reviewed, validated and monitored regularly. The monitoring is on a quarterly basis for both the wholesale and retail models. Please refer to pages 107 to 109 for a discussion of our model risk mitigation processes.

**Retail (Consumer and Small Business)**

The retail portfolios are comprised of a diversified group of individual customer accounts and include residential mortgages, personal loans, credit cards and small business loans. These loans are managed in pools of homogeneous risk exposures. For these pools, decision support systems are developed using established statistical techniques and expert systems for underwriting and monitoring purposes. Adjudication models, behavioural scorecards, decision trees and expert knowledge are combined to generate optimal credit decisions in a centralized and automated environment.

The retail risk rating system assesses the borrower's risk based on a narrow range of likely expected conditions, primarily more recent in nature, including delinquency, LTV ratio and loan utilization rate. Product lines within each of the retail risk areas are separately modelled so that the risk-based parameters capture the distinct nature of each product. A final segmentation then sorts each exposure within a product line into homogeneous pools of retail risk that reflect common risk-based parameters. Each pool is assigned a unique combination of PD, LGD and EAD parameters that captures its segment-specific credit risk.

The retail risk rating system is designed to generate estimates of the value of credit risk parameters as accurately as possible, but is subject to uncertainty. During the calibration process, adjustments are made at the parameter level for each segment to account for this uncertainty. The retail parameters are tested quarterly, and are calibrated on an annual basis to incorporate additional data points in the parameter estimation process, ensuring that the most recent experience is incorporated.

Material presented in a blue-tinted font above is an integral part of the 2017 annual consolidated financial statements (see page 78).

**Retail Credit Probability of Default Bands by Risk Rating**

| Risk profile | Probability of default band |
|---|---|
| Exceptionally low | £ 0.05% |
| Very low | > 0.05% to 0.20% |
| Low | > 0.20% to 0.75% |
| Medium | > 0.75% to 7.00% |
| High | > 7.00% to 99.99% |
| Default | 100% |

**Wholesale (Corporate, Commercial and Sovereign)**

Within wholesale portfolios, we utilize an enterprise-wide risk rating framework that is applied to all of our sovereign, bank, corporate and commercial counterparties. One key element of this framework is the assignment of appropriate borrower or counterparty risk ratings (BRRs). A suite of general and sector-specific risk rating models has been developed for each asset class in order to capture the key quantitative and qualitative risk factors associated with borrowers in different industries and portfolios. Risk ratings are assigned using the appropriate internal model. BRRs are assessed and assigned at the time of loan origination and reviewed at least annually. More frequent reviews are conducted for borrowers with weaker risk ratings, borrowers that trigger a review through a rating change or that experience covenant breaches, and borrowers requiring or requesting changes to credit facilities. The assigned ratings are mapped to a PD over a one-year time horizon. As a borrower migrates between risk ratings, the PD associated with the borrower changes.

BMO employs a master scale with 14 BRRs above default, and PDs are assigned to each grade within an asset class to reflect the long-run average of one-year default rates. PD estimates are updated periodically based on internal default experience over a period of more than five years that covers at least one full economic cycle, supplemented by external benchmarking, as applicable.

BMO also assigns an LGD estimate to each separate facility provided to a borrower at the time of origination. An LGD estimate is a measure of the potential economic loss that could be incurred for a facility if the borrower were to default during a period of economic distress. The LGD estimate provides an inverse measure of the protection against loss afforded by the assigned collateral, as applicable, and considers the supporting structural elements of the facility, including seniority, margin arrangements, and product and sectoral characteristics. LGD models have been developed for each asset class using internal data that covers a period of more than seven years, and results are benchmarked using external data, when necessary.

As demonstrated in the table below, our internal risk rating system corresponds in a logical manner to those of external rating agencies.

**Wholesale Borrower Risk Rating Scale**

| BMO rating | Moody's Investors Service implied equivalent | Standard & Poor's implied equivalent |
|---|---|---|
| **Acceptable** | | |
| I-1 to I-3 | Aaa to Aa3 | AAA to AA- |
| I-4 to I-5 | A1 to Baa1 | A+ to BBB+ |
| I-6 to I-7 | Baa2 to Baa3 | BBB to BBB- |
| S-1 to S-2 | Ba1 to Ba2 | BB+ to BB |
| S-3 to S-4 | Ba3 to B1 | BB- to B+ |
| **Watchlist** | | |
| P-1 to P-3 | B2 to Ca | B to CC |
| **Default / Impaired** | | |
| T1, D-1 to D-4 | C | D |

## Credit Quality Information

**Portfolio Review**

Total enterprise-wide outstanding credit exposures were $759 billion at October 31, 2017, comprised of $414 billion in Canada, $291 billion in the United States and $54 billion in other jurisdictions. This represents an increase of $77 billion or 11% from the prior year.

BMO's loan book continues to be well-diversified by industry and geographic region. Gross loans and acceptances increased $6 billion or 2% from the prior year to $380 billion at October 31, 2017. The geographic mix of our Canadian and U.S. portfolios was relatively consistent with the prior year, and represented 66.2% and 30.4% of total loans, respectively, compared with 64.5% and 32.6% in 2016. Our loan portfolio is well-diversified, with the consumer loan portfolio representing 48.7% of the total portfolio, a modest decrease from 49.5% in 2016, and business and government loans representing 51.3% of the total portfolio, up from 50.5% in 2016.




Material presented in a blue-tinted font above is an integral part of the 2017 annual consolidated financial statements (see page 78).

MANAGEMENT'S DISCUSSION AND ANALYSIS

The following tables present our business and government and consumer gross loans and acceptances outstanding by risk rating as at October 31, 2017 and 2016.

**Business and Government Gross Loans and Acceptances by Risk Rating**

| (Canadian $ in millions) | Business and government loans and acceptances | |
|---|---|---|
| | **2017** | 2016 |
| Acceptable | | |
| Investment grade | **100,771** | 96,059 |
| Sub-investment grade | **88,424** | 85,695 |
| Watchlist | **4,209** | 5,340 |
| Default / Impaired | **1,374** | 1,524 |
| Total | **194,778** | 188,618 |

**Consumer Gross Loans by Risk Rating**

| (Canadian $ in millions) | Residential mortgages | | Credit card, consumer instalment and other personal loans | | Total | |
|---|---|---|---|---|---|---|
| | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| Exceptionally low (£ 0.05%) | **–** | 1 | **21,709** | 18,264 | **21,709** | 18,265 |
| Very low (> 0.05% to 0.20%) | **75,721** | 68,557 | **14,616** | 18,056 | **90,337** | 86,613 |
| Low (> 0.20% to 0.75%) | **21,011** | 23,379 | **14,701** | 14,996 | **35,712** | 38,375 |
| Medium (> 0.75% to 7.00%) | **16,305** | 17,629 | **13,157** | 15,247 | **29,462** | 32,876 |
| High (> 7.00% to 99.99%) | **438** | 421 | **2,481** | 2,287 | **2,919** | 2,708 |
| Standardized performing / Not rated | **1,370** | 1,858 | **2,765** | 3,311 | **4,135** | 5,169 |
| Default / Impaired | **413** | 432 | **586** | 620 | **999** | 1,052 |
| Total | **115,258** | 112,277 | **70,015** | 72,781 | **185,273** | 185,058 |

**Loan Maturities and Interest Rate Sensitivity**

The following table presents gross loans and acceptances by contractual maturity and by country of ultimate risk:

| (Canadian $ in millions) | 1 year or less | | Over 1 year to 5 years | | Over 5 years | | Total | |
|---|---|---|---|---|---|---|---|---|
| | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| Canada | | | | | | | | |
| Consumer | **55,568** | 47,466 | **106,023** | 108,887 | **4,349** | 5,205 | **165,940** | 161,558 |
| Commercial and corporate (excluding real estate) | **52,858** | 48,997 | **14,699** | 14,467 | **1,367** | 1,370 | **68,924** | 64,834 |
| Commercial real estate | **6,226** | 5,803 | **8,997** | 7,471 | **1,453** | 1,417 | **16,676** | 14,691 |
| United States | **33,382** | 33,776 | **61,394** | 67,262 | **20,947** | 20,784 | **115,723** | 121,822 |
| Other countries | **11,184** | 9,036 | **920** | 1,173 | **684** | 562 | **12,788** | 10,771 |
| Total | **159,218** | 145,078 | **192,033** | 199,260 | **28,800** | 29,338 | **380,051** | 373,676 |

The following table presents net loans and acceptances by interest rate sensitivity:

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| Fixed rate | **190,254** | 186,864 |
| Floating rate | **171,418** | 171,866 |
| Non-interest sensitive (1) | **16,546** | 13,021 |
| Total | **378,218** | 371,751 |

(1) Non-interest sensitive is comprised of customers' liability under acceptances.

Further details of our loan book, including detailed breakdowns by industry and geographic region, can be found in Tables 7 to 15 on pages 128 to 134. Details related to our credit exposures are presented in Note 4 on page 152 of the consolidated financial statements.

**Real Estate Secured Lending**

Residential mortgage and home equity line of credit (HELOC) exposures continue to be of interest in the current environment. BMO regularly performs stress testing on its residential mortgage and HELOC portfolios to evaluate the potential effects of high-impact events. These stress tests incorporate scenarios ranging from moderately to severely adverse. The credit losses forecast in these tests vary with the severity of the scenario and are considered to be manageable.

**Provision for Credit Losses (PCL)**

Total PCL of $774 million in 2017 decreased 5% from $815 million in 2016. Detailed discussions of our PCL, including historical trends in PCL, are provided on page 42, in Table 15 on page 134 and in Note 4 on page 152 of the consolidated financial statements.

**Gross Impaired Loans (GIL)**

Total GIL of $2,174 million in 2017 decreased 7% from $2,332 million in 2016, due to lower oil and gas impaired loans. GIL as a percentage of gross loans and acceptances also decreased to 0.57% compared to 0.62% in 2016.

Factors contributing to the change in GIL are outlined in the table below. Loans classified as impaired during the year decreased to $2,193 million from $2,512 million in 2016, in part due to a decrease in oil and gas impaired formations. On a geographic basis, the United States accounted for the majority of impaired loan formations, comprising 52.8% of total formations in 2017, compared with 56.8% in 2016. Detailed breakdowns of impaired loans by geographic region and industry can be found in Table 11 on page 130 and in Note 4 on page 152 of the consolidated financial statements.

Material presented in a blue-tinted font above is an integral part of the 2017 annual consolidated financial statements (see page 78).

### Changes in Gross Impaired Loans and Acceptances (1)

(Canadian $ in millions, except as noted)

| For the year ended October 31 | 2017 | 2016 | 2015 |
|---|---|---|---|
| **GIL, beginning of year** | **2,332** | 1,959 | 2,048 |
| Classified as impaired during the year | **2,193** | 2,512 | 1,921 |
| Transferred to not impaired during the year | **(607)** | (577) | (556) |
| Net repayments | **(1,007)** | (869) | (700) |
| Amounts written off | **(623)** | (706) | (704) |
| Recoveries of loans and advances previously written off | **–** | – | – |
| Disposals of loans | **(46)** | (34) | (252) |
| Foreign exchange and other movements | **(68)** | 47 | 202 |
| **GIL, end of year** | **2,174** | 2,332 | 1,959 |
| GIL as a % of gross loans and acceptances | **0.57** | 0.62 | 0.58 |

(1) GIL excludes purchased credit impaired loans.

### Allowance for Credit Losses

BMO employs a disciplined approach to provisioning and loan loss evaluation across all loan portfolios, with the prompt identification of problem loans being a key risk management objective. BMO maintains both a specific allowance and a collective allowance for credit losses. The specific allowance reduces the aggregate carrying value of credit assets for which there is evidence of deterioration in credit quality. BMO also maintains a collective allowance in order to cover any impairment in the existing loan portfolio that cannot yet be associated with individually identified loans. Our approach to establishing and maintaining the collective allowance is based on the requirements of IFRS, in conjunction with guidelines issued by our regulator, OSFI. Our collective allowance methodology groups loans on the basis of similar credit risk characteristics, and applies quantitative and qualitative factors to determine the appropriate level for the collective allowance. The quantitative component of the methodology measures expected long-run losses based on the PD, LGD and EAD risk parameters used in the models we employ to estimate risk-based capital. For commercial and corporate loans, key determinants of incurred but not identified losses include the underlying risk rating of the borrower, industry sector, credit product and amount and quality of collateral held. For consumer and small business loans, exposures are pooled based on similar risk characteristics, and the levels of incurred but not identified losses are determined based on the long-run default and historical loss experience of each pool. The loss factors are back-tested and calibrated on a regular basis to ensure that they continue to reflect our best estimate of losses that have been incurred but not yet identified, on an individual basis, within the pools of loans. The qualitative component of the methodology reflects management's judgment with respect to current and near-term macroeconomic and business conditions, portfolio-specific considerations, credit quality trends, and model risk factors. We review the collective allowance on a quarterly basis.

BMO maintains an allowance for credit losses (ACL) at a level that we consider adequate to absorb credit-related losses. As at October 31, 2017, our ACL decreased $118 million to $1,996 million, due to a decrease in the collective allowance and the impact of the weaker U.S. dollar. This was comprised of specific allowances of $420 million and a collective allowance of $1,576 million, which also includes specific allowances of $27 million and a collective allowance of $136 million related to undrawn commitments and letters of credit that are considered other credit instruments and recorded in other liabilities. The specific allowance decreased $12 million in 2017 from $432 million in 2016. In addition, our coverage ratio remains adequate, with specific ACL as a percentage of GIL of 18.1%, compared with 17.4% in 2016.

The collective allowance decreased $106 million from $1,682 million in 2016, reflecting a decrease through PCL of $76 million and the impact of the weaker U.S. dollar.

IFRS 9 *Financial Instruments* (IFRS 9) is effective for the bank for the fiscal year beginning November 1, 2017, and addresses the impairment of financial assets. For a discussion on the adoption of IFRS 9 and the impact on our ACL, see the Future Changes in Accounting Policies section on page 116 and Note 1 on page 144 of the consolidated financial statements.

Factors contributing to the change in ACL are outlined in the table below. Further details on changes in ACL by country and portfolio can be found in Tables 12 and 13 on page 132 and in Note 4 on page 152 of the consolidated financial statements.

### Changes in Allowance for Credit Losses (1)

(Canadian $ in millions, except as noted)

| For the year ended October 31 | 2017 | 2016 | 2015 |
|---|---|---|---|
| **Specific ACL, beginning of year** | **432** | 392 | 424 |
| Specific PCL (charge to income statement) | **850** | 815 | 612 |
| Recoveries of amounts written off in previous years | **265** | 343 | 456 |
| Write-offs | **(982)** | (1,047) | (1,065) |
| Foreign exchange and other movements | **(145)** | (71) | (35) |
| **Specific ACL, end of year** | **420** | 432 | 392 |
| Collective ACL, beginning of year | **1,682** | 1,660 | 1,542 |
| Collective PCL (charge to income statement) | **(76)** | – | – |
| Foreign exchange and other movements | **(30)** | 22 | 118 |
| **Collective ACL, end of year** | **1,576** | 1,682 | 1,660 |
| **Total ACL** | **1,996** | 2,114 | 2,052 |
| Comprised of: | | | |
| Loans | **1,833** | 1,925 | 1,855 |
| Specific allowance for other credit instruments | **27** | 27 | 35 |
| Collective allowance for other credit instruments | **136** | 162 | 162 |
| Specific ACL as a % of GIL (2) | **18.1** | 17.4 | 18.2 |

(1) Includes allowances related to other credit instruments that are included in other liabilities.
(2) Ratio excludes the specific allowance for other credit instruments that are included in other liabilities.

## European Exposures

Some European countries have experienced credit concerns in the recent past, and exposure to this region has been of particular focus. BMO's geographic exposures are subject to a country risk management framework that incorporates economic and political assessments and management of exposures within limits based on product, entity and the country of ultimate risk. We closely monitor our European exposures, and our risk management processes incorporate stress tests as appropriate to assess our potential risk. Our exposure to European countries, as at October 31, 2017, including Greece, Ireland, Italy, Portugal and Spain (GIIPS), is set out in the tables that follow.

The table below outlines total net portfolio exposures for funded lending, securities (inclusive of credit default swap (CDS) activity), repo-style transactions and derivatives. Funded lending is detailed by counterparty type, as well as by total commitments compared to the funded amount, in the table on page 93.

**European Exposure by Country and Counterparty** (1)

| (Canadian $ in millions) As at October 31, 2017 | Funded lending (2) | Securities (3)(4) | | | | Repo-style transactions and derivatives (5)(6) | | | | Total net exposure |
|---|---|---|---|---|---|---|---|---|---|---|
| Country | Total | Bank | Corporate | Sovereign | Total | Bank | Corporate | Sovereign | Total | |
| **GIIPS** | | | | | | | | | | |
| Greece | – | – | – | – | – | – | – | – | – | – |
| Ireland (7) | 6 | – | – | – | – | 19 | 46 | – | 65 | 71 |
| Italy | 27 | – | 1 | – | 1 | – | – | – | – | 28 |
| Portugal | – | – | – | – | – | – | – | – | – | – |
| Spain | 118 | – | – | – | – | – | – | – | – | 118 |
| **Total – GIIPS** | **151** | **–** | **1** | **–** | **1** | **19** | **46** | **–** | **65** | **217** |
| **Eurozone (excluding GIIPS)** | | | | | | | | | | |
| France | 107 | 162 | – | 131 | 293 | 42 | 20 | 12 | 74 | 474 |
| Germany | 358 | 1 | 26 | 862 | 889 | 23 | 3 | 2 | 28 | 1,275 |
| Netherlands | 554 | 84 | 11 | – | 95 | 18 | 43 | – | 61 | 710 |
| Other (8) | 101 | – | 96 | 195 | 291 | 1 | 19 | 14 | 34 | 426 |
| **Total – Eurozone (excluding GIIPS)** | **1,120** | **247** | **133** | **1,188** | **1,568** | **84** | **85** | **28** | **197** | **2,885** |
| **Rest of Europe** | | | | | | | | | | |
| Denmark | 7 | 304 | – | 131 | 435 | 5 | – | – | 5 | 447 |
| Sweden | 49 | 99 | – | 230 | 329 | 5 | – | – | 5 | 383 |
| United Kingdom | 1,746 | 35 | 77 | 211 | 323 | 229 | 49 | 9 | 287 | 2,356 |
| Other (8) | 279 | 41 | – | – | 41 | 4 | 14 | 4 | 22 | 342 |
| **Total – Rest of Europe** | **2,081** | **479** | **77** | **572** | **1,128** | **243** | **63** | **13** | **319** | **3,528** |
| **Total – All of Europe** (9) | **3,352** | **726** | **211** | **1,760** | **2,697** | **346** | **194** | **41** | **581** | **6,630** |

| As at October 31, 2016 | Funded lending (2) | Securities (3) | | | | Repo-style transactions and derivatives (5)(6) | | | | Total net exposure |
|---|---|---|---|---|---|---|---|---|---|---|
| Country | Total | Bank | Corporate | Sovereign | Total | Bank | Corporate | Sovereign | Total | |
| Total – GIIPS | 78 | 6 | – | – | 6 | 302 | 58 | – | 360 | 444 |
| Total – Eurozone (excluding GIIPS) | 1,064 | 464 | 48 | 1,580 | 2,092 | 103 | 84 | 32 | 219 | 3,375 |
| Total – Rest of Europe | 881 | 1,133 | 57 | 605 | 1,795 | 1,357 | 152 | 9 | 1,518 | 4,194 |
| Total – All of Europe (9) | 2,023 | 1,603 | 105 | 2,185 | 3,893 | 1,762 | 294 | 41 | 2,097 | 8,013 |

(1) BMO has the following indirect exposures to Europe as at October 31, 2017:
- Collateral of €426 million to support trading activity in securities ( €21 million from GIIPS) and €176 million of cash collateral held.
- Guarantees of $1.1 billion ($37 million to GIIPS).

(2) Funded lending includes loans.

(3) Securities include cash products, insurance investments and traded credit.

(4) BMO's total net notional CDS exposure (embedded as part of the securities exposure in this table) to Europe was $208 million, with no net single-name* CDS exposure to GIIPS countries as at October 31, 2017 (*includes a net position of $178 million (bought protection) on CDS indices, of which 19% is comprised of GIIPS domiciled entities).

(5) Repo-style transactions are primarily with bank counterparties for which BMO holds collateral ($12.0 billion for Europe as at October 31, 2017).

(6) Derivatives amounts are marked-to-market, incorporating transaction netting where master netting agreements with counterparties have been entered into, and collateral offsets for counterparties where a Credit Support Annex is in effect.

(7) Does not include Irish subsidiary reserves we are required to maintain with the Irish Central Bank of $28 million as at October 31, 2017.

(8) Other Eurozone exposure includes 7 countries with less than $300 million net exposure. Other European exposure is distributed across 8 countries, with $4 million exposure to the Russian Federation as at October 31, 2017.

(9) Of our total net direct exposure to Europe, approximately 55% was to counterparties in countries with a rating of Aaa/AAA from at least one of Moody's and S&P.

**European Lending Exposure by Country and Counterparty** (9)

| (Canadian $ in millions) | Lending (2) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Funded lending as at October 31, 2017 | | | As at October 31, 2017 | | As at October 31, 2016 | |
| Country | Bank | Corporate | Sovereign | Commitments | Funded | Commitments | Funded |
| **GIIPS** | | | | | | | |
| Greece | – | – | – | – | – | – | – |
| Ireland (7) | – | 6 | – | 103 | 6 | 126 | 25 |
| Italy | 26 | 1 | – | 27 | 27 | – | – |
| Portugal | – | – | – | – | – | – | – |
| Spain | 112 | 6 | – | 149 | 118 | 80 | 53 |
| **Total – GIIPS** | **138** | **13** | **–** | **279** | **151** | 206 | 78 |
| **Eurozone (excluding GIIPS)** | | | | | | | |
| France | 107 | – | – | 152 | 107 | 155 | 111 |
| Germany | 111 | 246 | 1 | 488 | 358 | 207 | 133 |
| Netherlands | 75 | 479 | – | 756 | 554 | 661 | 502 |
| Other (8) | 87 | 14 | – | 247 | 101 | 436 | 318 |
| **Total – Eurozone (excluding GIIPS)** | 380 | 739 | 1 | 1,643 | 1,120 | 1,459 | 1,064 |
| **Rest of Europe** | | | | | | | |
| Denmark | 7 | – | – | 7 | 7 | 11 | 11 |
| Sweden | 13 | 36 | – | 195 | 49 | 202 | 59 |
| United Kingdom | 12 | 1,734 | – | 2,285 | 1,746 | 808 | 543 |
| Other (8) | 66 | 213 | – | 502 | 279 | 415 | 268 |
| **Total – Rest of Europe** | 98 | 1,983 | – | 2,989 | 2,081 | 1,436 | 881 |
| **Total – All of Europe** (9) | **616** | **2,735** | **1** | **4,911** | **3,352** | 3,101 | 2,023 |

Refer to footnotes in the table on page 92.

## Derivative Transactions

The following table presents the notional amounts of our over-the-counter (OTC) derivative contracts, comprised of those which are centrally cleared and settled through a designated clearing house or central counterparty (CCP) and those which are non-centrally cleared. CCPs are established under the supervision of central banks or other similar regulatory authorities and, as financial market infrastructure, must satisfy certain financial resilience requirements. Generally speaking, to centrally clear, BMO acquires a membership in the CCP and, in addition to providing collateral to protect the CCP against BMO risk, BMO is at risk as a member for its contribution to a default fund and may be called on to make additional contributions, or to provide other support in the event another member defaults.

The notional amounts of our derivatives represent the amount to which a rate or price is applied in order to calculate the amount of cash that must be exchanged under the contract. Notional amounts do not represent assets or liabilities and therefore are not recorded in our Consolidated Balance Sheet. The fair values of OTC derivative contracts are recorded in our Consolidated Balance Sheet.

**Over-the-Counter Derivatives** (Notional amounts)

| (Canadian $ in millions) | Non-centrally cleared | | Centrally cleared | | Total | |
|---|---|---|---|---|---|---|
| As at October 31 | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| **Interest Rate Contracts** | | | | | | |
| Swaps | **479,177** | 575,523 | **2,723,188** | 2,151,178 | **3,202,365** | 2,726,701 |
| Forward rate agreements | **1,442** | 1,288 | **193,700** | 429,219 | **195,142** | 430,507 |
| Purchased options | **29,107** | 29,508 | **–** | – | **29,107** | 29,508 |
| Written options | **37,247** | 43,921 | **–** | – | **37,247** | 43,921 |
| Total interest rate contracts | **546,973** | 650,240 | **2,916,888** | 2,580,397 | **3,463,861** | 3,230,637 |
| **Foreign Exchange Contracts** | | | | | | |
| Cross-currency swaps | **85,586** | 89,354 | **–** | – | **85,586** | 89,354 |
| Cross-currency interest rate swaps | **434,210** | 382,666 | **–** | – | **434,210** | 382,666 |
| Forward foreign exchange contracts | **370,762** | 391,039 | **31,946** | 18,150 | **402,708** | 409,189 |
| Purchased options | **23,812** | 29,876 | **–** | – | **23,812** | 29,876 |
| Written options | **29,023** | 30,405 | **78** | – | **29,101** | 30,405 |
| Total foreign exchange contracts | **943,393** | 923,340 | **32,024** | 18,150 | **975,417** | 941,490 |
| **Commodity Contracts** | | | | | | |
| Swaps | **18,713** | 13,603 | **–** | – | **18,713** | 13,603 |
| Purchased options | **7,080** | 6,828 | **–** | – | **7,080** | 6,828 |
| Written options | **4,905** | 4,672 | **–** | – | **4,905** | 4,672 |
| Total commodity contracts | **30,698** | 25,103 | **–** | – | **30,698** | 25,103 |
| **Equity Contracts** | **63,528** | 58,313 | **–** | – | **63,528** | 58,313 |
| **Credit Default Swaps** | | | | | | |
| Purchased | **1,640** | 1,730 | **1,018** | 1,303 | **2,658** | 3,033 |
| Written | **114** | 793 | **334** | 188 | **448** | 981 |
| Total credit default swaps | **1,754** | 2,523 | **1,352** | 1,491 | **3,106** | 4,014 |
| Total | **1,586,346** | 1,659,519 | **2,950,264** | 2,600,038 | **4,536,610** | 4,259,557 |

Certain comparative figures have been reclassified to conform with the current year's presentation.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# Market Risk

**Market risk** is the potential for adverse changes in the value of BMO's assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity and commodity prices and their implied volatilities, and credit spreads, and includes the risk of credit migration and default in our trading book.

Market risk arises from BMO's trading and underwriting activities, as well as its structural banking activities. The magnitude and importance of these activities to the enterprise, along with the potential volatility of market variables, call for diligent governance and a robust market risk management framework to provide effective identification, measurement, reporting and control of market risk exposures.

## Trading and Underwriting Market Risk Governance

BMO's market risk-taking activities are subject to a comprehensive governance framework. The RRC provides oversight of the management of market risk on behalf of the Board of Directors and approves limits governing market risk exposures that are consistent with our risk appetite. The RMC regularly reviews and discusses significant market risk exposures and positions, and provides ongoing senior management oversight of BMO's risk-taking activities. Both of these committees are kept apprised of specific market risk exposures and other factors that could expose BMO to unusual, unexpected or unquantified risks associated with market exposures, as well as other current and emerging market risks. In addition, all businesses and individuals authorized to conduct trading and underwriting activities on behalf of BMO are required to work within BMO's risk governance framework and, as part of their first-line-of-defence responsibilities, they must adhere to all relevant corporate policies, standards and procedures and maintain and manage market risk exposures within specified limits and risk tolerances. In support of BMO's risk governance framework, our market risk management framework is comprised of the processes, infrastructure and supporting documentation which, together, help ensure that the bank's market risk exposures are appropriately identified, accurately measured, and independently monitored and controlled on an ongoing basis.

## Trading and Underwriting Market Risk

Our trading and underwriting businesses give rise to market risk associated with buying and selling financial products in the course of servicing customer requirements, market making and related financing activities, and from assisting clients to raise funds by way of securities issuance.

### Identification and Measurement of Trading and Underwriting Market Risk

As the first step in the management of market risk, thorough assessment processes are in place to identify market risk exposures associated with both new products and the evolving risk profile of existing products, including on- and off-balance sheet positions, trading and non-trading positions and market risk exposures arising from the domestic and foreign operations of our operating groups.

Reflecting the multi-dimensional nature of market risk, various metrics and techniques are then employed to measure identified market risk exposures. These metrics primarily include Value at Risk, Stressed Value at Risk, and regulatory and economic capital attribution, as well as stress testing. Other techniques include the analysis of the sensitivity of our trading and underwriting portfolios to various market risk factors, position concentrations, notional values and trading losses.

**Value at Risk (VaR)** is measured for specific classes of risk in BMO's trading and underwriting activities related to interest rates, foreign exchange rates, credit spreads, equity and commodity prices and their implied volatilities. This measure calculates the maximum loss likely to be experienced in the trading and underwriting portfolios, measured at a 99% confidence level over a one-day holding period.

**Stressed Value at Risk (SVaR)** is measured for specific classes of risk in BMO's trading and underwriting activities related to interest rates, foreign exchange rates, credit spreads, equity and commodity prices and their implied volatilities, where model inputs are calibrated to historical data from a period of significant financial stress. This measure calculates the maximum loss likely to be experienced in the trading and underwriting portfolios, measured at a 99% confidence level over a one-day holding period.

Although it is a valuable indicator of risk, like any model-driven metric, VaR has limitations. Among these limitations is the assumption that all positions can be liquidated within the assigned one-day holding period, which may not be the case under illiquid market conditions. Generally, market liquidity horizons are reviewed for suitability and updated where appropriate for relevant risk metrics. Further limitations of the VaR metric include the assumption that historical data can be used as a proxy to forecast future market events, and the fact that positions at the close of business, upon which the VaR calculation is based, do not reflect the impact of intra-day trading activity.

We use a variety of methods to verify the integrity of our risk models, including the application of back-testing against hypothetical losses and approval by an independent model valuation team. Back-testing assumes there are no changes in the previous day's closing positions and then isolates the effects of each day's price movements against those closing positions. Models are validated in part by assessing how often the calculated hypothetical losses exceed the VaR measure over a defined period. This testing is aligned with defined regulatory expectations, and its results confirm the reliability of our models. The volatility data and correlations that underpin our models are updated frequently, so that VaR measures reflect current conditions.

Probabilistic stress testing and scenario analysis are used daily to determine the potential impact of plausible but severe market changes on our portfolios. In addition, historical event stresses are tested on a weekly basis, including tests of scenarios such as the stock market crash of 1987 and the collapse of Lehman Brothers in 2008. Targeted analyses of risks and portfolios, along with other ad hoc analyses, are also conducted to examine our sensitivity to hypothetical, low-frequency, high-severity scenarios. Scenarios are amended, added or removed to better reflect changes in underlying market conditions and the results are reported to the lines of business, the RMC and the RRC on a regular basis.

Neither VaR nor stress testing should be viewed as definitive predictors of the maximum amount of losses that could occur in any one day, as their results are based on models and estimates, are subject to confidence levels and estimates could be exceeded under unforeseen market conditions.

Material presented in a blue-tinted font above is an integral part of the 2017 annual consolidated financial statements (see page 78).

**Monitoring and Control of Trading and Underwriting Market Risk**

A comprehensive set of limits is applied to these metrics, and they are subject to regular monitoring and reporting, with any breach of the limits escalated to the appropriate level of oversight. Risk profiles of our trading and underwriting activities are maintained within our risk appetite and supporting limits, and are monitored and reported to traders, management, senior executives and Board committees. Other significant controls include the independent valuation of financial assets and liabilities, as well as compliance with our model risk management framework to mitigate model risk.

## Trading Market Risk Measures

**Trading VaR and SVaR**

Total Trading VaR and Total Trading Stressed VaR decreased year over year. Lower exposures and reduced market volatility resulted in a reduction in VaR figures, particularly for interest rates. SVaR reduced as well, with lower interest rate, foreign exchange and equity components from reduced exposure, partially offset by increased Credit SVaR from a methodology change relating to market risk associated with the valuation of uncollateralized derivatives.

## Total Trading Value at Risk (VaR) Summary (1)

| As at or for the year ended October 31 (pre-tax Canadian $ equivalent in millions) | 2017 Year-end | 2017 Average | 2017 High | 2017 Low | 2016 Year-end |
|---|---|---|---|---|---|
| Commodity VaR | (0.9) | (0.9) | (1.7) | (0.4) | (0.7) |
| Equity VaR | (3.3) | (3.1) | (8.5) | (2.2) | (4.5) |
| Foreign exchange VaR | (0.3) | (0.8) | (3.1) | (0.1) | (1.8) |
| Interest rate VaR | (5.0) | (6.1) | (11.4) | (3.9) | (10.3) |
| Credit VaR | (1.9) | (2.3) | (4.1) | (1.5) | (2.0) |
| Diversification | 5.9 | 7.0 | nm | nm | 9.3 |
| Total Trading VaR | (5.5) | (6.2) | (10.0) | (4.3) | (10.0) |

## Total Trading Stressed Value at Risk (SVaR) Summary (1)(2)

| As at or for the year ended October 31 (pre-tax Canadian $ equivalent in millions) | 2017 Year-end | 2017 Average | 2017 High | 2017 Low | 2016 Year-end |
|---|---|---|---|---|---|
| Commodity SVaR | (1.7) | (1.8) | (6.0) | (0.7) | (1.4) |
| Equity SVaR | (16.2) | (12.4) | (19.3) | (8.9) | (18.7) |
| Foreign exchange SVaR | (0.3) | (1.3) | (4.5) | (0.1) | (3.2) |
| Interest rate SVaR | (15.2) | (17.1) | (25.1) | (11.9) | (23.1) |
| Credit SVaR | (18.3) | (12.9) | (33.8) | (6.6) | (6.5) |
| Diversification | 27.1 | 25.0 | nm | nm | 25.8 |
| Total Trading SVaR | (24.6) | (20.5) | (34.6) | (13.4) | (27.1) |

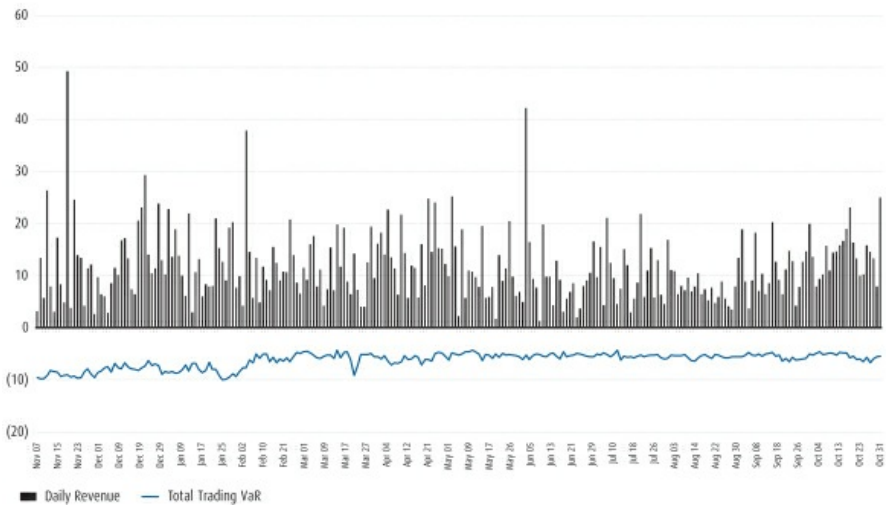
(1) One-day measure using a 99% confidence interval. Losses are presented in brackets and benefits are presented as positive numbers.
(2) Stressed VaR is produced weekly.
nm – not meaningful

Material presented in a blue-tinted font above is an integral part of the 2017 annual consolidated financial statements (see page 78).

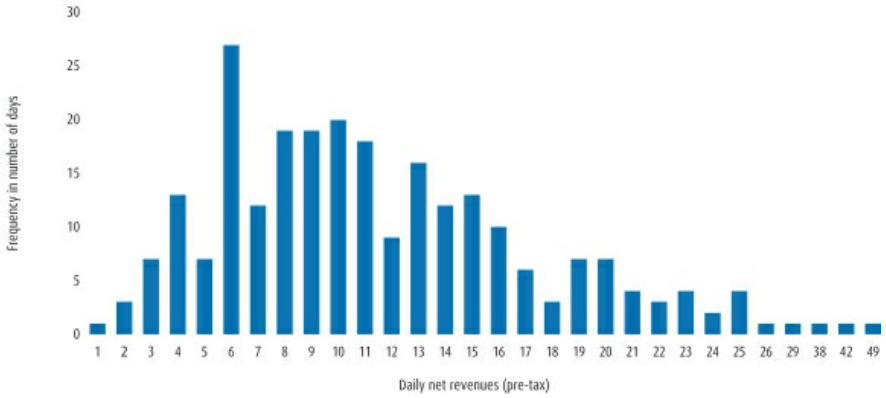
## Trading Net Revenue

The charts below present daily net revenues plotted against Total Trading VaR, along with a representation of daily net revenue distribution. In 2017, we did not incur any daily net trading losses.

**Trading Net Revenues versus Value at Risk**
(pre-tax basis and in millions of Canadian dollars)
November 1, 2016 to October 31, 2017 ($ millions)




**Frequency Distribution of Daily Net Revenues**
November 1, 2016 to October 31, 2017 ($ millions)



## Structural (Non-Trading) Market Risk

Structural market risk is comprised of interest rate risk arising from our banking activities (loans and deposits) and foreign exchange risk arising from our foreign currency operations and exposures.

## Structural Market Risk Governance

BMO's Corporate Treasury group is responsible for the ongoing management of structural market risk across the enterprise, with independent oversight provided by the Market Risk group. In addition to Board-approved limits on earnings at risk and economic value sensitivities due to price changes in interest rates, more granular management limits are in place to guide the daily management of this risk.

The RRC has oversight of the management of structural market risk, annually approves the structural market risk plan and limits, and regularly reviews structural market risk positions. The RMC and the Balance Sheet and Capital Management Committee (BSCMC) regularly review structural market risk positions and provide senior management oversight.

## Structural Market Risk Measurement

### Interest Rate Risk

Structural interest rate risk arises when changes in interest rates affect the cash flows, earnings and values of assets and liabilities related to our banking activities. The objective of structural interest rate risk management is to maintain high-quality earnings and maximize sustainable product spread, while managing the risk to the economic value of our assets due to changes in interest rates.

Structural interest rate risk is primarily comprised of interest rate mismatch risk and product embedded option risk.

Interest rate mismatch risk arises when there are differences in the scheduled maturities, repricing dates or reference rates of assets, liabilities and derivatives. The net interest rate mismatch, representing residual assets funded by common shareholders' equity, is managed to a target profile through interest rate swaps and securities.

Product embedded option risk arises when product features allow customers to alter cash flows, such as scheduled maturity or repricing dates, usually in response to changes in market conditions. Product embedded options include loan prepayments, deposit redemption privileges and committed rates on unadvanced mortgages. Product embedded options and associated customer behaviours are captured in risk modelling and hedging programs may be used to manage this risk to low levels.

Structural interest rate risk is measured using simulations, earnings sensitivity and economic value sensitivity analysis, stress testing and gap analysis, in addition to other treasury risk metrics.

**Earnings Sensitivity** is a measure of the impact of potential changes in interest rates on the projected 12-month pre-tax net income of a portfolio of assets, liabilities and off-balance sheet positions in response to prescribed parallel interest rate movements.

**Economic Value Sensitivity** is a measure of the impact of potential changes in interest rates on the market value of a portfolio of assets, liabilities and off-balance sheet positions in response to prescribed parallel interest rate movements.

The models used to measure structural interest rate risk use projected changes in interest rates and predict how customers would likely react to these changes. For customer loans and deposits with scheduled maturity and repricing dates (such as mortgages and term deposits), our models measure the extent to which customers are likely to use embedded options to alter those scheduled terms. For customer loans and deposits without scheduled maturity and repricing dates (such as credit card loans and chequing accounts), we measure our exposure using models that adjust for elasticity in product pricing and reflect historical and forecasted trends in balances. The results of these structural market risk models by their nature have inherent uncertainty, as they reflect potential anticipated pricing and customer behaviours, which may differ from actual experience. These models have been developed using statistical analysis and are independently validated and periodically updated through regular model performance assessment, back-testing processes and ongoing dialogue with the lines of business. Models developed to predict customer behaviour are also used in support of product pricing. All models are subject to our model risk management framework described in more detail on page 107.

Structural interest rate earnings and economic value sensitivity to an immediate parallel increase or decrease of 100 basis points in the yield curve are disclosed in the following table. The interest rate gap position is disclosed in Note 19 on page 180 of the consolidated financial statements.

During the 2017 fiscal year, we introduced new deposit models in both Canada and the United States that better reflect expected customer behaviour and product pricing as interest rates change. There were no other significant changes in our structural market risk management framework during the year.

Structural economic value exposure to rising interest rates primarily reflects a lower market value for fixed rate loans. Structural economic value sensitivity to falling interest rates primarily reflects the impact of a higher market value for fixed rate loans and minimum modelled client deposit rates. Structural economic value exposure to rising interest rates increased relative to October 31, 2016, primarily owing to modelled deposit pricing being more rate-sensitive at higher interest rate levels following the increase in market rates during the year. The structural economic value benefit to falling interest rates relative to October 31, 2016 increased owing to the greater extent to which interest rates can now fall. Structural earnings sensitivity quantifies the potential impact of interest rate changes on structural balance sheet pre-tax net income over the next 12 months. Structural earnings exposure to falling interest rates primarily reflects the risk of fixed and floating rate loans repricing at lower rates and the more limited ability to reduce deposit pricing as rates fall. Canadian and U.S. long-term and short-term rates increased during the year. While this benefits current earnings, it results in higher earnings exposures to falling interest rates because interest rates can now fall further than they could previously. Structural earnings benefit to rising interest rates primarily reflects the benefit of widening deposit spreads as interest rates rise. The structural earnings benefit to rising interest rates decreased modestly relative to October 31, 2016, primarily owing to a lower modelled benefit of subsequent interest rate increases over the next 12 months following the increase in market rates during the year.

Material presented in a blue-tinted font above is an integral part of the 2017 annual consolidated financial statements (see page 78).

## Structural Balance Sheet Interest Rate Sensitivity (1) (2) (3) (4)

| (Canadian $ in millions) | As at October 31, 2017 Economic value sensitivity (Pre-tax) | As at October 31, 2017 Earnings sensitivity over the next 12 months (Pre-tax) | As at October 31, 2016 Economic value sensitivity (Pre-tax) | As at October 31, 2016 Earnings sensitivity over the next 12 months (Pre-tax) |
|---|---|---|---|---|
| 100 basis point increase | **(957.8)** | **136.9** | (680.2) | 149.0 |
| 100 basis point decrease | **78.6** | **(433.4)** | 7.3 | (168.9) |

(1) Earnings and value sensitivities to falling interest rates assume Canadian and U.S. central banks do not decrease overnight interest rates below nil. The scenarios with decreasing interest rates therefore limit the decrease in both Canadian and U.S. short-term interest rates to 100 basis points for shorter terms as of October 31, 2017 (50 basis points as of October 31, 2016). Longer-term interest rates do not decrease below the assumed level of short-term interest rates.
(2) Certain non-trading AFS holdings are managed under the bank's trading risk framework.
(3) Losses are presented in brackets and benefits are presented as positive numbers.
(4) For BMO's Insurance businesses, a 100 basis point increase in interest rates at October 31, 2017 results in an increase in earnings before tax of $52 million and an increase in economic value before tax of $417 million ($90 million and $623 million, respectively, at October 31, 2016). A 100 basis point decrease in interest rates at October 31, 2017 results in a decrease in earnings before tax of $50 million and a decrease in economic value before tax of $507 million ($87 million and $744 million, respectively, at October 31, 2016). These impacts are not reflected in the table above.

## Foreign Exchange Risk

Structural foreign exchange risk arises primarily from translation risk related to the net investment in our U.S. operations and from transaction risk associated with our U.S.-dollar-denominated net income.

Translation risk represents the impact that changes in foreign exchange rates can have on BMO's reported shareholders' equity and capital ratios. BMO may enter into arrangements to offset the impact of foreign exchange movements on its capital ratios and did so during the 2017 fiscal year. Please see the Enterprise-Wide Capital Management section on page 69 for further information.

Transaction risk represents the impact that fluctuations in the Canadian/U.S. dollar exchange rate may have on the Canadian dollar equivalent of BMO's U.S.-dollar-denominated financial results. Exchange rate fluctuations will affect future results measured in Canadian dollars and the impact on those results is a function of the periods during which revenues, expenses and provisions for credit losses arise. Hedging positions may be taken to partially offset the pre-tax effects of Canadian/U.S. dollar exchange rate fluctuations on financial results. If future results are consistent with results in 2017, each one cent increase (decrease) in the Canadian/U.S. dollar exchange rate would be expected to increase (decrease) the Canadian dollar equivalent of our U.S. segment net income before income taxes for the year by $11 million, in the absence of hedging transactions. Refer to the Foreign Exchange section on page 36 for a more complete discussion of the effects of changes in exchange rates on the bank's results.

## Linkages between Balance Sheet Items and Market Risk Disclosures

The table below presents items reported in our Consolidated Balance Sheet that are subject to market risk, comprised of balances that are subject to either traded risk or non-traded risk measurement techniques.

| (Canadian $ in millions) | As at October 31, 2017 Consolidated Balance Sheet | Subject to market risk: Traded risk (1) | Subject to market risk: Non-traded risk (2) | Not subject to market risk | As at October 31, 2016 Consolidated Balance Sheet | Subject to market risk: Traded risk (1) | Subject to market risk: Non-traded risk (2) | Not subject to market risk | Main risk factors for non-traded risk balances |
|---|---|---|---|---|---|---|---|---|---|
| **Assets Subject to Market Risk** | | | | | | | | | |
| Cash and cash equivalents | **32,599** | **–** | **32,599** | **–** | 31,653 | – | 31,653 | – | Interest rate |
| Interest bearing deposits with banks | **6,490** | **346** | **6,144** | **–** | 4,449 | 258 | 4,191 | – | Interest rate |
| Securities | | | | | | | | | |
| Trading | **99,069** | **90,449** | **8,620** | **–** | 84,458 | 76,297 | 8,161 | – | Interest rate, credit spread, equity |
| Available-for-sale | **54,075** | **–** | **54,075** | **–** | 55,663 | – | 55,663 | – | Interest rate, credit spread |
| Held-to-maturity | **9,094** | **–** | **9,094** | **–** | 8,965 | – | 8,965 | – | Interest rate |
| Other | **960** | **–** | **960** | **–** | 899 | – | 899 | – | Equity |
| Securities borrowed or purchased under resale agreements | **75,047** | **–** | **75,047** | **–** | 66,646 | – | 66,646 | – | Interest rate |
| Loans (net of allowance for credit losses) | **361,672** | **–** | **361,672** | **–** | 358,730 | – | 358,730 | – | Interest rate, foreign exchange |
| Derivative instruments | **28,951** | **27,359** | **1,592** | **–** | 39,183 | 37,768 | 1,415 | – | Interest rate, foreign exchange |
| Customers' liability under acceptances | **16,546** | **–** | **16,546** | **–** | 13,021 | – | 13,021 | – | Interest rate |
| Other assets | **25,077** | **–** | **9,762** | **15,315** | 24,268 | – | 9,149 | 15,119 | Interest rate |
| Total Assets | **709,580** | **118,154** | **576,111** | **15,315** | 687,935 | 114,323 | 558,493 | 15,119 | |
| **Liabilities Subject to Market Risk** | | | | | | | | | |
| Deposits | **483,488** | **13,674** | **469,814** | **–** | 473,372 | 11,604 | 461,768 | – | Interest rate, foreign exchange |
| Derivative instruments | **27,804** | **26,122** | **1,682** | **–** | 38,227 | 36,132 | 2,095 | – | Interest rate, foreign exchange |
| Acceptances | **16,546** | **–** | **16,546** | **–** | 13,021 | – | 13,021 | – | Interest rate |
| Securities sold but not yet purchased | **25,163** | **25,163** | **–** | **–** | 25,106 | 25,106 | – | – | |
| Securities lent or sold under repurchase agreements | **55,119** | **–** | **55,119** | **–** | 40,718 | – | 40,718 | – | Interest rate |
| Other liabilities | **52,077** | **–** | **51,719** | **358** | 50,724 | – | 50,401 | 323 | Interest rate |
| Subordinated debt | **5,029** | **–** | **5,029** | **–** | 4,439 | – | 4,439 | – | Interest rate |
| Total Liabilities | **665,226** | **64,959** | **599,909** | **358** | 645,607 | 72,842 | 572,442 | 323 | |

(1) Primarily comprised of BMO's balance sheet items that are subject to the trading and underwriting risk management framework and fair valued through profit or loss.
(2) Primarily comprised of BMO's balance sheet items that are subject to the structural balance sheet and insurance risk management framework, or are available-for-sale securities.

Certaincomparative figures have been reclassified to conform with the current year's presentation.

Material presented in a blue-tinted font above is an integral part of the 2017 annual consolidated financial statements (see page 78).

## Insurance Risk

**Insurance risk** is the potential for loss as a result of actual experience being different from that assumed when an insurance product was designed and priced. It generally entails the inherent unpredictability that can arise from assuming long-term policy liabilities or from the uncertainty of future events. Insurance provides protection against the financial consequences of insured risks by transferring those risks to the insurer (under specific terms and conditions) in exchange for premiums. Insurance risk is inherent in all our insurance products, including annuities and life, accident and sickness, and creditor insurance, as well as in our reinsurance business.

Insurance risk consists of:

- Claims risk – the risk that the actual magnitude or frequency of claims will differ from those assumed in the pricing or underwriting process, including mortality risk, morbidity risk, longevity risk and catastrophe risk;
- Policyholder behaviour risk – the risk that the behaviour of policyholders in regard to premium payments, withdrawals or loans, policy lapses and surrenders, and other voluntary terminations will differ from the behaviour assumed in the pricing process; and
- Expense risk – the risk that actual expenses arising from acquiring and administering policies and processing claims will exceed the expenses assumed in the pricing process.

BMO's risk governance practices provide effective independent oversight and control of risk within BMO Insurance. BMO's Insurance Risk Management Framework comprises the identification, assessment, management and reporting of risks. The framework includes: the risk appetite statement and key risk metrics; insurance risk policies and processes, including limits; capital requirements; stress testing; risk reports; Own Risk and Solvency Assessment; and ongoing monitoring of experience. Senior management within the various lines of business uses this framework and is primarily responsible for, as the first line of defence, managing insurance risk. Second-line-of-defence oversight is provided by the CRO, BMO Insurance, who reports to the CRO, Wealth Management. Internal risk committees, the Boards of Directors of BMO Insurance's subsidiaries and senior management provide senior governance and review. In particular, the Insurance Risk Management Committee at BMO Insurance oversees and reports on risk management activities on a quarterly basis to the insurance companies' Boards of Directors. In addition, the Audit and Conduct Review Committee of the Board acts as the Audit and Conduct Review Committee for BMO Life Insurance Company.

A robust product approval process is a cornerstone of BMO Insurance's risk management framework, as it identifies, assesses and mitigates risks associated with new insurance products or changes to existing products. This process, along with guidelines and practices for underwriting and claims management, promotes the effective identification, measurement and management of insurance risk. Reinsurance, which involves transactions that transfer insurance risk to independent reinsurance companies, is also used to mitigate our exposure to insurance risk by diversifying risk and limiting claims. Our reinsurance business, on the other hand, assumes property catastrophe and other reinsurance risks from independent reinsurers in various jurisdictions worldwide, in accordance with BMO Insurance's risk management framework, to control reinsurance exposures.

## Liquidity and Funding Risk

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

Managing liquidity and funding risk is essential to maintaining a safe and sound enterprise, depositor confidence and earnings stability. It is BMO's policy to ensure that sufficient liquid assets and funding capacity are available to meet financial commitments, even in times of stress.

### Liquidity and Funding Risk Governance

The Corporate Treasury group and the operating groups, as the first line of defence, are responsible for the ongoing management of liquidity and funding risk across the enterprise. BMO's Corporate Treasury group is responsible for identifying, understanding, managing, monitoring, mitigating and reporting on BMO's liquidity and funding risks. The Corporate Treasury group develops and recommends the Liquidity and Funding Risk Management Framework and the related risk appetite and limits, monitors compliance with the relevant corporate policies and assesses the impact of market events on liquidity and funding requirements on an ongoing basis.

Enterprise Market Risk Management, as the second line of defence, provides oversight, independent risk assessment and effective challenge of liquidity and funding management, frameworks, policies, limits, monitoring and reporting across the enterprise. The RMC and BSCMC provide senior management oversight and also review and discuss significant liquidity and funding policies, issues and developments that arise in the pursuit of our strategic priorities. The RRC provides oversight of the management of liquidity and funding risk, annually approves applicable policies, limits and the contingency plan, and regularly reviews liquidity and funding positions.

### Liquidity and Funding Risk Management

BMO's Liquidity and Funding Risk Management Framework is defined and authorized under Board-approved corporate policies and management-approved standards. These policies and standards outline key management principles, liquidity and funding metrics and related limits, as well as roles and responsibilities for the management of liquidity and funding risk across the enterprise.

BMO has a robust limit structure in place in order to manage liquidity and funding risk. Limits define the enterprise-level risk appetite for our key Net Liquidity Position (NLP) measure, regulatory liquidity ratios, secured and unsecured funding appetite, for both trading and structural activities, and enterprise collateral pledging. Limits also establish the tolerance for concentrations of maturities, requirements for diversifying counterparty liabilities, business pledging activity, and the size and type of uncommitted and committed credit and liquidity facilities that may be outstanding. Operating within these limits helps to confirm that liquidity and funding risk is appropriately managed. An enterprise-wide contingency plan that will facilitate effective management in the event of a disruption is also in place. Early warning indicators identified in the contingency plan are regularly monitored in order to detect any signs of growing liquidity or funding risk in the market or risks specific to BMO.

Material presented in a blue-tinted font above is an integral part of the 2017 annual consolidated financial statements (see page 78).

BMO legal entities include regulated and foreign subsidiaries and branches, and as a result, movements of funds between entities in the corporate group are subject to, among other things, the liquidity, funding and capital adequacy requirements of these entities. As such, liquidity and funding positions are managed on both a consolidated and key legal entity basis. Liquidity and funding risk management policies and limits are in place for key legal entities, which are informed by the legal and regulatory requirements that apply to each entity, and positions are regularly reviewed at the key legal entity level to confirm compliance with applicable requirements.

BMO employs funds transfer pricing and liquidity transfer pricing practices to help ensure that appropriate economic signals for the pricing of products for customers are provided to the lines of business and to assess the performance of each business. These practices capture both the cost of funding assets and the value of deposits under normal operating conditions, as well as the cost of holding supplemental liquid assets to meet contingent liquidity requirements.

## Liquidity and Funding Risk Measurement

A key component of liquidity risk management is the measurement of liquidity risk under stress. BMO uses the NLP as a key measure of liquidity risk. The NLP represents the amount by which liquid assets exceed potential funding needs under a severe combined enterprise-specific and systemic stress scenario. Potential funding needs may arise from obligations to repay retail, commercial and wholesale deposits that are withdrawn or not renewed or to fund drawdowns on available credit and liquidity lines, obligations to pledge collateral due to ratings downgrades or market volatility, and the continuing need to fund new assets or strategic investments. Potential funding needs are quantified by applying factors to various business activities based on management's view of the relative level of liquidity risk related to each activity. These factors vary by depositor classification (e.g., retail, small business, non-financial corporate or wholesale counterparties) and deposit type (e.g., insured, uninsured, operational or non-operational deposits), as well as by commitment type (e.g., uncommitted or committed credit or liquidity facilities by counterparty type). The stress scenario also considers the time horizon over which liquid assets can be monetized and management's assessment of the liquidity value of those assets under conditions of market stress. These funding needs are assessed under severe systemic and enterprise-specific stress scenarios and a combination thereof. BMO focuses on maintaining an NLP sufficient to withstand each scenario.

Stress testing results are evaluated against BMO's stated risk tolerance and are considered in management decisions on setting limits and internal liquidity transfer pricing, and they also help to shape the design of business plans and contingency plans. The Liquidity and Funding Risk Management Framework is integrated with enterprise-wide stress testing.

In addition to the NLP, we regularly monitor positions in relation to the limits and liquidity ratios noted in the Liquidity and Funding Risk Management section above. These include regulatory metrics such as the Liquidity Coverage Ratio (LCR) and Net Cumulative Cash Flow (NCCF).

## Unencumbered Liquid Assets

Unencumbered liquid assets include high-quality assets that are marketable, can be pledged as security for borrowings, and can be converted to cash in a time frame that meets our liquidity and funding requirements. Liquid assets are primarily held in our trading businesses, as well as in supplemental liquidity pools that are maintained for contingent liquidity risk management purposes. The liquidity value recognized for different asset classes under our management framework reflects management's assessment of the liquidity value of those assets under a severe stress scenario. Liquid assets held in the trading businesses include cash on deposit with central banks, short-term deposits with other financial institutions, highly-rated debt and equity securities and short-term reverse repurchase agreements. Supplemental liquidity pool assets are predominantly comprised of cash on deposit with central banks and securities and short-term reverse repurchase agreements of highly-rated Canadian federal and provincial and U.S. federal government and agency debt. Substantially all supplemental liquidity pool assets meet the definition of high-quality liquid assets under Basel III. Approximately 75% of the supplemental liquidity pool is held at the parent bank level in Canadian- and U.S.-dollar-denominated assets, with the majority of the remaining supplemental liquidity pool held at BMO Harris Bank in U.S.-dollar-denominated assets. The size of the supplemental liquidity pool is integrated with our measurement of liquidity risk. To meet local regulatory requirements, certain of our legal entities maintain their own minimum liquidity positions. There may be legal and regulatory restrictions on our ability to use liquid assets held at one legal entity to support the liquidity requirements of another legal entity.

In the ordinary course of business, BMO may encumber a portion of cash and securities holdings as collateral in support of trading activities and participation in clearing and payment systems in Canada and abroad. In addition, BMO may receive liquid assets as collateral and may re-pledge these assets in exchange for cash or as collateral in support of trading activities. Net unencumbered liquid assets, defined as on-balance sheet assets such as BMO-owned cash and securities and securities borrowed or purchased under resale agreements, plus other off-balance sheet eligible collateral received, less collateral encumbered, totalled $213.8 billion at October 31, 2017, compared with $197.7 billion at October 31, 2016. The increase in unencumbered liquid assets was due to higher cash and security balances, partially offset by the impact of the weaker U.S. dollar. Net unencumbered liquid assets are primarily held at the parent bank level, at BMO Harris Bank, our U.S. bank entity, and in our broker/dealer operations. In addition to liquid assets, BMO has access to the Bank of Canada's lending assistance programs, the Federal Reserve Bank discount window in the United States and European Central Bank standby liquidity facilities. We do not rely on central bank facilities as a source of available liquidity when assessing the strength of BMO's liquidity position.

In addition to cash and securities holdings, BMO may also pledge other assets, including mortgages and loans, to raise long-term secured funding. As part of the Liquidity and Funding Risk Management Framework, a Pledging of Assets Corporate Policy sets out the framework and pledging limits for financial and non-financial assets.

BMO's total encumbered assets and unencumbered liquid assets are summarized in the table below. See Note 25 on page 192 of the consolidated financial statements for further information on pledged assets.

Material presented in a blue-tinted font above is an integral part of the 2017 annual consolidated financial statements (see page 78).

## Liquid Assets

| (Canadian $ in millions) | As at October 31, 2017 Carrying value/on-balance sheet assets (1) | Other cash and securities received | Total gross assets (2) | Encumbered assets | Net unencumbered assets (3) | As at October 31, 2016 Net unencumbered assets (3) |
|---|---|---|---|---|---|---|
| Cash and cash equivalents | **32,599** | **–** | **32,599** | **1,435** | **31,164** | 29,696 |
| Deposits with other banks | **6,490** | **–** | **6,490** | **–** | **6,490** | 4,449 |
| Securities and securities borrowed or purchased under resale agreements | | | | | | |
| Sovereigns / Central banks / Multilateral development banks | **126,394** | **20,745** | **147,139** | **87,725** | **59,414** | 58,365 |
| Mortgage-backed securities and collateralized mortgage obligations | **22,402** | **583** | **22,985** | **4,220** | **18,765** | 19,746 |
| Corporate debt | **18,254** | **7,929** | **26,183** | **3,815** | **22,368** | 23,855 |
| Corporate equity | **71,195** | **21,012** | **92,207** | **39,591** | **52,616** | 41,175 |
| Total securities and securities borrowed or purchased under resale agreements | **238,245** | **50,269** | **288,514** | **135,351** | **153,163** | 143,141 |
| NHA mortgage-backed securities (reported as loans at amortized cost) (4) | **25,441** | **–** | **25,441** | **2,501** | **22,940** | 20,436 |
| Total liquid assets | **302,775** | **50,269** | **353,044** | **139,287** | **213,757** | 197,722 |
| Other eligible assets at central banks (not included above) (5) | **65,169** | **–** | **65,169** | **393** | **64,776** | 109,258 |
| Undrawn credit lines granted by central banks | **–** | **–** | **–** | **–** | **–** | – |
| Total liquid assets and other sources | **367,944** | **50,269** | **418,213** | **139,680** | **278,533** | 306,980 |

(1) The carrying values outlined in this table are consistent with the carrying values reported in BMO's balance sheet as at October 31, 2017.
(2) Gross assets include on-balance sheet and off-balance sheet assets.
(3) Net unencumbered liquid assets are defined as on-balance sheet assets, such as BMO-owned cash and securities and securities borrowed or purchased under resale agreements, plus other off-balance sheet eligible collateral received, less encumbered assets.
(4) Under IFRS, NHA mortgage-backed securities that include mortgages owned by BMO as the underlying collateral are classified as loans. Unencumbered NHA mortgage-backed securities have liquidity value and are included as liquid assets under BMO's Liquidity and Funding Management Framework. This amount is shown as a separate line item, NHA mortgage-backed securities.
(5) Represents loans currently lodged at central banks that could potentially be used to access central bank funding. Loans available for pledging as collateral do not include other sources of additional liquidity that may be realized from the loan portfolio, including incremental securitization, covered bond issuances and Federal Home Loan Bank (FHLB) advances. Other eligible assets at central banks decreased as at Q4-2017 as a result of a change in the criteria for eligible loan collateral that can be accepted by the Bank of Canada effective Q1-2017.

MANAGEMENT'S DISCUSSION AND ANALYSIS

## Asset Encumbrance

| (Canadian $ in millions) As at October 31, 2017 | **Total gross assets** (1) | **Encumbered** (2) **Pledged as collateral** | **Other encumbered** | **Net unencumbered** **Other unencumbered** (3) | **Available as collateral** (4) |
|---|---|---|---|---|---|
| Cash and deposits with other banks | **39,089** | **–** | **1,435** | **3** | **37,651** |
| Securities (5) | **313,955** | **109,110** | **28,742** | **9,692** | **166,411** |
| Loans and acceptances | **336,231** | **63,438** | **393** | **207,624** | **64,776** |
| Other assets | | | | | |
| Derivative instruments | **28,951** | **–** | **–** | **28,951** | **–** |
| Customers' liability under acceptances | **16,546** | **–** | **–** | **16,546** | **–** |
| Premises and equipment | **2,033** | **–** | **–** | **2,033** | **–** |
| Goodwill | **6,244** | **–** | **–** | **6,244** | **–** |
| Intangible assets | **2,159** | **–** | **–** | **2,159** | **–** |
| Current tax assets | **1,371** | **–** | **–** | **1,371** | **–** |
| Deferred tax assets | **2,865** | **–** | **–** | **2,865** | **–** |
| Other assets | **10,405** | **–** | **–** | **10,405** | **–** |
| Total other assets | **70,574** | **–** | **–** | **70,574** | **–** |
| Total assets | **759,849** | **172,548** | **30,570** | **287,893** | **268,838** |

| (Canadian $ in millions) As at October 31, 2016 | Total gross assets (1) | Encumbered (2) Pledged as collateral | Other encumbered | Net unencumbered Other unencumbered (3) | Available as collateral (4) |
|---|---|---|---|---|---|
| Cash and deposits with other banks | 36,102 | – | 1,957 | 11 | 34,134 |
| Securities (5) | 286,783 | 95,584 | 27,622 | 9,075 | 154,502 |
| Loans and acceptances | 335,778 | 57,308 | 398 | 168,814 | 109,258 |
| Other assets | | | | | |
| Derivative instruments | 39,183 | – | – | 39,183 | – |
| Customers' liability under acceptances | 13,021 | – | – | 13,021 | – |
| Premises and equipment | 2,147 | – | – | 2,147 | – |
| Goodwill | 6,381 | – | – | 6,381 | – |
| Intangible assets | 2,178 | – | – | 2,178 | – |
| Current tax assets | 906 | – | – | 906 | – |
| Deferred tax assets | 3,101 | – | – | 3,101 | – |
| Other assets | 9,555 | – | – | 9,555 | – |
| Total other assets | 76,472 | – | – | 76,472 | – |
| Total assets | 735,135 | 152,892 | 29,977 | 254,372 | 297,894 |

(1) Gross assets include on-balance sheet and off-balance sheet assets.

(2) Pledged as collateral refers to the portion of on-balance sheet assets and other cash and securities that is pledged through repurchase agreements, securities lent, derivative contracts, minimum required deposits at central banks and requirements associated with participation in clearing houses and payment systems. Other encumbered assets include assets that are restricted for legal or other reasons, such as restricted cash and short sales.

(3) Other unencumbered assets include select liquid asset holdings that management believes are not readily available to support BMO's liquidity requirements. These include cash and securities of $9.7 billion as at October 31, 2017, which include securities held at BMO's insurance subsidiary, significant equity investments, and certain investments held at our merchant banking business. Other unencumbered assets also include mortgages and loans that may be securitized to access secured funding.

(4) Loans included as available as collateral represent loans currently lodged at central banks that could potentially be used to access central bank funding. Loans available for pledging as collateral do not include other sources of additional liquidity that may be realized from the loan portfolio, including incremental securitization, covered bond issuances and FHLB advances.

(5) Includes securities, securities borrowed or purchased under resale agreements and NHA mortgage-backed securities (reported as loans at amortized cost).

BMO's Liquidity Coverage Ratio (LCR) is summarized in the table on the following page. The average daily LCR for the quarter ended October 31, 2017 was 152%. The LCR is calculated on a daily basis as the ratio of the stock of High-Quality Liquid Assets (HQLA) to total net stressed cash outflows over the next 30 calendar days. The average LCR was up from 131% last year, due to a decrease in net cash outflows. Net cash outflows decreased primarily due to higher inflows associated with certain types of trading activities. While banks are required to maintain an LCR greater than 100% in normal conditions, banks are also expected to be able to utilize HQLA during a period of stress, which may result in an LCR of less than 100% during that period. BMO's HQLA are primarily comprised of cash, highly-rated debt issued or backed by governments, highly-rated covered bonds and non-financial corporate debt, and non-financial equities that are part of a major stock index. Net cash flows include outflows from deposits, secured and unsecured wholesale funding, commitments and potential collateral requirements, offset by permitted inflows from loans, securities lending activities and other non-HQLA debt maturing over a 30-day horizon. OSFI-prescribed weights are applied to cash flows and HQLA to arrive at the weighted values and the LCR. The LCR is only one measure of a bank's liquidity position and does not fully capture all of the bank's liquid assets or the funding alternatives that may be available during a period of stress. BMO's total liquid assets are shown in the Liquid Assets table on page 101.

## Liquidity Coverage Ratio

| (Canadian $ in billions, except as noted) | For the quarter ended October 31, 2017<br>Total unweighted value (average) (1) (2) | Total weighted value (average) (2) (3) |
|---|---|---|
| **High-Quality Liquid Assets** | | |
| Total high-quality liquid assets (HQLA) | * | **130.3** |
| **Cash Outflows** | | |
| Retail deposits and deposits from small business customers, of which: | **162.1** | **10.0** |
| Stable deposits | **88.0** | **2.6** |
| Less stable deposits | **74.1** | **7.4** |
| Unsecured wholesale funding, of which: | **135.3** | **76.5** |
| Operational deposits (all counterparties) and deposits in networks of cooperative banks | **53.3** | **13.2** |
| Non-operational deposits (all counterparties) | **54.1** | **35.4** |
| Unsecured debt | **27.9** | **27.9** |
| Secured wholesale funding | * | **12.9** |
| Additional requirements, of which: | **128.3** | **27.7** |
| Outflows related to derivatives exposures and other collateral requirements | **10.5** | **5.6** |
| Outflows related to loss of funding on debt products | **2.7** | **2.7** |
| Credit and liquidity facilities | **115.1** | **19.4** |
| Other contractual funding obligations | **0.5** | **–** |
| Other contingent funding obligations | **323.4** | **5.2** |
| Total cash outflows | * | **132.3** |
| **Cash Inflows** | | |
| Secured lending (e.g. reverse repos) | **113.3** | **16.7** |
| Inflows from fully performing exposures | **11.2** | **8.5** |
| Other cash inflows | **21.3** | **21.3** |
| Total cash inflows | **145.8** | **46.5** |

| | **Total adjusted value** (4) |
|---|---|
| Total HQLA | **130.3** |
| Total net cash outflows | **85.8** |
| Liquidity Coverage Ratio (%) | **152** |

| For the quarter ended October 31, 2016 | Total adjusted value (4) |
|---|---|
| Total HQLA | 132.3 |
| Total net cash outflows | 100.7 |
| Liquidity Coverage Ratio (%) | 131 |

* Disclosure is not required under the LCR disclosure standard.

(1) Unweighted values are calculated at market value (for HQLA) or as outstanding balances maturing or callable within 30 days (for inflows and outflows).

(2) Values are calculated based on the simple average of the daily LCR over 63 business days in the fourth quarter of 2017. The LCR in prior periods, up to and including the fourth quarter of 2016, is based on the average of the month-end values in the quarter.

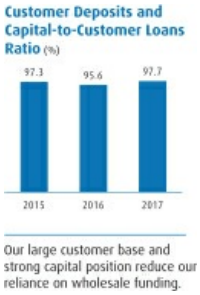
(3) Weighted values are calculated after the application of the weights prescribed under the OSFI Liquidity Adequacy Requirements (LAR) Guideline for HQLA and cash inflows and outflows.

(4) Adjusted values are calculated based on total weighted values after applicable caps as defined by the LAR Guideline.

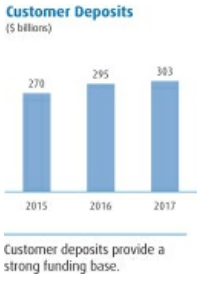
## Funding Strategy

Our funding philosophy requires that secured and unsecured wholesale funding used to support loans and less liquid assets must be of a term (typically maturing in two to ten years) that will support the effective term to maturity of these assets. Wholesale secured and unsecured funding for liquid trading assets is largely shorter term (maturing in one year or less), is aligned with the liquidity of the assets being funded, and is subject to limits on aggregate maturities that are permitted across different time periods. Supplemental liquidity pools are funded with a mix of wholesale term funding.

BMO maintains a large and stable base of customer deposits that, in combination with our strong capital base, is a source of strength. It supports the maintenance of a sound liquidity position and reduces our reliance on wholesale funding. Customer deposits totalled $303.1 billion at October 31, 2017, up from $295.1 billion in 2016, as strong deposit growth was partially offset by the impact of the weaker U.S. dollar. BMO also receives deposits in support of certain trading activities and receives non-marketable deposits from corporate and institutional customers. These deposits totalled $33.5 billion as at October 31, 2017.




Our large customer base and strong capital position reduce our reliance on wholesale funding.

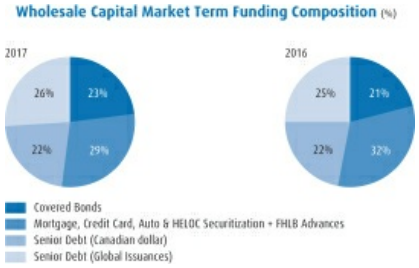



Customer deposits provide a strong funding base.

Material presented in a blue-tinted font above is an integral part of the 2017 annual consolidated financial statements (see page 78).

Total wholesale funding outstanding, largely consisting of negotiable marketable securities, was $180.5 billion at October 31, 2017, with $57.0 billion sourced as secured funding and $123.5 billion sourced as unsecured funding. Wholesale funding outstanding increased from $170.3 billion at October 31, 2016, due to wholesale funding issuances. The mix and maturities of BMO's wholesale term funding are outlined in the table below. Additional information on deposit maturities can be found in Note 29 on page 199 of the consolidated financial statements. BMO maintains a sizeable portfolio of unencumbered liquid assets, totalling $213.8 billion as at October 31, 2017, that can be monetized to meet potential funding requirements, as described in the Unencumbered Liquid Assets section on page 100.

Diversification of our wholesale funding sources is an important part of our overall liquidity management strategy. BMO's wholesale funding activities are well-diversified by jurisdiction, currency, investor segment, instrument and maturity profile. BMO maintains ready access to long-term wholesale funding through various borrowing programs, including a European Note Issuance Program, Canadian, Australian and U.S. Medium-Term Note programs, Canadian and U.S. mortgage securitizations, Canadian credit card, auto and home equity line of credit (HELOC) securitizations, covered bonds, and Canadian and U.S. senior unsecured deposits.




BMO's wholesale funding plan seeks to ensure sufficient funding capacity is available to execute business strategies. The funding plan considers expected maturities, as well as asset and liability growth projected for our businesses in our forecasting and planning process, and assesses funding needs in relation to the funding sources available. The funding plan is reviewed annually by the BSCMC and RMC and approved by the RRC, and is regularly updated to reflect actual results and incorporate updated forecast information.

## Wholesale Funding Maturities (1)

| | As at October 31, 2017 | | | | | | | | As at October 31, 2016 |
|---|---|---|---|---|---|---|---|---|---|
| (Canadian $ in millions) | Less than 1 month | 1 to 3 months | 3 to 6 months | 6 to 12 months | Subtotal less than 1 year | 1 to 2 years | Over 2 years | Total | Total |
| Deposits from banks | 3,611 | 241 | 4 | – | 3,856 | – | 106 | 3,962 | 6,295 |
| Certificates of deposit and commercial paper | 14,578 | 16,584 | 10,880 | 14,718 | 56,760 | 3,880 | – | 60,640 | 55,260 |
| Bearer deposit notes | 665 | 1,098 | 1,042 | 10 | 2,815 | – | – | 2,815 | 5,344 |
| Asset-backed commercial paper (ABCP) | 1,175 | 2,066 | 481 | – | 3,722 | – | – | 3,722 | 3,968 |
| Senior unsecured medium-term notes | – | 2,000 | 4,353 | 5,416 | 11,769 | 7,422 | 28,898 | 48,089 | 42,876 |
| Senior unsecured structured notes (2) | 19 | – | – | – | 19 | – | 2,983 | 3,002 | 2,193 |
| Covered bonds and securitizations | | | | | | | | | |
| Mortgage and HELOC securitizations | – | 570 | 900 | 1,114 | 2,584 | 2,550 | 12,801 | 17,935 | 18,105 |
| Covered bonds | – | 557 | – | – | 557 | 3,756 | 18,912 | 23,225 | 19,778 |
| Other asset-backed securitizations (3) | – | 54 | 614 | 290 | 958 | 1,449 | 2,753 | 5,160 | 4,303 |
| Subordinated debt (4) | – | – | – | – | – | – | 5,028 | 5,028 | 5,666 |
| Other (5) | 645 | 5,161 | 484 | – | 6,290 | – | 645 | 6,935 | 6,538 |
| Total | 20,693 | 28,331 | 18,758 | 21,548 | 89,330 | 19,057 | 72,126 | 180,513 | 170,326 |
| Of which: | | | | | | | | | |
| Secured | 1,820 | 8,408 | 2,479 | 1,404 | 14,111 | 7,755 | 35,111 | 56,977 | 52,692 |
| Unsecured | 18,873 | 19,923 | 16,279 | 20,144 | 75,219 | 11,302 | 37,015 | 123,536 | 117,634 |
| Total (6) | 20,693 | 28,331 | 18,758 | 21,548 | 89,330 | 19,057 | 72,126 | 180,513 | 170,326 |

(1) Wholesale unsecured funding primarily includes funding raised through the issuance of marketable, negotiable instruments. Wholesale funding excludes repo transactions and bankers' acceptances, which are disclosed in the contractual maturity table in Note 29 on page 199 of the consolidated financial statements, and excludes ABCP issued by certain ABCP conduits that is not consolidated for financial reporting purposes.
(2) Primarily issued to institutional investors.
(3) Includes credit card and auto securitizations.
(4) Includes certain subordinated debt instruments reported as deposits or other liabilities for accounting purposes. Subordinated debt is reported in this table in accordance with recommended Enhanced Disclosure Task Force disclosures.
(5) Refers to FHLB advances.
(6) Total wholesale funding consists of Canadian-dollar-denominated funding of $49.5 billion and U.S.-dollar and other foreign-denominated funding of $131.0 billion as at October 31, 2017.

### Regulatory Developments

The Net Stable Funding Ratio (NSFR) is a regulatory liquidity metric that assesses the stability of a bank's funding profile in relation to the liquidity value of the bank's assets. While this metric was expected to come into force on January 1, 2018, OSFI has extended the domestic implementation timeline to January 2019, given the uncertainty about whether key foreign jurisdictions will implement the new standard by the January 2018 deadline. This also extends the time available for OSFI to clarify the details of the NSFR rules as they relate to the Canadian market.

### Credit Ratings

The credit ratings assigned to BMO's short-term and senior long-term debt securities by external rating agencies are important in the raising of both capital and funding to support our business operations. Maintaining strong credit ratings allows us to access the capital markets at competitive pricing levels. Should our credit ratings experience a downgrade, our cost of funding would likely increase and our access to funding and capital through the capital markets could be reduced. A material downgrade of our ratings could also have other consequences, including those set out in Note 8 on page 159 of the consolidated financial statements.

The credit ratings assigned to BMO's senior debt by rating agencies are indicative of high-grade, high-quality issues. Standard & Poor's (S&P) and Fitch have a stable outlook on BMO. Moody's and DBRS have a negative outlook. On May 10, 2017, Moody's revised its Macro Profile for Canada to Strong+ from Very Strong-, resulting in a downgrade of Moody's ratings of six Canadian banks, including BMO. The Macro Profile change reflects Moody's expectation of a more challenging operating environment for banks in Canada that could lead to a deterioration in the banks' asset quality and increase their sensitivity to external shocks. The Baseline Credit Assessment, long-term debt and deposit ratings and Counterparty Risk Assessment assigned to BMO by Moody's were each downgraded by one notch.

As at October 31, 2017

| Rating agency | Short-term debt | Senior long-term debt | Subordinated debt – NVCC | Outlook |
|---|---|---|---|---|
| Moody's | P-1 | A1 | Baa2 | Negative |
| S&P | A-1 | A+ | BBB | Stable |
| Fitch | F1+ | AA- | A+ | Stable |
| DBRS | R-1 (high) | AA | A (low) | Negative |

## Operational Risk

**Operational risk** is the potential for loss resulting from inadequate or failed internal processes or systems, human interactions or external events, but excludes business risk, credit risk and market risk.

Operational risk is inherent in all our business and banking activities and has the potential to significantly impact our business and financial results, including financial loss, restatements and damage to our reputation. Like other financial services organizations operating in multiple jurisdictions, BMO is exposed to a variety of operational risks that arise from the potential for failures of our internal processes, employees and systems, as well as from external threats. Potential losses may result from process and control failures, theft and fraud, unauthorized transactions by employees, regulatory non-compliance, business disruption, information security breaches, cyber security threats and exposure related to outsourcing, as well as the risk of damage to physical assets. Given the large volume of transactions we process on a daily basis, and the complexity and speed of our business, there is a possibility that certain operational or human errors may be repeated or compounded before they are discovered and rectified.

Operational risk is not only inherent in our business and banking activities, it is inherent in the processes and controls used to manage our risks. There is the potential for errors to occur, as well as the possibility of failure in our internal processes or systems, which could lead to financial loss and reputational harm. Shortcomings or failures of our internal processes, employees or systems, or of services and products provided by third parties, including any of our financial, accounting or other data processing systems, could lead to financial loss or restatements and damage our reputation.

The nature of our business also exposes us to the risk of theft and fraud when we enter into credit transactions with customers or counterparties. In extending credit, we rely on information and other representations made by customers and counterparties and that information provided is accurate and complete. While we conduct appropriate due diligence on such customer information and, where practical and economical, engage valuation experts, and other experts or sources of information to assist with assessing collateral and other customer risks, our financial results may be adversely impacted if the information provided by customers or counterparties is materially misleading and that is not discovered during the due diligence process.

We utilize various risk management frameworks to manage and mitigate all of these risks, including internal controls, limits and governance processes. However, despite the contingency plans we have in place to maintain our ability to serve our clients and minimize disruptions and adverse impacts, and the contingency plans our third-party service providers have in place, our ability to conduct business may be adversely affected by a disruption to the infrastructure that supports both our operations and the communities in which we do business, including but not limited to disruption caused by public health emergencies or terrorist acts.

We regularly review our top and emerging risks, and assess our preparedness to proactively manage the risks that we face or could face in the future. For more information on these and other factors that may affect future results, please refer to the discussion on page 80.

Consistent with the management of risk across the enterprise, we employ the three-lines-of-defence approach to operational risk. Operational risk is managed by business units and corporate functions as the first line of defence. It is overseen by ERPM Operational Risk Management (ORM), along with the Corporate Support areas in targeted areas, as the second line of defence, governed by a robust committee structure and supported by a comprehensive Operational Risk Management Framework (ORMF). The Corporate Audit Division, as the third line of defence, assesses our adherence to controls and highlights opportunities to strengthen our processes.

## Operational Risk Governance

The Operational Risk Committee (ORC), a sub-committee of the RMC, is the primary oversight and governance committee for all operational risk management matters. As part of its governance responsibilities, the ORC provides effective challenge to the policies, standards, operating guidelines, methodologies and tools that comprise the governing principles of the ORMF. These governance documents are reviewed on a regular basis to ensure they incorporate sound practices and are consistent with our risk appetite. Regular analysis and reporting of our enterprise operational risk profile to the various committees (ORC, RMC and RRC) are important elements of our risk governance framework. Enterprise reporting provides an integrated view of top and emerging risks, trends in loss data, capital consumption, key risk indicators and operating group profiles. We continue to invest in our reporting platforms to support timely and comprehensive reporting capabilities to enhance risk transparency and facilitate the proactive management of operational risk exposures.

## Operational Risk Management

The operating groups, as the first line of defence, are accountable for the day-to-day management of operational risk, with the CROs of businesses providing governance and oversight for their respective units and Corporate Support areas providing additional governance and oversight in targeted areas. Independent risk management oversight is provided by the ORM team, which is responsible for operational risk strategy, tools and policies, and for second-line oversight, effective challenge and governance. ORM establishes and maintains the ORMF, which defines the processes used by the first line of defence to identify, measure, manage, mitigate, monitor and report on key operational risk exposures, losses and near-miss operational risk events with significant potential impact. The ORMF also defines the processes by which ORM, as the second line of defence, develops, communicates, supports, monitors and assesses the first line in its management of operational risk. Operational Risk Officers (OROs) within ORM independently assess group operational risk profiles, identify material exposures and potential weaknesses in processes and controls, and recommend appropriate mitigation strategies and actions. Executing our ORMF strategy also involves continuing to strengthen our risk culture by promoting greater awareness and understanding of operational risk within all three lines of defence, learning from loss events and near-misses and providing other training and communication, as well as day-to-day execution and oversight of the ORMF. We also continue to strengthen our second-line-of-defence support and oversight.

The following are the key programs, methodologies and processes in the ORMF that assist us in the ongoing review of our operational risk profile:

- Risk Control Self-Assessment (RCSA) is an established process used by our operating groups to identify the key risks associated with their businesses and the controls required for risk mitigation. The RCSA process provides a forward-looking view of the impact of the business environment and internal controls on operating group risk profiles, enabling the proactive prevention, mitigation and management of risk. ORM produces an independent enterprise-level view of operational risk relative to our risk appetite, so that key risks can be appropriately identified, documented, managed and mitigated.
- Process Risk Assessment (PRA) and Operational Risk Management Investigations (ORMI) provide a deeper view by identifying key risks and controls in our important business processes, which may span multiple business and functional units. PRAs and ORMIs enable a greater understanding of our key processes, issues and risk mitigation activities, which facilitates more effective oversight and appropriate risk management.
- BMO's initiative assessment and approval process is used to assess, document and approve qualifying initiatives when a new business, service or product is developed or existing services and products are enhanced. The process seeks to ensure that due diligence, approval, monitoring and reporting requirements are appropriately addressed at all levels of the organization.
- Key risk indicators (KRIs) provide an early indication of any adverse changes in risk exposure. Operating groups and corporate functions identify metrics related to their material operational risks. These KRIs are used in monitoring operational risk profiles and their overall relation to our risk appetite, are subject to review and challenge by ORM, and are linked to thresholds that trigger management intervention.
- Internal loss data serves as an important means of assessing our operational risk exposure and identifying opportunities for future risk prevention measures. In this assessment, internal loss data is analyzed and benchmarked against available external data. Material trends are regularly reported to the ORC, RMC and RRC in order to enable preventative or corrective action to be taken where appropriate. BMO is a member of the Operational Risk Data Exchange Association, the American Bankers Association and other national and international associations of banks that share loss data information anonymously to assist in risk identification, assessment and modelling.
- BMO's operational risk management training programs seek to ensure that our employees are qualified and equipped to execute the ORMF consistently, effectively and efficiently.
- Effective business continuity management provides us with the capability to maintain, manage and recover critical operations and processes in the event of a business disruption, thereby minimizing any adverse effects on our customers and other stakeholders.
- BMO's Corporate Risk & Insurance team provides a second level of mitigation for certain operational risk exposures. We purchase insurance where required by law, regulation or contractual agreement, and where it is economically attractive and practicable to mitigate our risks, in order to provide adequate protection against unexpected material loss.

A primary objective of the ORMF, and our implementation and oversight of this framework and its provisions, is to ensure that our operational risk profile is consistent with our risk appetite and supported by adequate capital.

## Cyber Security Risk

Information security is integral to BMO's business activities, brand and reputation. Given our pervasive use of the internet and reliance on advanced digital technologies, we face common banking information security risks, including the threat of hacking, identity theft and corporate espionage, as well as the possibility of denial of service resulting from efforts targeted at causing system failure and service disruption. BMO continues to proactively invest in defensive technology, talent and processes to prevent or detect and manage cyber security threats within BMO and at service providers. These include benchmarking and review of best practices across the banking and cyber security industries, evaluation of the effectiveness of our key controls and development of new controls, as needed, with ongoing investments in both technology and human resources. BMO performs assessments of third-party service providers to monitor alignment with BMO standards. We also work with cyber security and software suppliers to bolster our internal resources and technology capabilities in order to better enable us to remain resilient in a rapidly evolving threat landscape.

### Anti-Money Laundering

Anti-Money Laundering, Anti-Terrorist Financing (AML/ATF) and Sanctions Measures compliance is an essential part of safeguarding BMO, our customers and the communities in which we operate. BMO is committed to prudently managing AML/ATF risks, including complying with all regulatory requirements. Risks related to non-compliance include regulatory enforcement actions or penalties, legal actions and loss of reputation. BMO promotes effective AML/ATF governance through our AML/ATF program, which establishes minimum standards and guidelines across all BMO businesses, so that we are able to take prudent measures to prevent money laundering, terrorist financing and sanctioned activity. This program is designed to be dynamic and adaptable to the evolving nature of AML/ATF risks, and is delivered by employees who use analytics, technology and professional expertise to deter, detect and report suspicious activity.

### Operational Risk Capital and Stress Testing

BMO currently uses the Advanced Measurement Approach (AMA), a risk-sensitive capital model, to determine both economic capital and, along with the Standardized Approach in certain areas, regulatory capital requirements for managing operational risk. The AMA Capital Model uses a loss distribution approach, along with the four elements required to support the measurement of our operational risk exposure. Internal and external loss data are used as inputs for the AMA Capital Model and, based on shared attributes, are grouped into cells which include operating group, business activity or event type. Minimum enterprise operational risk capital is determined at a specific upper confidence limit of the enterprise total loss distribution (99.9% quantile for regulatory capital and 99.95% quantile for economic capital). Business environment and internal control factors are used for post-modelling adjustments, and these are subject to regular review in order to identify and understand risk drivers and to confirm consistency in application across the enterprise. Scenarios are used to verify the distributions and correlations used to model capital, to provide management with a better understanding of low-frequency, high-severity events and to assess enterprise preparedness for events which could create risks that exceed our risk appetite. We are monitoring potential regulatory capital developments that may lead to the replacement of AMA with a new Standardized Measurement Approach. We also use scenario analysis as part of our stress testing program, which measures the potential impact of plausible operational, economic, market and credit events on our operations and capital position, and allows us to manage tail risk exposure and confirm the adequacy of our operational risk capital.

## Model Risk

**Model risk** is the potential for adverse consequences following from decisions that are based on incorrect or misused model results. These adverse consequences can include financial loss, poor business decision-making or damage to reputation.

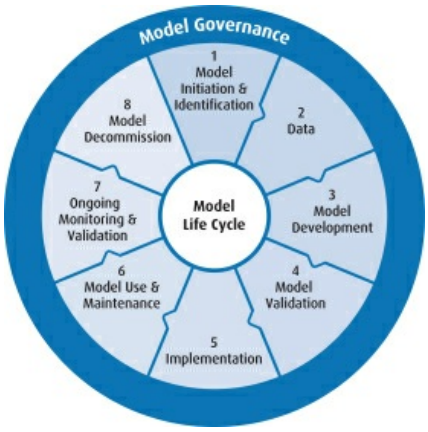
Models are quantitative tools that apply statistical, economic and other quantitative techniques and assumptions to process input data into quantitative estimates. BMO uses models ranging from very simple models that produce straightforward estimates to highly sophisticated models that value complex transactions or provide a broad range of forward-looking estimates.

The results from these models are used to inform business, risk and capital management decision-making and to assist in making daily lending, trading, underwriting, funding, investment and operational decisions. For example, BMO uses models as a core risk management tool to measure exposure to specific risks through stress testing, to value and price transactions, to evaluate credit, market and operational risk regulatory capital requirements and to measure risks on an integrated basis using economic capital.

Quantitative tools provide important insights and are effective when used within a framework that identifies key assumptions, limitations and controls and mitigates model risk. In addition to applying judgment to evaluate the reliability of model results, BMO mitigates model risk by maintaining strong controls over the development, validation, implementation and use of models across all model categories. BMO also takes steps to ensure that qualitative model overlays and non-statistical approaches to evaluating risks are intuitive, experience-based, well-documented and subject to effective challenge by those with sufficient expertise and knowledge to provide reasonable results.

## Model Risk Management

Risk is inherent in models because model results are estimates that rely on statistical techniques and data to simulate reality or provide estimates of future outcomes. Model risk also arises from the potential misuse of models. Model risk is governed at BMO by the enterprise-wide Model Risk Management Framework, which covers the model life cycle.




This framework sets out an end-to-end approach for model risk governance across the model life cycle and helps to ensure that model risk remains within BMO's enterprise-wide risk appetite. The framework includes BMO's Model Risk Corporate Policy, Model Risk Corporate Standard and Model Risk Guidelines, which outline explicit principles for managing model risk, detail model risk management processes and define the roles and responsibilities of all stakeholders across the model life cycle. Model owners, developers and users are the first line of defence, the Model Validation and the Model Governance groups are the second line of defence, and the Corporate Audit Division is the third line of defence.

The Model Governance group is responsible for the development and maintenance of the Model Risk Management Framework, oversight of the effectiveness of our model processes and the overall aggregation and assessment of model risk. The Model Risk Management Committee (MRMC) is a cross-functional group representing all key stakeholders across the enterprise (model owners, users, developers and validators and the Model Governance group) and a sub-committee of the RMC. The MRMC meets regularly to help direct the bank's use of models, to oversee the development, implementation and maintenance of the Model Risk Management Framework, to provide effective challenge and to discuss governance of the enterprise's models.

## Model Development and Validation

Models are developed, implemented and used to meet specific business objectives, including complying with certain regulatory requirements and meeting risk management objectives. Model owners, in consultation with model developers and other stakeholders, determine the design, objectives, intended use and desired functionality of the models, and have overall responsibility for ensuring that each model complies with BMO's policies and approved terms of use. Model developers assist the model owners by proposing model solutions, identifying data availability and limitations, and developing and implementing models that address their intended purposes. Developers do so by engaging model owners and other key stakeholders in the development and implementation processes, and by evaluating and documenting model characteristics, outputs, strengths and weaknesses, limitations and assumptions, and alternatives. Our independent Model Validation group reviews the development documentation, results and analysis generated by the model developers to evaluate whether a proposed model is conceptually and statistically sound, achieves its objectives and is fit for its intended use without creating material model risk. Observations are made for the guidance of model owners, users and developers, remediation or mitigation of model issues may be required and, unless an exception is obtained in accordance with BMO's Model Risk Management Framework, approval from the Model Validation group is required before a model can be used. Where a methodology or quantitative tool is not considered to be materially reliant on advanced statistical techniques or does not otherwise meet the definition of a model, the developers and users of such methodology or tool are nevertheless expected to provide appropriate documentation and effective independent review and challenge by knowledgeable BMO employees and managers.

## Model Use and Monitoring

Model owners and other model users are accountable for the appropriate use of models in business decision-making, including an understanding of model assumptions and limitations, and for the proper care and maintenance of models over the model life cycle. The development and validation processes provide guidance to ensure that models can be used effectively within an appropriate range of use, that any model limitations are identified and that appropriate risk mitigants are implemented. When in use, models are subject to ongoing monitoring, including outcomes analysis and periodic reviews. Ongoing monitoring and outcomes analysis are part of the evaluation process, which confirms the continuing validity and adequate performance of each model over time. These techniques and other controls are applied to mitigate potential issues and to help ensure that the models continue to perform acceptably. All models in use are subject to periodic revalidation, with the frequency based on a model's risk rating, and to earlier reviews if business judgment or ongoing monitoring tools indicate that a model's performance may be inadequate. Revalidation requires the model owners and developers to assess a model's continuing suitability for use, and such assessment is subject to independent review by the Model Validation group.

### Outcomes Analysis and Back-Testing

Once models are validated, approved and in use, they are subject to regular revalidation and ongoing monitoring and outcomes analysis. As a key component of outcomes analysis, back-testing compares model results against actual observed outcomes. Variances between model forecasts and actual outcomes experienced are measured against defined risk materiality thresholds. To ensure that variances remain within the tolerance range, actions such as model review and parameter recalibration are taken. Performance is assessed by analyzing model overrides and tests conducted during model development. This analysis serves to confirm the validity of a model's performance over time, and helps to ensure that appropriate controls are in place to address identified issues and enhance the model's overall performance.

All models used within BMO are subject to validation and ongoing monitoring, and are used in accordance with our Model Risk Management Framework. The framework applies to a wide variety of models, ranging from stress loss, market, credit and operational risks to pricing and valuation and anti-money laundering models. We highlight a few key applications of this framework below:

**Credit Risk** – The Model Risk Guidelines support BMO's Model Risk Corporate Policy. These guidelines include clear and detailed requirements for the back-testing of all credit risk rating models.

The process for back-testing the probability of default (PD) model computations includes comparing PD estimates generated by credit risk models to the actual or realized default rates across borrower ratings. This process also includes examining statistical evidence to confirm that default rates accurately capture sampling variability over time.

The comprehensive validation of a risk rating system involves various prescribed tests and analyses that assess discriminatory power, calibration and dynamic properties, with support from migration analysis. Additional tests or analyses are used to validate borrower risk rating grades and probability of default results.

As with any analysis, judgment is applied in determining which of the various factors, such as data limitations, might affect the overall relevance of a given validation approach or interpretation of statistical analysis. Similar back-testing is applied to the loss given default and exposure at default model computations.

Annual validations of all material models in use are conducted to confirm that they perform as intended and continue to be fit for use. An annual validation includes a qualitative and quantitative assessment conducted by model developers, which is reviewed and effectively challenged by the Model Validation group, with all conclusions reported to senior management.

**Trading and Underwriting Market Risk** – All internal models used in determining regulatory capital and economic capital for trading and underwriting market risk have their Value at Risk (VaR) results back-tested regularly. The bank's internal VaR model is back-tested daily, and the one-day 99% confidence level VaR at the local and consolidated BMO levels is compared to the realized theoretical Profit & Loss (P&L) calculation, which is the daily change in portfolio value that would occur if the portfolio composition remained unchanged. If the theoretical P&L result is negative and its absolute value is greater than the previous day's VaR, a back-testing exception occurs. Each exception is investigated, explained and documented, and the back-testing results are reviewed by Market Risk, senior management and the Board, and are reported to our regulators. This process monitors the quality and accuracy of the internal VaR model results and assists in refining overall risk measurement procedures.

**Structural Market Risk** – Back-testing of our structural market risk models is performed monthly and reported on quarterly. For products with a scheduled term, such as mortgages and term deposits, the model forecasts of prepayments or redemptions are compared to the actual outcomes observed. For products without a scheduled term, such as credit card loans and chequing accounts, the modelled balance run-off profiles are compared to actual balance trends.

## Legal and Regulatory Risk

**Legal and regulatory** risk is the potential for loss or harm created by failing to comply with laws or satisfy contractual obligations or regulatory requirements. This includes the risks of failing to: comply with the law (in letter or in spirit) or maintain standards of care; implement legislative or regulatory requirements; enforce or comply with contractual terms; assert non-contractual rights; effectively manage disputes; or act in a manner so as to maintain our reputation.

BMO's success relies in part on our ability to prudently manage our exposure to legal and regulatory risk. The financial services industry is highly regulated, and we anticipate intense ongoing scrutiny from our supervisors in the oversight process and strict enforcement of regulatory requirements as governments and regulators around the world continue with reforms intended to strengthen the stability of the financial system. Banks globally continue to be subject to fines and penalties for a number of regulatory and conduct issues. As rulemaking and supervisory expectations evolve, we monitor developments to enable BMO to respond to and implement any required changes.

Under the direction of the General Counsel, the Legal and Compliance Group (LCG) maintains enterprise-wide frameworks that identify, measure, manage, monitor and report on legal and regulatory risk. LCG also works with the operating groups and other Corporate Support areas to identify legal and regulatory requirements, trends and potential risks, recommend mitigation strategies and actions, and oversee litigation involving BMO. BMO is subject to litigation arising in the ordinary course of business and the unfavourable resolution of any such litigation could have a material adverse effect on our financial results and damage our reputation. Another area of focus for the operating groups and legal and compliance risk management is the oversight of fiduciary risk related to any of BMO's businesses that provide products or services giving rise to fiduciary duties to clients. Of particular importance are policies and practices that address the responsibilities of a business to a client, including service requirements and expectations, client suitability determinations, and disclosure obligations and communications.

Safeguarding our employees, customers, information and assets from criminal risk is a top priority. Criminal risk is the potential for loss or harm created by failing to comply with criminal laws and includes acts by employees against BMO, acts by external parties against BMO and acts by external parties using BMO to engage in unlawful conduct such as fraud, theft, money laundering, violence, cyber-crime, bribery and corruption. BMO has transformed its management of criminal risk through the implementation of a robust Criminal Risk Framework that is designed to prevent, detect, respond to and report on criminal risk using a three-lines-of-defence approach, as well as through enhanced centralized management and oversight.

As governments globally seek to curb corruption and counter its negative effects on political stability, sustainable economic development, international trade and investment and in other areas, BMO's Anti-Corruption Office, through its global program, has articulated a set of key principles and activities necessary for the effective oversight of compliance with anti-corruption legislation in jurisdictions where BMO operates, including guidance that sets out an approach to both identifying and avoiding corrupt practices and rigorously investigating allegations of corrupt activity.

International regulators continue to focus on anti-money laundering and other related concerns, raising their expectations concerning the quality and efficacy of anti-money laundering and related programs and penalizing institutions that fail to meet these expectations. Under the direction of the Chief Anti-Money Laundering Officer, the Anti-Money Laundering Office is responsible for the governance, oversight and assessment of the principles and procedures designed to help ensure compliance with both regulatory requirements and internal risk parameters related to anti-money laundering, anti-terrorist financing and sanctions measures.

All of these frameworks reflect the three-lines-of-defence operating model described previously. The operating groups and Corporate Support areas manage day-to-day risks by complying with corporate policies and standards, while LCG teams specifically aligned with each of the operating groups provide advice and independent legal and regulatory risk management oversight.

Heightened regulatory and supervisory scrutiny has a significant impact on the way we conduct business. Working with the operating groups and other Corporate Support areas, LCG continues to diligently assess and analyze the implications of regulatory changes. We devote substantial resources to the implementation of the systems and processes required to comply with new regulations while also helping us meet the needs and demands of our customers. We continue to strive to put our customers first as a mitigant to compliance and consumer protection issues. Failure to comply with applicable legal and regulatory requirements may result in litigation, financial losses, regulatory sanctions, enforcement actions, an inability to execute our business strategies, a decline in investor and customer confidence and harm to our reputation.

We continue to respond to other global regulatory developments, including capital and liquidity requirements under the Basel Committee on Banking Supervision (BCBS) global standards (Basel III), which we expect will put upward pressure on the amount of capital we are required to hold over time. Other global regulatory developments include over-the-counter (OTC) derivatives reform, consumer protection measures and specific financial reforms, such as the *Dodd-Frank Wall Street Reform and Consumer Protection Act* (Dodd-Frank). For additional discussion of the regulatory developments relating to capital management and liquidity and funding risk, please refer to the Enterprise-Wide Capital Management section starting on page 69 and the Liquidity and Funding Risk section starting on page 99. For additional discussion of the impact of certain potential fiscal policy and tax legislation changes on our results, please see Critical Accounting Estimates – Income Taxes and Deferred Tax Assets on page 114, Tax Legislation and Interpretations on page 80 and Fiscal and Monetary Policies on page 80.

**Bank Resolution and Bail-in** – In June 2016, legislation required to implement a bail-in regime was passed by the Canadian government in order to enhance Canada's bank resolution capabilities, in line with international efforts. In June 2017, the Department of Finance Canada and OSFI released for comment a package of draft regulations and guidelines setting out details of Canada's bail-in framework and the related total loss-absorbing capacity (TLAC) requirements for Canada's six domestic systemically important banks. For additional discussion of the bail-in regime and TLAC requirements, please refer to the Enterprise-Wide Capital Management section starting on page 69.

**Housing Market Reforms** – In October 2017, OSFI published the final version of *Guideline B-20 – Residential Mortgage Underwriting Practices and Procedures*. The revised Guideline comes into effect on January 1, 2018. The revisions reinforce OSFI's expectation that banks and other federally regulated mortgage lenders remain vigilant in their mortgage underwriting practices, with focus on the minimum qualifying rate for uninsured mortgages, expectations around loan-to-value (LTV) frameworks and limits, and restrictions on transactions designed to circumvent those LTV limits.

**Federal Financial Sector Legislation** – The Department of Finance Canada has released a second consultation paper related to the 2019 Review of Federal Financial Sector Legislation. The consultation paper focuses on potential policy measures that could lead to legislative changes prior to the statutory sunset date of March 29, 2019, or that might inform the federal government's longer-term approach to the financial sector. Potential policy measures include clarifying the business powers of banks and facilitating collaboration among those banks in the context of new financial technologies; streamlining bank entry and exit frameworks for small and mid-sized banks to increase competition; examining the merits of open banking; and modifying corporate governance provisions to more closely align them with the *Canada Business Corporations Act*. The consultation includes the government's review of the federal consumer protection framework applicable to banks, with reference to the cross-jurisdictional survey of consumer protection rules conducted by the Financial Consumer Agency of Canada (FCAC), and the reviews of sales practices currently being conducted by the FCAC and OSFI. These initiatives will help inform potential policy measures in advance of further changes to the consumer protection framework applicable to banks.

**Derivatives Reform** – G20 jurisdictions continue to implement new regulations as part of the OTC derivatives regulatory reform program. Margin requirements for non-centrally cleared derivatives have been adopted in a number of jurisdictions, including Canada, Europe and the United States. Margin rules will require the exchange of variation margin and initial margin, both of which are designed to secure performance on non-centrally cleared derivatives transactions between covered entities. BMO has been subject to variation margin rules since March 1, 2017, and will be subject to initial margin rules beginning no earlier than September 1, 2018 and no later than September 1, 2019. In a number of jurisdictions, OTC derivatives transactions must now be reported to designated trade repositories and clearing, execution and business conduct regulations continue to be implemented. BMO is preparing for the impact of these rules and requirements.

**DOL Fiduciary Rule** – The U.S. Department of Labor (DOL) fiduciary rule became effective in June 2017. Sales of investment products and services to individual retirement accounts and employee benefit plans are generally considered to be fiduciary activities that require an exemption to complete the sale. The exemption requirements partially apply as of June 2017, with full compliance scheduled for January 1, 2018. BMO implemented procedures to address these requirements before the June 2017 deadline. In August 2017, the DOL filed proposed amendments, which would extend the January 2018 compliance date to July 1, 2019. While details of the proposed amendments remain uncertain, we expect a delay and further changes to the rule.

The General Counsel and the Chief Compliance Officer (CCO) regularly report to the Audit and Conduct Review Committee (ACRC) of the Board and senior management on the effectiveness of our Enterprise Compliance Program (ECP), which, using a risk-based approach, identifies, assesses and manages compliance with applicable legal and regulatory requirements. The ECP directs operating groups and Corporate Support areas to maintain

compliance policies, procedures and controls that meet these requirements. Under the direction of the CCO, LCG identifies and reports on gaps and deficiencies, and tracks remedial action plans. The Chief Anti-Money Laundering Officer also regularly reports to the ACRC.

All BMO employees must complete annual legal and regulatory training on topics such as anti-corruption, anti-money laundering and privacy. This is done in conjunction with our Code of Conduct training, which tests employees' knowledge and understanding of how they are required to behave as employees of BMO.

## Business Risk

**Business risk** arises from the specific business activities of an enterprise and the effects these could have on its earnings.

Business risk encompasses the potential causes of earnings volatility that are distinct from credit, market or operational risk factors. The management of business risk identifies and addresses factors related to the risk that volumes will decrease or margins will shrink without the enterprise having the ability to compensate for these developments by cutting costs.

BMO faces many risks that are similar to those faced by non-financial firms, principally that our profitability, and hence value, may be eroded by changes in the business environment or by failures of strategy or execution. Sources of these risks include, but are not limited to, changing client expectations, heightened competition, technology driver changes, adverse business developments and relatively ineffective responses to industry changes. For example, client retention can be influenced by a number of factors, including service levels, prices for products and services, delivery platforms, ease of access to products and services, the quality of the customer experience, our reputation and the actions of our competitors.

Within BMO, each operating group is responsible for controlling its respective business risk by assessing, managing and mitigating the risks arising from changes in business volumes and cost structures, among other factors.

## Strategic Risk

**Strategic risk** is the potential for loss due to changes in the external business environment and/or failure to properly respond to these changes as a result of inaction, ineffective strategies or poor implementation of strategies.

Strategic risk arises from external risks inherent in the business environment within which BMO operates, as well as the potential for loss if BMO is unable to address those external risks effectively. While external strategic risks – including economic, geopolitical, regulatory, technological, social and competitive risks – cannot be controlled, the likelihood and magnitude of their impact can be mitigated through an effective strategic management framework, and certain of these risks, including economic, geopolitical and regulatory risks, can be assessed through stress testing.

BMO's Office of Strategic Management (OSM) oversees our strategic planning process and works with the lines of business, along with ERPM, Finance and Corporate Support areas, to identify, monitor and mitigate strategic risk across the enterprise. Our rigorous strategic management framework encourages a consistent approach in developing strategies and incorporates information linked to financial commitments.

The OSM works with the lines of business and key corporate stakeholders during the strategy development process to promote consistency and adherence to strategic management standards, including a consideration of the results of stress testing as an input into strategic decision-making. The potential impacts of changes in the business environment, such as broad industry trends and the actions of competitors, are considered as part of this process and inform strategic decisions within each of our lines of business. Enterprise and group strategies are reviewed with the Executive Committee and the Board of Directors annually in interactive sessions that challenge assumptions and strategies in the context of both the current and the potential future business environment.

Our ability to execute on the strategic plans developed by management influences our financial performance. If these strategic plans do not meet with success or if there is a change in the strategic plans, our earnings could grow at a slower pace or decline. Performance objectives established through the strategic management process are monitored regularly and reported on quarterly, using both leading and lagging indicators of performance, so that strategies can be reviewed and adjusted where necessary. Regular strategic and financial updates are also monitored closely in order to identify any significant emerging risk issues.

## Environmental and Social Risk

**Environmental and social risk** is the potential for loss or damage to BMO's reputation resulting from environmental or social concerns related to BMO or its customers. Environmental and social risk is often associated with credit, operational and reputation risk.

Environmental and social risk covers a broad spectrum of issues, such as climate change, biodiversity, ecosystem health, pollution, waste and the unsustainable use of water and other resources, as well as risks to the livelihoods, health, human rights and cultural heritage of communities.

Our Sustainability Principles are the guidelines we follow as a responsibly managed bank that considers environmental, social and governance (ESG) issues as we pursue sustainable growth. These principles reinforce the deeper sense of responsibility that informs all aspects of our business strategy.

BMO's Sustainability Council, which is comprised of senior leaders from business and Corporate Support areas across our organization, provides oversight and leadership for our ESG strategy.

The ESG group is responsible for coordinating the development and maintenance of an enterprise-wide strategy that meets BMO's overarching environmental and social responsibilities. The Environmental Sustainability (ES) group is responsible for establishing and maintaining an environmental management system that is aligned with the framework set out in ISO 14001, and for setting objectives and targets related to the bank's operations and its Environmental Policy. BMO's Procurement and Corporate Real Estate groups are responsible for establishing environmental management processes.

The ESG group and ES group work in partnership with the lines of business and Corporate Support areas to manage environmental and social risk within our business. We work with external stakeholders to understand the consequences and impacts of our operations and financing decisions. As part of our enterprise risk management framework and credit risk management framework, we evaluate the environmental and social risk associated with credit and counterparty transactions and exposures. We have developed and implemented specific financing guidelines to address environmental and social risk for specific lines of business. To assess exposure to clients' environmental risks, we apply enhanced due diligence to transactions with clients operating in environmentally sensitive industry sectors, and we avoid doing business with borrowers that have poor environmental and social risk management track records.

We consider the impact our decisions have on our stakeholders. Our Board-approved Code of Conduct reflects our commitment to manage our business responsibly. We expect our suppliers to be aware of, understand and respect the principles of our Supplier Code of Conduct, which outlines our standards for integrity, fair dealing and sustainability. We issued our first statement under the United Kingdom *Modern Slavery Act* and we updated our Supplier Code of Conduct to reflect this legislation.

BMO has been a signatory to the Equator Principles since 2005 and applies its credit risk management framework to identify, assess and manage environmental and social risk in project finance transactions. We also apply the World Bank/International Finance Corporation environmental and social screening process to categorize and assess projects based on the magnitude of their potential impacts and risks. These principles have been integrated into our credit risk management framework. We are a long-time signatory to and participant in the Carbon Disclosure Project – a global initiative that assembles and publishes corporate disclosure on greenhouse gas emissions and climate change.

BMO is a signatory to the United Nations Principles for Responsible Investment, a framework designed to encourage sustainable investing through the integration of ESG issues into investment, decision-making and ownership practices. We are a partner in the Carbon Pricing Leadership Coalition, a voluntary partnership that supports the effective implementation of carbon pricing around the world.

To keep informed of emerging issues, we participate in global forums with our peers, maintain an open dialogue with our internal and external stakeholders, and continuously monitor and evaluate policy and legislative changes in the jurisdictions where we operate. We publicly report our environmental and social performance and targets in our annual Environmental, Social and Governance (ESG) Report and Public Accountability Statement (PAS), and on our Corporate Responsibility website. Selected environmental and social indicators in the ESG Report and PAS are assured by a third party.

## Reputation Risk

**Reputation risk** is the potential for loss or harm to the BMO brand. It may arise even if other risks are managed effectively.

BMO's reputation is built on our commitment to high standards of business conduct and ethics, and is one of our most valuable assets. By protecting and maintaining our reputation, we safeguard our brand, increase shareholder value, reduce our cost of capital, improve employee engagement and maintain customer loyalty.

We believe that active, ongoing and effective management of reputation risk is best achieved by considering reputation risk issues in the course of strategy development, strategic and operational implementation, and transactional or initiative decision-making, as well as in day-to-day decision-making.

BMO's Code of Conduct provides our employees and directors with guidance on the behaviour that is expected of them, so that they can make the right choice in decisions that affect their work. The Code of Conduct is the foundation of our ethical culture, and we continually reinforce the principles it sets out for our employees in order to minimize risks to our reputation that may result from poor decisions or behaviour.

Reputation risk is also managed through our corporate governance practices and our enterprise risk management framework. BMO's Reputation Risk Management Committee reviews instances of significant or heightened exposure to reputation risk for BMO.

# Accounting Matters and Disclosure and Internal Control

## Critical Accounting Estimates

The most significant assets and liabilities for which we must make estimates include: allowance for credit losses; financial instruments measured at fair value; pension and other employee future benefits; impairment of securities; provisions for income taxes and deferred tax assets; goodwill and intangible assets; purchased loans; insurance-related liabilities; and provisions, including legal reserves. We make judgments in assessing whether substantially all risks and rewards have been transferred in respect of transfers of financial assets and whether we control SEs. These judgments are discussed in Notes 6 and 7, respectively, on page 157 of the consolidated financial statements. Note 17 on page 174 of the consolidated financial statements discusses the judgments made in determining the fair value of financial instruments. If actual results were to differ from the estimates we make, the impact would be recorded in future periods. We have established detailed policies and control procedures that are intended to ensure the judgments we make in estimating these amounts are well controlled, independently reviewed and consistently applied from period to period. We believe that our estimates of the fair value of BMO's assets and liabilities are appropriate.

For a more detailed discussion of the use of estimates, please see Note 1 on page 144 of the consolidated financial statements.

### Allowance for Credit Losses

The allowance for credit losses (ACL) consists of specific allowances that represent estimated losses related to impaired loans in the portfolio provided for but not yet written off, and collective allowances, which is our best estimate of impairment in the existing portfolio for loans that have not yet been individually identified as impaired. Establishing allowances requires significant judgment regarding key assumptions, including the probability of default, severity of loss, the timing of future cash flows and the valuation of collateral. One of our key performance measures is the provision for credit losses as a percentage of average net loans and acceptances. Over the 10 years prior to 2017, our average annual ratio has ranged from a high of 0.88% in 2009 to a low of 0.19% in 2015. The ratio varies with changes in the economy and credit conditions. To establish a range for the collective allowance, the high and low provision ratios of the past 10 years are applied to year-end net loans and acceptances in 2017. This range, when aggregated with the specific allowance, establishes a range of $1,139 million to $3,752 million. Our provision for credit losses in 2017 was $774 million and our allowance for credit losses at October 31, 2017 was $1,996 million. Additional information on the process and methodology for determining the allowance for credit losses can be found in the discussion of Credit and Counterparty Risk on page 86, as well as in Note 4 on page 152 of the consolidated financial statements.

### Financial Instruments Measured at Fair Value

BMO records trading and available-for-sale securities, and derivatives, at their fair value, and certain assets and liabilities are designated under the fair value option. Fair value represents our estimate of the amount we would receive, or would be required to pay in the case of a liability, in a current transaction between willing parties. We employ a fair value hierarchy to categorize the inputs we use in valuation techniques to measure fair value. The extent of our use of quoted market prices (Level 1), internal models using observable market information (Level 2) and internal models without observable market information (Level 3) in the valuation of securities, derivative assets and liabilities, and liabilities recorded at fair value as at October 31, 2017, as well as a sensitivity analysis of our Level 3 financial instruments, is disclosed in Note 17 on page 174 of the consolidated financial statements.

Our valuation models use general assumptions and market data, and therefore do not reflect the specific risks and other factors that could affect a particular instrument's fair value. Valuation Product Control (VPC), a group within Market Risk Management independent of the trading lines of business, ensures that the fair values at which financial instruments are recorded are materially accurate by:

- developing and maintaining valuation policies and procedures in accordance with regulatory requirements and IFRS;
- establishing official rate sources for valuation of all portfolios; and
- providing independent review of portfolios where prices supplied by traders are used for valuation.

For instruments that are valued using models, VPC identifies situations in which valuation adjustments must be made to the model estimates to arrive at fair value. As a result, we incorporate certain adjustments when using internal models to establish fair values. These fair value adjustments take into account the estimated impact of credit risk, liquidity risk and other items, including closeout costs. For example, the credit risk valuation adjustment for derivative financial instruments incorporates credit risk into our determination of fair values by taking into account factors such as the counterparty's credit rating, the duration of the instrument and changes in credit spreads. We also incorporate an estimate of the implicit funding costs borne by BMO for over-the-counter derivative positions (the funding valuation adjustment).

The methodologies used for calculating these adjustments are reviewed on an ongoing basis to ensure that they remain appropriate. Significant changes in methodologies are made only when we believe that a change will result in better estimates of fair value.

The Valuation Steering Committee is BMO's senior management valuation committee. It meets at least monthly to address the more challenging material valuation issues related to BMO's portfolios, approves valuation adjustments and methodology changes, and acts as a key forum for discussing positions categorized as Level 3 for financial reporting purposes and their inherent uncertainty.

### Valuation Adjustments

(Canadian $ in millions)

| As at October 31 | **2017** | 2016 |
|---|---|---|
| Credit risk | **63** | 92 |
| Funding risk | **15** | 60 |
| Liquidity risk | **33** | 43 |
| Total | **111** | 195 |

Valuation adjustments decreased in 2017, primarily due to higher interest rates and tighter corporate bond and CDS spreads.

## Pension and Other Employee Future Benefits

Our pension and other employee future benefits expense is calculated by independent actuaries using assumptions determined by management. If actual experience were to differ from the assumptions used, the difference would be recognized in other comprehensive income.

Pension and other employee future benefits expense and the related obligations are sensitive to changes in discount rates. We determine discount rates at each year end for all our plans using high-quality corporate bonds with terms matching the plans' specific cash flows.

Additional information regarding our accounting for pension and other employee future benefits, including a sensitivity analysis for key assumptions, is included in Note 22 on page 184 of the consolidated financial statements.

## Impairment of Securities

We have investments in securities issued or guaranteed by Canadian, U.S. and other governments, corporate debt and equity securities, mortgage-backed securities and collateralized mortgage obligations, which are classified as either available-for-sale securities, held-to-maturity securities or other securities. We review available-for-sale, held-to-maturity and other securities at each quarter-end reporting period in order to identify and evaluate investments that show indications of possible impairment. An investment is considered impaired if there is objective evidence that the estimated future cash flows will be reduced. We consider evidence such as delinquency or default, bankruptcy, restructuring or other evidence of deterioration in the creditworthiness of the issuer, or the absence of an active market. The decision to record a write-down, its amount and the period in which it is recorded could change if management's assessment of those factors were to differ. We do not record impairment write-downs on debt securities when impairment is due to changes in market rates, if future contractual cash flows associated with the debt security are still expected to be recovered.

At the end of 2017, total unrealized losses related to available-for-sale securities for which cost exceeded fair value and an impairment write-down had not been recorded were $480 million ($135 million in 2016). These unrealized losses resulted from changes in market interest rates and not from deterioration in the creditworthiness of the issuer.

Additional information regarding our accounting for available-for-sale securities, held-to-maturity securities and other securities and the determination of fair value is included in Note 3 on page 149 and Note 17 on page 174 of the consolidated financial statements.

## Income Taxes and Deferred Tax Assets

Our approach to tax is governed by our tax risk management framework, which is implemented through internal controls and processes. We actively seek to identify, evaluate, monitor and manage any tax risks that may arise to ensure our financial exposure is well understood and is within a level consistent with our objectives for the management of tax risk, as set out in our tax risk management framework. We consider all applicable laws in connection with our commercial activities, and where tax laws change in our business or for our customers, we adapt and change. We are committed to maintaining productive relationships and cooperating with taxing authorities in all tax matters. We seek to resolve disputes in a collaborative manner; however, where our interpretation of tax law differs from that of taxing authorities, we are prepared to defend our position.

The provision for income taxes is calculated based on the expected tax treatment of transactions recorded in our Consolidated Statements of Income or Changes in Equity. In determining the provision for income taxes, we interpret tax legislation, case law and administrative positions in numerous jurisdictions, and, based on our judgment, record our estimate of the amount required to settle tax obligations. We also make assumptions about the expected timing of the reversal of deferred tax assets and liabilities. If our interpretations and assumptions differ from those of taxing authorities or if the timing of reversals is not as expected, our provision for income taxes could increase or decrease in future periods. The amount of any such increase or decrease cannot be reasonably estimated.

Deferred tax assets are recognized only when it is probable that sufficient taxable profit will be available in future periods against which deductible temporary differences may be utilized. We are required to assess whether it is probable that our deferred income tax asset will be realized prior to its expiration and, based on all available evidence, determine if any portion of our deferred income tax asset should not be recognized. The factors used to assess the probability of realization are our past experience of income and capital gains, our forecast of future net income before taxes, and the remaining expiration period of tax loss carryforwards. Changes in our assessment of these factors could increase or decrease our provision for income taxes in future periods.

If income tax rates increase or decrease in future periods in a jurisdiction, our provision for income taxes for future periods will increase or decrease accordingly. Furthermore, our deferred tax assets and liabilities will increase or decrease as income tax rates increase or decrease, respectively, and will result in an income tax impact. For example, under the proposals contained in the *Tax Cuts and Jobs Act*, a reduction in the U.S. federal rate from 35% to 20%, if effective January 1, 2018, would reduce our net deferred tax asset by approximately US$400 million, which would result in a one-time corresponding tax charge in our net income. Refer to the Capital Regulatory Developments section on page 71 for further discussion on the related impact to our CET1 Ratio. If the U.S. federal rate reduction is effective in a following year, the amount of the reduction in the deferred tax asset would reduce accordingly. In addition, a reduction in the U.S. federal rate to 20% is expected to increase our annual net income from what it would have otherwise been. The size of this annual net income increase and any impact on our deferred tax asset is uncertain at this point and will be dependent on many factors, including the tax rate enacted and its timing, phase-in provisions and details of the final legislation and its interpretation.

In fiscal 2017, we were reassessed by the Canada Revenue Agency (CRA) for additional income taxes and interest in an amount of approximately $116 million in respect of certain 2012 Canadian corporate dividends. Previously, in fiscal 2016, we were reassessed by the CRA for additional income taxes of approximately $76 million in respect of certain 2011 Canadian corporate dividends. In its reassessments, the CRA denied dividend deductions on the basis that the dividends were received as part of a "dividend rental arrangement." The tax rules dealing with dividend rental arrangements were revised in the 2015 Canadian Federal Budget, which introduced rules that applied as of May 1, 2017. In the future, it is possible that we may be reassessed for significant income tax for similar activities in 2013 and subsequent years. We remain of the view that our tax filing positions were appropriate and intend to challenge any reassessment. If our challenge is unsuccessful, the additional tax expense would negatively impact our net income.

Additional information regarding our accounting for income taxes is included in Note 23 on page 189 of the consolidated financial statements.

## Goodwill and Intangible Assets

Goodwill is assessed for impairment at least annually. This assessment includes a comparison of the carrying value and the recoverable amount of each cash-generating unit (CGU) in order to verify that the recoverable amount of the CGU is greater than its carrying value. If the carrying value were to exceed the recoverable amount of the CGU, an impairment calculation would be performed. The recoverable amount of a CGU is the higher of its fair value less costs to sell and its value in use.

Fair value less costs to sell was used to perform the impairment test in all periods. In determining fair value less costs to sell, we employ a discounted cash flow model, consistent with that used when we acquire businesses. This model is dependent on assumptions related to revenue growth, discount rates, synergies achieved on acquisition and the availability of comparable acquisition data. Changes in any of these assumptions would affect the determination of fair value for each of our CGUs in a different manner. Management must exercise judgment and make assumptions in determining fair value, and differences in judgments and assumptions could affect the determination of fair value and any resulting impairment write-down. At October 31, 2017, the estimated fair value of each of our CGUs was greater than its carrying value.

Intangible assets with definite lives are amortized to income on either a straight-line or an accelerated basis over a period not exceeding 15 years, depending on the nature of the asset. We test intangible assets with definite lives for impairment when circumstances indicate the carrying value may not be recoverable.

Intangible assets with indefinite lives are tested annually for impairment. If any intangible assets are determined to be impaired, we write them down to their recoverable amount, the higher of value in use and fair value less costs to sell, when this is less than the carrying value. Additional information regarding the composition of goodwill and intangible assets is included in Note 11 on page 167 of the consolidated financial statements.

## Purchased Loans

Acquired loans are identified as either purchased performing loans or purchased credit impaired loans (PCI loans), both of which are recorded at fair value at the time of acquisition. The determination of fair value involves estimating the expected cash flows to be received from the acquired loan portfolio and determining the discount rate to be applied to those cash flows. In determining the discount rate, we consider various factors, including our cost to raise funds in the current market, the risk premium associated with the loans and the cost to service the portfolios.

PCI loans are those where the timely collection of principal and interest is no longer reasonably assured as at the date of acquisition. We regularly evaluate what we expect to collect on PCI loans. Changes in expected cash flows could result in the recognition of impairment or a recovery through the provision for credit losses. Estimating the timing and amount of expected cash flows requires significant management judgment regarding key assumptions, including the probability of default, severity of loss, timing of payment receipts and valuation of collateral. All of these factors are inherently subjective and can result in significant changes in estimates of expected cash flows over the term of a loan.

Purchased performing loans are subject to the same credit review processes we apply to loans we originate. We also assess the portfolio to ensure the remaining credit mark is adequate to cover probable credit losses in the portfolio. This requires judgment regarding assumptions, including the probability of default, severity of loss, timing of future cash flows, and valuation of collateral and estimated life of the loans.

Additional information regarding purchased loans is provided in Note 4 on page 152 of the consolidated financial statements.

## Insurance-Related Liabilities

Insurance claims and policy benefit liabilities represent current claims and estimates of future insurance policy obligation liabilities. Liabilities for life insurance contracts are determined using the Canadian Asset Liability Method, which incorporates best-estimate assumptions for mortality, morbidity, policy lapses, surrenders, future investment yields, policy dividends, administration costs and margins for adverse deviation. These assumptions are reviewed at least annually and updated to reflect actual experience and market conditions. The most significant potential impact on the valuation of these liabilities would be the result of a change in the assumption for future investment yields. If the assumed yield were to increase by one percentage point, net income would increase by approximately $38 million. A reduction of one percentage point would lower net income by approximately $37 million. Additional information on insurance-related liabilities is provided in Note 14 on page 169 of the consolidated financial statements, and information on insurance risk is provided on page 99.

## Provisions

BMO and its subsidiaries are involved in various legal actions in the ordinary course of business.

Provisions are recorded at the best estimate of the amount required to settle any obligation related to these legal actions as at the balance sheet date, taking into account the risks and uncertainties surrounding the obligation. Factors considered in making the assessment include a case-by-case assessment of specific facts and circumstances, our past experience and the opinions of legal experts. Management and internal and external experts are involved in estimating any amounts that may be required. The actual costs of resolving these claims may be substantially higher or lower than the amount of the provisions.

Additional information regarding provisions is provided in Note 25 on page 192 of the consolidated financial statements.

## Transfers of Financial Assets and Consolidation of Structured Entities

We sell Canadian mortgage loans to third-party Canadian securitization programs, including the Canadian Mortgage Bond program, and directly to third-party investors under the National Housing Act Mortgage-Backed Securities program. We assess whether substantially all of the risks and rewards of the loans have been transferred in order to determine if they qualify for derecognition. Since we continue to be exposed to substantially all of the prepayment, interest rate and/or credit risk associated with the securitized loans, they do not qualify for derecognition. We continue to recognize the loans and we recognize the related cash proceeds as secured financing in our Consolidated Balance Sheet. Additional information concerning the transfer of financial assets is included on page 76, as well as in Note 6 on page 157 of the consolidated financial statements.

In the normal course of business, BMO enters into arrangements with SEs. We are required to consolidate SEs if we determine that we control the SEs. We control an SE when we have power over the entity, exposure or rights to variable returns from our investment and the ability to exercise power to affect the amount of our returns. Additional information concerning BMO's interests in SEs is included on page 77, as well as in Note 7 on page 157 of the consolidated financial statements.

**Caution**

This Critical Accounting Estimates section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements.

# Changes in Accounting Policies in 2017

There were no changes in our accounting policies in 2017.

# Future Changes in Accounting Policies

BMO monitors the potential changes to IFRS proposed by the International Accounting Standards Board (IASB) and analyzes the effects that any such changes to the standards may have on BMO's financial reporting and accounting policies. New standards and amendments to existing standards that will be effective for BMO in future reporting periods are described in Note 1 on page 144 of the consolidated financial statements.

## Adoption of IFRS 9 Financial Instruments

In July 2014, the IASB issued IFRS 9 *Financial Instruments* (IFRS 9), which addresses impairment, classification, measurement and hedge accounting. At the direction of our regulator, OSFI, IFRS 9 is effective for the bank for the fiscal year beginning November 1, 2017. Additional guidance relating to the adoption of IFRS 9 has been provided by OSFI in its Guideline – IFRS 9 *Financial Instruments and Disclosures* (OSFI Guideline). These guidelines are considered in our determination of the allowance for credit losses. Based on October 31, 2017 data and current implementation status, we estimate the adoption of IFRS 9 will lead to an increase in shareholders' equity of approximately $100 million before tax ($65 million after tax) driven by the impairment requirements of IFRS 9. We continue to refine and monitor certain aspects of our impairment process which may change the actual impact on adoption.

The bank has a centrally managed IFRS 9 program that brings together subject matter experts on methodology, data, modelling, information technology processing, risk and reporting. The bank has performed an assessment of the population of financial instruments impacted by the classification and measurement requirements of IFRS 9 and developed an impairment methodology to support the calculation of the expected credit loss allowance. Specifically, during 2017 the bank developed its approach for assessing a significant increase in credit risk and incorporating forward-looking information including macroeconomic factors, and developed and validated the required models. Information technology systems and process architecture were designed using our existing governance framework, while existing internal controls were refined and new controls over key processes and significant areas of judgment were developed and tested within parallel runs of the systems and processes.

## Impairment of Financial Assets

IFRS 9 introduces a new expected credit loss (ECL) impairment framework for all financial assets and certain off-balance sheet loan commitments and guarantees. The new ECL framework will result in an allowance for expected credit losses being recorded on financial assets regardless of whether there has been an actual loss event. This differs from the current approach where the allowance recorded on performing loans is designed to capture only losses that have been incurred, whether or not they have been specifically identified.

The bank will recognize a loss allowance at an amount equal to 12-month expected credit losses, if the credit risk at the reporting date has not increased significantly since initial recognition (Stage 1). IFRS 9 requires the recognition of expected credit losses over the remaining life of the financial assets which are considered to have experienced a significant increase in credit risk (Stage 2). An impaired loan requires the recognition of lifetime losses, which is the same as our current specific allowance.

The determination of a significant increase in credit risk takes into account many different factors and will vary by product and risk segment. The main factors considered in making this determination are relative changes in probability-weighted probability of default since origination and certain criteria such as 30-day past due and watch-list status. The assessment of a significant increase in credit risk will require experienced credit judgment.

**Key Impairment Modelling Concepts**

ECL is a function of the probability of default (PD), exposure at default (EAD) and loss given default (LGD), with the timing of the loss also considered, and is estimated by incorporating forward-looking economic information and through the use of experienced credit judgment to reflect factors not captured in models.

The PD represents the likelihood that a loan will not be repaid and will go into default in either a 12-month horizon for Stage 1 or lifetime horizon for Stage 2. The PD for each individual instrument is modelled based on historic data and is estimated based on current market conditions and reasonable and supportable information about future economic conditions.

EAD is modelled on historic data and represents an estimate of the outstanding amount of credit exposure at the time a default may occur. For off-balance sheet and undrawn amounts, EAD includes an estimate of any further amounts to be drawn at the time of default.

LGD is the amount that may not be recovered in the event of default and is modelled based on historic data and reasonable and supportable information about future economic conditions, where appropriate. LGD takes into consideration the amount and quality of any collateral held.

For the purposes of IFRS 9, the allowance for credit losses is affected by a variety of key characteristics, such as, but not limited to, the probability of default, loss given default, the expected balance at default, as well as the expected life of the financial asset. As a consequence, the allowance for credit losses for Stage 2 financial assets will increase with the expected lifetime or the expected EAD. Incorporating forecasts of future economic conditions into the measurement of expected credit losses will also impact the allowance for credit losses for each stage.

The IFRS 9 terms used above in arriving at expected credit losses differ from those used in calculating our regulatory capital as follows:

| | Regulatory Capital | IFRS 9 |
|---|---|---|
| PD | • Through the cycle 12-month loss view<br>• The definition of default is generally 90 days past due except for credit cards, which uses 180 days past due | • Point-in-time 12-month or lifetime horizon according to the applicable stage based on past experience, current conditions and reasonable supportable forward-looking information<br>• Default definition consistent with regulatory capital |
| EAD | • Includes expected draws prior to default and cannot be lower than current outstanding | • Represents the expected exposure across a 12-month or lifetime horizon according to the applicable stage and can be lower than the current outstanding |
| LGD | • Downturn LGD based on a severe economic downturn<br>• Certain regulatory floors apply<br>• Includes direct and indirect costs associated with collection | • Expected LGD based on 12-month or lifetime horizon according to the applicable stage adjusted for reasonable supportable forward-looking information where appropriate<br>• No regulatory floors<br>• Only direct costs included |
| Other | | • Lifetime losses are discounted back to the balance sheet date |

IFRS 9 requires the consideration of past events, current market conditions and reasonable forward-looking supportable information about future economic conditions in determining whether there has been a significant increase in credit risk, and in calculating the amount of expected losses. In assessing information about possible future economic conditions, we utilized multiple economic scenarios representing our base case, benign and adverse forecasts, all of which are developed by our Economics group. Key economic variables used in the determination of the allowance for credit losses include GDP, the unemployment rate and housing prices, among others. We use regional economic variables in our models to reflect the geographic diversity of our portfolios, where appropriate.

In considering the lifetime of a loan, IFRS 9 generally requires the use of the contractual period of the loan, including prepayment, extension and other options. For revolving instruments, such as credit cards, which may not have a defined contractual period, the lifetime is based on historical behaviour.

The bank's ECL methodology also requires the use of experienced credit judgment to incorporate the estimated impact of factors that are not captured in the modelled ECL results.

As a result of the forward-looking nature of the standard, we anticipate that the provision for credit losses recorded in the income statement will become more responsive to expected changes in the economic environment and be recorded earlier in the credit cycle than under the current accounting standard.

**Classification and Measurement of Financial Assets and Liabilities**

The new standard requires that we classify debt instruments based on our business model for managing the assets and the contractual cash flow characteristics of those assets. The business model test determines the classification based on the business purpose for holding the asset. Debt instruments will be measured at fair value through profit and loss unless certain conditions are met that permit measurement at fair value through other comprehensive income (FVOCI) or amortized cost. Debt instruments that have contractual cash flows representing only payments of principal and interest will be eligible for classification as FVOCI or amortized cost. Gains and losses recorded in other comprehensive income for debt instruments will be recognized in profit or loss only on disposal.

Equity instruments would be measured at fair value through profit or loss unless we elect to measure them at FVOCI. Future unrealized gains and losses on fair value through profit or loss equity instruments will be recorded in income. Currently, the unrealized gains and losses are recognized in other comprehensive income for available-for-sale equity instruments. For equity instruments we elect to record at FVOCI, gains and losses would never be recognized in income.

Upon adoption we expect to reclassify $2.1 billion of debt and equity securities previously recorded as available for sale securities to fair value through profit or loss. Upon adoption we expect to reclassify $2.1 billion of loan balances previously recorded at amortized cost to fair value through profit or loss.

We reviewed items currently elected at fair value through profit or loss. Under IFRS 9, certain instruments managed on a fair value basis are now mandatorily accounted for as fair value through profit or loss as a result of our business model. As a result, we expect no change in the accounting for these instruments. Our remaining existing fair value designations are expected to continue under IFRS 9.

As permitted by IFRS 9, in fiscal 2015, we early adopted the provisions relating to the recognition of changes in own credit risk for financial liabilities designated at fair value through profit or loss. Additional information regarding changes in own credit risk is included in Notes 13 and 14 on pages 168 and 169, respectively, of the consolidated financial statements.

**Hedge Accounting**

IFRS 9 introduces a new hedge accounting model that expands the scope of hedged items and risks eligible for hedge accounting and aligns hedge accounting more closely with risk management. The new model no longer specifies quantitative measures for effectiveness testing and does not permit hedge de-designation. IFRS 9 includes a policy choice that would allow us to continue to apply the existing hedge accounting rules. We did not adopt the hedge accounting provisions of IFRS 9; however, as required by the standard, we will adopt the new hedge accounting disclosures.

**Impacts on Governance and Controls**

The bank has applied its existing governance framework to ensure that appropriate controls and validations are in place over key processes and judgments to determine the ECL. As part of the implementation, we are in the process of refining existing internal controls and implementing new controls where required in areas that are impacted by IFRS 9, including controls over the development and probability weighting of macroeconomic scenarios, credit risk data and systems, the determination of a significant increase in credit risk and the classification of loans and securities. In addition to the existing risk management framework, we established a committee to review, challenge and approve key inputs and assess appropriateness of the allowance.

**Impacts on Capital Planning**

IFRS 9 will impact our reported capital as a result of the adjustment recorded in shareholders' equity on adoption of the standard; this impact is not expected to be significant. During 2017, the BCBS released its standard on *Regulatory treatment of accounting provisions – interim approach and transitional arrangements* . The BCBS clarified it will retain its current treatment of provisions under both Standardized Approach and Advanced Internal Ratings Based frameworks at this time. Further, the BCBS allows local jurisdictions the option to choose whether to apply a transitional arrangement for the impact of IFRS 9 on regulatory capital. The bank's regulator, OSFI, has not established a transitional arrangement for regulatory capital purposes.

### Other Future Accounting Changes

For details on other future accounting policy changes, see Note 1 on page 144 of the consolidated financial statements.

## Transactions with Related Parties

In the ordinary course of business, we provide banking services to our key management personnel on the same terms that we offer these services to our preferred customers. Key management personnel are defined as those persons having authority and responsibility for planning, directing and/or controlling the activities of an entity, being the directors and the most senior executives of the bank. We provide banking services to our joint ventures and equity-accounted investees on the same terms offered to our customers for these services. We also offer employees a subsidy on annual credit card fees.

Details of our investments in joint arrangements and associates and the compensation of key management personnel are disclosed in Note 28 on page 198 of the consolidated financial statements.

MANAGEMENT'S DISCUSSION AND ANALYSIS

# Shareholders' Auditors' Services and Fees

## Review of Shareholders' Auditors

The Audit and Conduct Review Committee (ACRC) is responsible for the appointment, compensation and oversight of the shareholders' auditors and conducts an annual assessment of the performance and effectiveness of the shareholders' auditors, considering factors such as: (i) the quality of the services provided by the shareholders' auditors' engagement team during the audit period; (ii) the relevant qualifications, experience and geographical reach to serve BMO Financial Group; (iii) the quality of communications received from the shareholders' auditors; and (iv) the independence, objectivity and professional skepticism of the shareholders' auditors.

The ACRC believes that it has robust review processes in place to monitor audit quality and oversee the work of the shareholders' auditors, including the lead audit partner, which include:

- annually reviewing the audit plan in two separate meetings, including a consideration of the impact of business risks on the audit plan and an assessment of the reasonableness of the audit fee;
- reviewing qualifications of the senior engagement team members;
- monitoring the execution of the audit plan of the shareholders' auditors, with emphasis on the more complex and risky areas of the audit;
- reviewing and evaluating the audit findings, including in camera sessions;
- evaluating audit quality and performance, including recent Canadian Public Accountability Board (CPAB) and Public Company Accounting Oversight Board (PCAOB) inspection reports on the shareholders' auditors and their peer firms;
- at a minimum, holding quarterly meetings with the ACRC Chair and the lead audit partner to discuss audit-related issues independently of management; and
- performing a comprehensive review of the shareholders' auditors every five years, and performing an annual review between these comprehensive reviews, following the guidelines set out by the Chartered Professional Accountants of Canada (CPA of Canada) and the CPAB.

In 2017, an annual review of the shareholders' auditors was completed. Input was sought from ACRC members and management on areas such as communication effectiveness, industry insights and audit performance. In 2015, the ACRC completed a periodic comprehensive review of the shareholders' auditors. The comprehensive review was based on the recommendations of the CPA of Canada and the CPAB. These reviews focused on: (i) the independence, objectivity and professional skepticism of the shareholders' auditors; (ii) the quality of the engagement team; and (iii) the quality of communications and interactions with the shareholders' auditors. As a result of these reviews, the ACRC was satisfied with the performance of the shareholders' auditors.

Independence of the shareholders' auditors is overseen by the ACRC in accordance with our Auditor Independence Standard. The ACRC also ensures that the lead audit partner rotates out of that role after five consecutive years and does not return to that role for a further five years.

## Pre-Approval Policies and Procedures

As part of BMO Financial Group's corporate governance practices, the ACRC oversees the application of our policy limiting the services provided by the shareholders' auditors that are not related to their role as auditors. The ACRC pre-approves the types of services (permitted services) that can be provided by the shareholders' auditors, as well as the annual audit plan, which includes fees for specific types of services. For permitted services that are not included in the pre-approved annual audit plan, approval to proceed with the engagement is obtained and the services to be provided are presented to the ACRC for ratification at its next meeting. All services must comply with our Auditor Independence Standard, as well as professional standards and securities regulations governing auditor independence.

## Shareholders' Auditors' Fees

Aggregate fees paid to the shareholders' auditors during the fiscal years ended October 31, 2017 and 2016 were as follows:

| (Canadian $ in millions)<br>Fees (1) | **2017** | 2016 |
|---|---|---|
| Audit fees | **19.1** | 17.6 |
| Audit-related fees (2) | **2.5** | 2.5 |
| All other fees (3) | **2.1** | 2.7 |
| Total | **23.7** | 22.8 |

(1) The classification of fees is based on applicable Canadian securities laws and U.S. Securities and Exchange Commission definitions.
(2) Audit-related fees for 2017 and 2016 relate to fees paid for accounting advice, specified procedures on our Proxy Circular and other specified procedures.
(3) All other fees for 2017 and 2016 relate primarily to fees paid for reviews of compliance with regulatory requirements for financial information and reports on internal controls over services provided by various BMO Financial Group businesses. They also include the costs of translation services.

# Management's Annual Report on Disclosure Controls and Procedures and Internal Control over Financial Reporting

## Disclosure Controls and Procedures

Disclosure controls and procedures are designed to provide reasonable assurance that all relevant information is gathered and reported to senior management, including the Chief Executive Officer (CEO) and the Chief Financial Officer (CFO), on a timely basis so that appropriate decisions can be made regarding public disclosure.

As at October 31, 2017, under the supervision of the CEO and the CFO, Bank of Montreal's management evaluated the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Canada by *National Instrument 52-109, Certification of Disclosure in Issuers' Annual and Interim Filings* , and in the United States by Rule 13a-15(e) under the *Securities Exchange Act of 1934* (the Exchange Act). Based on this evaluation, the CEO and the CFO have concluded that our disclosure controls and procedures were effective, as at October 31, 2017.

## Internal Control over Financial Reporting

Internal control over financial reporting is a process designed under the supervision of the bank's CEO and CFO, in order to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements in accordance with IFRS and the requirements of the Securities and Exchange Commission (SEC) in the United States, as applicable. Management is responsible for establishing and maintaining adequate internal control over financial reporting for Bank of Montreal.

Bank of Montreal's internal control over financial reporting includes 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 Bank of Montreal;

(ii) are designed to provide reasonable assurance that transactions are recorded as necessary to permit preparation of the consolidated financial statements in accordance with IFRS and the requirements of the SEC in the United States, as applicable, and that receipts and expenditures of Bank of Montreal are being made only in accordance with authorizations by management and directors of Bank of Montreal; and

(iii) are designed to provide reasonable assurance that any unauthorized acquisition, use or disposition of Bank of Montreal's assets which could have a material effect on the consolidated financial statements is prevented or detected in a timely manner.

Because of its inherent limitations, internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. Furthermore, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the related policies and procedures may deteriorate.

Bank of Montreal's management, under the supervision of the CEO and the CFO, has evaluated the effectiveness of internal control over financial reporting using the framework and criteria established in *Internal Control – Integrated Framework*, issued by the Committee of Sponsoring Organizations of the Treadway Commission in May 2013 (2013 COSO Framework). Based on this evaluation, management has concluded that internal control over financial reporting was effective as at October 31, 2017.

At the request of Bank of Montreal's Audit and Conduct Review Committee, KPMG LLP (shareholders' auditors), an independent registered public accounting firm, has conducted an audit of the effectiveness of our internal control over financial reporting. The audit report states in its conclusion that, in KPMG's opinion, Bank of Montreal maintained, in all material respects, effective internal control over financial reporting as at October 31, 2017, in accordance with the criteria established in the 2013 COSO Framework. This audit report appears on page 137.

## Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting in fiscal 2017 that have materially affected, or are reasonably likely to materially affect, the adequacy and effectiveness of our internal control over financial reporting.

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# Enhanced Disclosure Task Force

**On October 29, 2012, the Enhanced Disclosure Task Force (EDTF) of the Financial Stability Board published its first report, Enhancing the Risk Disclosures of Banks. We support the recommendations issued by the EDTF for the provision of high-quality, transparent risk disclosures.**

**Disclosures related to the EDTF recommendations are detailed below.**

## General

**1 Present all risk-related information in the Annual Report, Supplementary Financial Information and Supplementary Regulatory Capital Disclosure, and provide an index for easy navigation.**

**Annual Report:** Risk-related information is presented in the Enterprise-Wide Risk Management section on pages 78 to 112.

An index for the MD&A is provided on page 26. An index for the notes to the consolidated financial statements is provided on page 144.

**Supplementary Financial Information:** An index is provided in our Supplementary Financial Information.

**2 Define the bank's risk terminology and risk measures and present key parameters used.**

**Annual Report:** Specific risk definitions and key parameters underpinning BMO's risk reporting are provided on pages 86 to 112.

A glossary of financial terms (including risk terminology) can be found on pages 202 to 203.

**3 Discuss top and emerging risks for the bank.**

**Annual Report:** BMO's top and emerging risks are discussed on pages 79 to 81.

**4 Outline plans to meet new key regulatory ratios once the applicable rules are finalized.**

**Annual Report:** BMO's plans to meet new regulatory ratios are outlined on pages 71 and 105.

## Risk Governance

**5 Summarize the bank's risk management organization, processes, and key functions.**

**Annual Report:** BMO's risk management organization, processes and key functions are summarized on pages 81 to 86.

**6 Describe the bank's risk culture.**

**Annual Report:** BMO's risk culture is described on page 83.

**7 Describe key risks that arise from the bank's business model and activities.**

**Annual Report:** A diagram of BMO's risk exposure by operating segment is provided on page 74.

**8 Describe the use of stress testing within the bank's risk governance and capital frameworks.**

**Annual Report:** BMO's stress testing process is described on pages 85 to 86.

## Capital Adequacy and Risk-Weighted Assets (RWA)

**9 Provide minimum Pillar 1 capital requirements.**

**Annual Report:** Pillar 1 capital requirements are described on pages 69 to 72.

**Supplementary Financial Information:** Regulatory capital is disclosed on page 35.

**10 Summarize information contained in the composition of capital templates adopted by the Basel Committee.**

**Annual Report:** An abridged version of the regulatory capital template is provided on page 72.

**Supplementary Financial Information:** Pillar 3 disclosure is provided on pages 35 to 37 and 39. A Main Features template can be found on BMO's website at www.bmo.com under Investor Relations and Regulatory Filings.

**11 Present a flow statement of movements in regulatory capital, including changes in Common Equity Tier 1, Additional Tier 1, and Tier 2 capital.**

**Supplementary Financial Information:** Regulatory capital flow statement is provided on page 40.

**12 Discuss capital planning within a more general discussion of management's strategic planning.**

**Annual Report:** BMO's capital planning process is discussed under Capital Management Framework on page 69.

**13 Provide granular information to explain how RWA relate to business activities.**

**Annual Report:** A diagram of BMO's risk exposure, including RWA by operating group, is provided on page 74.

**14 Present a table showing the capital requirements for each method used for calculating RWA.**

**Annual Report:** Regulatory capital requirement, as a percentage of RWA, is outlined on page 70.

Information about significant models used to determine RWA is provided on pages 88 to 89.

**Supplementary Financial Information:** A table showing RWA by model approach and risk type is provided on page 39.

**15 Tabulate credit risk in the banking book for Basel asset classes.**

**Supplementary Financial Information:** Wholesale and retail credit exposures by internal rating grades are provided on pages 46 to 47.

**16 Present a flow statement that reconciles movements in RWA by credit risk and market risk.**

**Supplementary Financial Information:** RWA flow statements are provided on page 40, with a reconciliation on page 38.

**17 Describe the bank's Basel validation and back-testing process.**

**Annual Report:** BMO's Basel validation and back-testing process for credit and market risk is described on pages 108 to 109.

**Supplementary Financial Information:** A table showing Exposure at Default and RWA by model approach and asset class is provided on page 39. A table showing estimated and actual loss parameters is provided on page 49.

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**Liquidity**

**18** **Describe how the bank manages its potential liquidity needs and the liquidity reserve held to meet those needs.**

**Annual Report:** BMO's potential liquidity needs and the liquidity reserve held to meet those needs are described on pages 99 to 101.

**Funding**

**19** **Summarize encumbered and unencumbered assets in a table by balance sheet category.**

**Annual Report:** An Asset Encumbrance table is provided on page 102.

Additional collateral requirements in the event of downgrades by rating agencies are disclosed in Note 8 on page 162 of the consolidated financial statements.

**Supplementary Financial Information:** An Asset Encumbrance table by currency is provided on page 34.

**20** **Tabulate consolidated total assets, liabilities and off-balance sheet commitments by remaining contractual maturity.**

**Annual Report:** A Contractual Maturity table is presented in Note 29 on pages 199 to 201 of the consolidated financial statements.

**21** **Discuss the bank's sources of funding and describe the bank's funding strategy.**

**Annual Report:** BMO's sources of funding and funding strategy are described on pages 103 to 104.

A table showing the composition and maturity of wholesale funding is provided on page 104.

**Market Risk**

**22** **Provide a breakdown of balance sheet positions into trading and non-trading market risk measures.**

**Annual Report:** A table linking balance sheet items to market risk measures is provided on page 98.

**23** **Provide qualitative and quantitative breakdowns of significant trading and non-trading market risk measures.**

**Annual Report:** Trading market risk exposures are described and quantified on pages 94 to 96.

Structural (non-trading) market risk exposures are described and quantified on pages 97 to 98.

**24** **Describe significant market risk measurement model validation procedures and back-testing and how these are used to enhance the parameters of the model.**

**Annual Report:** Market risk measurement model validation procedures and back-testing for trading market risk and structural (non-trading) market risk are described on pages 107 to 109.

**25** **Describe the primary risk management techniques employed by the bank to measure and assess the risk of loss beyond reported risk measures.**

**Annual Report:** The use of stress testing, scenario analysis and Stressed Value at Risk for market risk management is described on pages 94 to 96.

**Credit Risk**

**26** **Provide information about the bank's credit risk profile.**

**Annual Report:** Information about BMO's credit risk profile is provided on pages 88 to 91 and in Notes 4 and 5 on pages 153 to 156 of the consolidated financial statements.

**Supplementary Financial Information:** Tables detailing credit risk information are provided on pages 19 to 29 and 42 to 50.

**27** **Describe the bank's policies related to impaired loans and renegotiated loans.**

**Annual Report:** Impaired and renegotiated loan policies are described in Note 4 on pages 153 and 155, respectively, of the consolidated financial statements.

**28** **Provide reconciliations of impaired loans and the allowance for credit losses.**

**Annual Report:** Continuity schedules for gross impaired loans and allowance for credit losses are provided on page 91 and in Note 4 on page 154 of the consolidated financial statements.

**29** **Provide a quantitative and qualitative analysis of the bank's counterparty credit risk that arises from its derivative transactions.**

**Annual Report:** Quantitative disclosures on collateralization agreements for over-the-counter (OTC) derivatives are provided on page 93 and qualitative disclosures are provided on pages 86 to 87.

**Supplementary Financial Information:** Quantitative disclosures for OTC derivatives are provided on page 33.

**30** **Provide a discussion of credit risk mitigation.**

**Annual Report:** A discussion of BMO's credit and counterparty risk management is provided on page 87. Collateral management discussions are provided on page 87 and in Note 8 on pages 162 to 165 and in Note 25 on page 193 of the consolidated financial statements.

**Supplementary Financial Information:** The Exposures Covered by Credit Risk Mitigation table is provided on page 43.

**Other Risks**

**31** **Describe other risks and discuss how each is identified, governed, measured and managed.**

**Annual Report:** A diagram illustrating the risk governance process that supports BMO's risk culture is provided on page 81.

Other risks are discussed on pages 105 to 112.

**32** **Discuss publicly known risk events related to other risks, where material or potentially material loss events have occurred.**

**Annual Report:** Other risks are discussed on pages 105 to 112.

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SUPPLEMENTAL INFORMATION

# Supplemental Information

Certain comparative figures have been reclassified to conform to the current year's presentation and for changes in accounting policies. Refer to Note 1 of the consolidated financial statements. In addition, since November 1, 2011, BMO's financial statements have been reported in accordance with IFRS. Results for years prior to 2011 have not been restated and are presented in accordance with Canadian GAAP as defined at that time (CGAAP). As a result of these changes, certain growth rates and compound annual growth rates (CAGR) may not be meaningful.

Adjusted results in this section are non-GAAP measures. Refer to the Non-GAAP Measures section on page 29.

## Table 1: Shareholder Value and Other Statistical Information

| As at or for the year ended October 31 | **2017** | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Market Price per Common Share** ($) | | | | | | | | | | |
| High | **104.15** | 87.92 | 84.39 | 85.71 | 73.90 | 61.29 | 63.94 | 65.71 | 54.75 | 63.44 |
| Low | **83.58** | 68.65 | 64.01 | 67.04 | 56.74 | 53.15 | 55.02 | 49.78 | 24.05 | 35.65 |
| Close | **98.83** | 85.36 | 76.04 | 81.73 | 72.62 | 59.02 | 58.89 | 60.23 | 50.06 | 43.02 |
| **Common Share Dividends** | | | | | | | | | | |
| Dividends declared per share ($) | **3.56** | 3.40 | 3.24 | 3.08 | 2.94 | 2.82 | 2.80 | 2.80 | 2.80 | 2.80 |
| Dividend payout ratio (%) | **44.8** | 49.0 | 49.2 | 47.8 | 47.5 | 46.0 | 57.1 | 58.6 | 90.6 | 73.9 |
| Dividend yield (%) | **3.6** | 4.0 | 4.3 | 3.8 | 4.0 | 4.8 | 4.8 | 4.6 | 5.6 | 6.5 |
| Dividends declared ($ millions) | **2,312** | 2,191 | 2,087 | 1,991 | 1,904 | 1,820 | 1,690 | 1,571 | 1,530 | 1,409 |
| **Total Shareholder Return** (%) | | | | | | | | | | |
| Five-year average annual return | **15.5** | 12.5 | 9.5 | 15.5 | 17.0 | 4.2 | 1.9 | 5.9 | 1.8 | 0.9 |
| Three-year average annual return | **10.9** | 9.9 | 13.5 | 16.7 | 11.5 | 10.8 | 17.4 | 4.5 | (5.3) | (5.6) |
| One-year return | **20.2** | 17.0 | (3.0) | 17.1 | 28.8 | 5.2 | 2.4 | 26.4 | 25.1 | (27.9) |
| **Common Share Information** | | | | | | | | | | |
| Number outstanding (in thousands) | | | | | | | | | | |
| End of year | **647,816** | 645,761 | 642,583 | 649,050 | 644,130 | 650,730 | 639,000 | 566,468 | 551,716 | 504,575 |
| Average basic | **649,650** | 644,049 | 644,916 | 645,860 | 648,476 | 644,407 | 591,403 | 559,822 | 540,294 | 502,062 |
| Average diluted | **651,961** | 646,126 | 647,141 | 648,475 | 649,806 | 648,615 | 607,068 | 563,125 | 542,313 | 506,697 |
| Number of shareholder accounts | **50,805** | 52,087 | 53,481 | 55,610 | 56,241 | 59,238 | 58,769 | 36,612 | 37,061 | 37,250 |
| Book value per share ($) | **61.92** | 59.56 | 56.31 | 48.18 | 43.22 | 39.41 | 36.76 | 34.09 | 31.95 | 32.02 |
| Total market value of shares ($ billions) | **64.0** | 55.1 | 48.9 | 53.0 | 46.8 | 38.4 | 37.6 | 34.1 | 27.6 | 21.7 |
| Price-to-earnings multiple | **12.5** | 12.3 | 11.6 | 12.8 | 11.8 | 9.7 | 12.2 | 12.7 | 16.3 | 11.4 |
| Price-to-adjusted earnings multiple | **12.1** | 11.4 | 10.9 | 12.4 | 11.7 | 9.9 | 11.5 | 12.5 | 12.5 | 9.2 |
| Market-to-book value multiple | **1.60** | 1.43 | 1.35 | 1.70 | 1.66 | 1.47 | 1.49 | 1.77 | 1.57 | 1.34 |
| **Balances** ($ millions) | | | | | | | | | | |
| Total assets | **709,580** | 687,935 | 641,881 | 588,659 | 537,044 | 524,684 | 500,575 | 411,640 | 388,458 | 416,050 |
| Average assets | **722,626** | 707,122 | 664,391 | 593,928 | 555,431 | 543,931 | 469,934 | 398,474 | 438,548 | 397,609 |
| Average net loans and acceptances | **373,946** | 357,708 | 320,081 | 292,098 | 266,107 | 246,129 | 215,414 | 171,554 | 182,097 | 175,079 |
| **Return on Equity and Assets** | | | | | | | | | | |
| Return on equity (%) | **13.3** | 12.1 | 12.5 | 14.0 | 14.9 | 15.9 | 15.1 | 14.9 | 9.9 | 13.0 |
| Adjusted return on equity (%) (1) | **13.7** | 13.1 | 13.3 | 14.4 | 15.0 | 15.5 | 16.0 | 15.0 | 12.9 | 16.2 |
| Return on tangible common equity (%) | **16.3** | 15.3 | 15.8 | 17.3 | 17.9 | 19.4 | 17.6 | 16.6 | 11.3 | 14.7 |
| Adjusted return on tangible common equity (%) (1) | **16.5** | 16.1 | 16.4 | 17.4 | 17.7 | 18.5 | 18.2 | 16.6 | 14.5 | 17.9 |
| Return on average assets (%) | **0.74** | 0.65 | 0.66 | 0.72 | 0.74 | 0.75 | 0.65 | 0.71 | 0.41 | 0.50 |
| Adjusted return on average assets (%) (1) | **0.76** | 0.71 | 0.70 | 0.74 | 0.75 | 0.73 | 0.68 | 0.71 | 0.52 | 0.61 |
| Return on average risk-weighted assets (%) | **1.99** | 1.71 | 1.84 | 1.85 | 1.93 | 1.96 | 1.70 | 1.74 | 0.97 | 1.07 |
| Adjusted return on average risk-weighted assets (%) (1) | **2.05** | 1.85 | 1.96 | 1.91 | 1.94 | 1.92 | 1.79 | 1.76 | 1.25 | 1.32 |
| Average equity to average total assets (%) | **0.05** | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.04 | 0.05 | 0.04 | 0.04 |
| **Other Statistical Information** | | | | | | | | | | |
| Employees (2) | | | | | | | | | | |
| Canada | **29,647** | 29,643 | 30,669 | 30,587 | 30,303 | 30,797 | 31,351 | 29,821 | 29,118 | 29,529 |
| United States | **14,071** | 14,147 | 14,316 | 14,845 | 14,694 | 14,963 | 15,184 | 7,445 | 6,732 | 7,256 |
| Other | **1,482** | 1,444 | 1,368 | 1,346 | 634 | 512 | 440 | 363 | 323 | 288 |
| Total | **45,200** | 45,234 | 46,353 | 46,778 | 45,631 | 46,272 | 46,975 | 37,629 | 36,173 | 37,073 |
| Bank branches | | | | | | | | | | |
| Canada | **926** | 942 | 939 | 934 | 933 | 930 | 920 | 910 | 900 | 983 |
| United States | **573** | 576 | 592 | 615 | 626 | 638 | 688 | 321 | 290 | 292 |
| Other | **4** | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 5 | 5 |
| Total | **1,503** | 1,522 | 1,535 | 1,553 | 1,563 | 1,571 | 1,611 | 1,234 | 1,195 | 1,280 |
| Automated banking machines | | | | | | | | | | |
| Canada | **3,315** | 3,285 | 3,442 | 3,016 | 2,900 | 2,596 | 2,235 | 2,076 | 2,030 | 2,026 |
| United States | **1,416** | 1,314 | 1,319 | 1,322 | 1,325 | 1,375 | 1,366 | 905 | 636 | 640 |
| Total | **4,731** | 4,599 | 4,761 | 4,338 | 4,225 | 3,971 | 3,601 | 2,981 | 2,666 | 2,666 |

2010 and prior based on CGAAP.

2011 has not been restated to reflect the new IFRS standards adopted in 2014. The adoption of new IFRS standards in 2015 only impacted our results prospectively.

(1) The impact of adjusting items (net of tax) was an increase/(decrease) to net income as follows: 2012 – $(97) million; 2011 – $161 million; 2010 – $32 million; 2009 – $509 million; 2008 – $461 million. Details on the adjusting items can be found in the 2012 to 2008 Management's Discussion and Analysis.

(2) Reflects full-time equivalent number of employees, comprising full-time and part-time employees and adjustments for overtime hours.

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## Table 2: Summary Income Statement and Growth Statistics

| ($ millions, except as noted)<br>For the year ended October 31 | 2017 | 2016 | 2015 | 2014 | 2013 | 5-year CAGR | 10-year CAGR |
|---|---|---|---|---|---|---|---|
| **Income Statement – Reported Results** | | | | | | | |
| Net interest income | **10,007** | 9,872 | 8,763 | 8,292 | 8,487 | **2.7** | **7.6** |
| Non-interest revenue | **12,253** | 11,215 | 10,626 | 9,931 | 8,343 | **8.0** | **9.8** |
| Revenue | **22,260** | 21,087 | 19,389 | 18,223 | 16,830 | **5.4** | **8.8** |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) (1) | **1,538** | 1,543 | 1,254 | 1,505 | 767 | **5.5** | **18.9** |
| Revenue, net of CCPB | **20,722** | 19,544 | 18,135 | 16,718 | 16,063 | **5.4** | **8.3** |
| Provision for credit losses | **774** | 815 | 612 | 561 | 587 | **nm** | **nm** |
| Non-interest expense | **13,302** | 12,997 | 12,182 | 10,921 | 10,226 | **5.6** | **7.3** |
| Income before provision for income taxes | **6,646** | 5,732 | 5,341 | 5,236 | 5,250 | **5.7** | **10.7** |
| Provision for income taxes | **1,296** | 1,101 | 936 | 903 | 1,055 | **8.2** | **21.2** |
| Net income | **5,350** | 4,631 | 4,405 | 4,333 | 4,195 | **5.2** | **9.3** |
| Attributable to bank shareholders | **5,348** | 4,622 | 4,370 | 4,277 | 4,130 | **5.5** | **9.6** |
| Attributable to non-controlling interest in subsidiaries | **2** | 9 | 35 | 56 | 65 | **nm** | **nm** |
| Net income | **5,350** | 4,631 | 4,405 | 4,333 | 4,195 | **5.2** | **9.6** |
| **Income Statement – Adjusted Results** | | | | | | | |
| Net interest income | **10,007** | 9,872 | 8,764 | 8,292 | 7,830 | **4.7** | **7.6** |
| Non-interest revenue | **12,253** | 11,299 | 10,627 | 9,931 | 8,309 | **8.7** | **7.9** |
| Revenue | **22,260** | 21,171 | 19,391 | 18,223 | 16,139 | **6.8** | **7.7** |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) (1) | **1,538** | 1,543 | 1,254 | 1,505 | 767 | **5.5** | **18.9** |
| Revenue, net of CCPB | **20,722** | 19,628 | 18,137 | 16,718 | 15,372 | **6.9** | **7.2** |
| Provision for credit losses | **850** | 815 | 612 | 561 | 357 | **nm** | **nm** |
| Non-interest expense | **13,007** | 12,544 | 11,819 | 10,761 | 9,755 | **6.7** | **7.2** |
| Income before provision for income taxes | **6,865** | 6,269 | 5,706 | 5,396 | 5,260 | **6.6** | **7.0** |
| Provision for income taxes | **1,357** | 1,249 | 1,025 | 943 | 1,037 | **14.4** | **8.6** |
| Adjusted net income | **5,508** | 5,020 | 4,681 | 4,453 | 4,223 | **6.3** | **6.7** |
| Attributable to bank shareholders | **5,506** | 5,011 | 4,646 | 4,397 | 4,158 | **6.3** | **6.7** |
| Attributable to non-controlling interest in subsidiaries | **2** | 9 | 35 | 56 | 65 | **nm** | **nm** |
| Adjusted net income | **5,508** | 5,020 | 4,681 | 4,453 | 4,223 | **6.3** | **6.7** |
| **Earnings per Share (EPS)** ($) | | | | | | | |
| Basic | **7.95** | 6.94 | 6.59 | 6.44 | 6.19 | **5.3** | **6.6** |
| Diluted | **7.92** | 6.92 | 6.57 | 6.41 | 6.17 | **5.4** | **6.8** |
| Adjusted diluted | **8.16** | 7.52 | 7.00 | 6.59 | 6.21 | **6.5** | **4.2** |
| **Year-over-Year Growth-Based Statistical Information** (%) | | | | | | | |
| Net income growth | **15.5** | 5.1 | 1.7 | 3.3 | 0.9 | **na** | **na** |
| Adjusted net income growth | **9.7** | 7.2 | 5.1 | 5.4 | 4.1 | **na** | **na** |
| Diluted EPS growth | **14.5** | 5.3 | 2.5 | 3.9 | 1.1 | **na** | **na** |
| Adjusted diluted EPS growth | **8.5** | 7.4 | 6.2 | 6.1 | 4.4 | **na** | **na** |

Five-year and ten-year CAGR based on CGAAP in 2007 and IFRS in 2012 and 2017.

The adoption of new IFRS standards in 2015 only impacted our results prospectively.

(1) Beginning in 2015, insurance claims, commissions and changes in policy benefit liabilities (CCPB) are reported separately. They were previously reported as a reduction in insurance revenue in non-interest revenue. Prior years' amounts and ratios have been reclassified.

nm – not meaningful

na – not applicable

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## Table 3: Revenue and Revenue Growth

| ($ millions, except as noted)<br>For the year ended October 31 | 2017 | 2016 | 2015 | 2014 | 2013 | 5-year CAGR | 10-year CAGR |
|---|---|---|---|---|---|---|---|
| **Net Interest Income** | **10,007** | 9,872 | 8,763 | 8,292 | 8,487 | **2.7** | **7.6** |
| Year-over-year growth (%) | **1.4** | 12.7 | 5.7 | (2.3) | (3.0) | **na** | **na** |
| **Adjusted Net Interest Income** | **10,007** | 9,872 | 8,764 | 8,292 | 7,830 | **4.7** | **7.6** |
| Year-over-year growth (%) | **1.4** | 12.6 | 5.7 | 5.9 | (1.8) | **na** | **na** |
| **Net Interest Margin** (1) | | | | | | | |
| Average earning assets | **646,799** | 622,732 | 579,471 | 528,786 | 485,191 | **7.0** | **7.8** |
| Net interest margin (%) | **1.55** | 1.59 | 1.51 | 1.57 | 1.75 | **na** | **na** |
| Adjusted net interest margin (%) | **1.55** | 1.59 | 1.51 | 1.57 | 1.61 | **na** | **na** |
| Canadian dollar net interest margin (%) | **1.64** | 1.60 | 1.62 | 1.68 | 1.76 | **na** | **na** |
| U.S. dollar and other currencies net interest margin (%) | **1.45** | 1.56 | 1.38 | 1.41 | 1.74 | **na** | **na** |
| **Non-Interest Revenue** | | | | | | | |
| Securities commissions and fees | **969** | 924 | 901 | 894 | 821 | **3.3** | **(1.7)** |
| Deposit and payment service charges | **1,187** | 1,141 | 1,077 | 1,002 | 916 | **5.0** | **5.0** |
| Trading revenues | **1,352** | 1,192 | 987 | 949 | 849 | **5.7** | **nm** |
| Lending fees | **917** | 859 | 737 | 680 | 603 | **11.0** | **8.5** |
| Card fees | **415** | 461 | 460 | 462 | 461 | **(1.2)** | **14.5** |
| Investment management and custodial fees | **1,622** | 1,556 | 1,552 | 1,286 | 1,003 | **10.9** | **17.5** |
| Mutual fund revenues | **1,411** | 1,364 | 1,377 | 1,065 | 828 | **16.2** | **9.4** |
| Underwriting and advisory fees | **1,036** | 820 | 706 | 744 | 652 | **11.5** | **7.0** |
| Securities gains, other than trading | **171** | 84 | 171 | 162 | 285 | **2.5** | **(3.6)** |
| Foreign exchange, other than trading | **191** | 162 | 172 | 179 | 172 | **4.6** | **3.8** |
| Insurance revenue (2) | **2,070** | 2,023 | 1,762 | 2,008 | 1,212 | **6.5** | **14.8** |
| Investments in associates and joint ventures | **386** | 140 | 207 | 169 | 190 | **15.5** | **nm** |
| Other revenues | **526** | 489 | 517 | 331 | 351 | **8.2** | **6.8** |
| **Total Non-Interest Revenue** | **12,253** | 11,215 | 10,626 | 9,931 | 8,343 | **8.0** | **9.8** |
| Year-over-year non-interest revenue growth (%) | **9.2** | 5.5 | 7.0 | 19.0 | (0.1) | **na** | **na** |
| Non-interest revenue as a % of total revenue | **55.0** | 53.2 | 54.8 | 54.5 | 49.6 | **na** | **na** |
| **Adjusted Non-Interest Revenue** | **12,253** | 11,299 | 10,627 | 9,931 | 8,309 | **8.7** | **7.9** |
| Year-over-year adjusted non-interest revenue growth (%) | **8.4** | 6.3 | 7.0 | 19.5 | 3.0 | **na** | **na** |
| Adjusted non-interest revenue as a % of total adjusted revenue | **55.0** | 53.4 | 54.8 | 54.5 | 51.5 | **na** | **na** |
| **Total Revenue** | **22,260** | 21,087 | 19,389 | 18,223 | 16,830 | **5.4** | **8.8** |
| Year-over-year total revenue growth (%) | **5.6** | 8.8 | 6.4 | 8.3 | (1.6) | **na** | **na** |
| **Total Revenue, net of CCPB** (2) | **20,722** | 19,544 | 18,135 | 16,718 | 16,063 | **5.4** | **8.3** |
| Year-over-year total revenue growth, net of CCPB (%) | **6.0** | 7.8 | 8.5 | 4.1 | 0.8 | **na** | **na** |
| **Total Adjusted Revenue** | **22,260** | 21,171 | 19,391 | 18,223 | 16,139 | **6.8** | **7.7** |
| Year-over-year total adjusted revenue growth (%) | **5.1** | 9.2 | 6.4 | 12.9 | 0.6 | **na** | **na** |
| **Total Adjusted Revenue, net of CCPB** (2) | **20,722** | 19,628 | 18,137 | 16,718 | 15,372 | **6.9** | **7.2** |
| Year-over-year total adjusted revenue growth, net of CCPB (%) | **5.6** | 8.2 | 8.5 | 8.7 | 3.4 | **na** | **na** |

Five-year and ten-year CAGR based on CGAAP in 2007 and IFRS in 2012 and 2017.

The adoption of new IFRS standards in 2015 only impacted our results prospectively.

(1) Net interest margin is calculated based on average earning assets.

(2) Beginning in 2015, insurance claims, commissions and changes in policy benefit liabilities (CCPB) are reported separately. They were previously reported as a reduction in insurance revenue in non-interest revenue. Prior years' amounts and ratios have been reclassified.

na – not applicable

nm – not meaningful

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## Table 4: Non-Interest Expense, Expense-to-Revenue Ratio and Government Levies and Taxes

| ($ millions, except as noted)<br>For the year ended October 31 | 2017 | 2016 | 2015 | 2014 | 2013 | 5-year CAGR | 10-year CAGR |
|---|---|---|---|---|---|---|---|
| **Non-Interest Expense** | | | | | | | |
| Employee compensation | | | | | | | |
| Salaries | **3,995** | 4,082 | 3,910 | 3,388 | 3,259 | **4.9** | **7.4** |
| Performance-based compensation | **2,386** | 2,278 | 2,102 | 1,946 | 1,686 | **7.6** | **6.5** |
| Employee benefits | **1,086** | 1,022 | 1,069 | 908 | 897 | **6.1** | **6.4** |
| Total employee compensation | **7,467** | 7,382 | 7,081 | 6,242 | 5,842 | **5.9** | **6.9** |
| Premises and equipment | | | | | | | |
| Rental of real estate | **494** | 486 | 462 | 415 | 416 | **4.3** | **6.7** |
| Premises, furniture and fixtures | **282** | 337 | 287 | 261 | 377 | **(5.2)** | **1.5** |
| Property taxes | **39** | 42 | 39 | 39 | 37 | **1.8** | **3.4** |
| Computers and equipment | **1,676** | 1,528 | 1,349 | 1,193 | 1,003 | **9.4** | **10.2** |
| Total premises and equipment | **2,491** | 2,393 | 2,137 | 1,908 | 1,833 | **5.9** | **7.9** |
| Other expenses | | | | | | | |
| Amortization of intangible assets | **485** | 444 | 411 | 382 | 346 | **7.9** | **9.9** |
| Communications | **286** | 294 | 314 | 289 | 291 | **(1.0)** | **6.7** |
| Business, capital and sundry taxes | **38** | 42 | 45 | 39 | 39 | **(4.1)** | **(2.3)** |
| Professional fees | **563** | 523 | 595 | 622 | 527 | **(1.0)** | **6.5** |
| Travel and business development | **693** | 646 | 605 | 542 | 514 | **7.2** | **9.2** |
| Other | **1,279** | 1,273 | 994 | 897 | 834 | **7.6** | **10.2** |
| Total other expenses | **3,344** | 3,222 | 2,964 | 2,771 | 2,551 | **4.8** | **8.7** |
| **Total Non-Interest Expense** | **13,302** | 12,997 | 12,182 | 10,921 | 10,226 | **5.6** | **7.3** |
| Year-over-year total non-interest expense growth (%) | **2.3** | 6.7 | 11.5 | 6.8 | 0.9 | **na** | **na** |
| **Total Adjusted Non-Interest Expense** | **13,007** | 12,544 | 11,819 | 10,761 | 9,755 | **6.7** | **7.2** |
| Year-over-year total adjusted non-interest expense growth (%) | **3.7** | 6.1 | 9.8 | 10.3 | 3.7 | **na** | **na** |
| Non-interest expense-to-revenue ratio (Efficiency ratio) (%) | **59.8** | 61.6 | 62.8 | 59.9 | 60.8 | **na** | **na** |
| Adjusted non-interest expense-to-revenue ratio (Adjusted Efficiency ratio) (%) | **58.4** | 59.2 | 60.9 | 59.1 | 60.4 | **na** | **na** |
| Efficiency ratio, net of CCPB (%) | **64.2** | 66.5 | 67.2 | 65.3 | 63.7 | **na** | **na** |
| Adjusted efficiency ratio, net of CCPB (%) | **62.8** | 63.9 | 65.2 | 64.4 | 63.5 | **na** | **na** |
| **Government Levies and Taxes** (1) | | | | | | | |
| Government levies other than income taxes | | | | | | | |
| Payroll levies | **322** | 324 | 312 | 252 | 249 | **5.1** | **6.9** |
| Property taxes | **39** | 42 | 39 | 39 | 37 | **1.8** | **3.4** |
| Provincial capital taxes | **29** | 30 | 33 | 27 | 30 | **(4.9)** | **(2.6)** |
| Business taxes | **8** | 9 | 10 | 9 | 7 | **(4.7)** | **(2.9)** |
| Harmonized sales tax, GST, VAT and other sales taxes | **293** | 318 | 288 | 273 | 262 | **3.3** | **7.5** |
| Sundry taxes | **1** | 3 | 2 | 2 | 1 | **nm** | **nm** |
| Total government levies other than income taxes | **692** | 726 | 684 | 602 | 586 | **3.4** | **6.0** |
| Provision for income taxes | **1,296** | 1,101 | 936 | 903 | 1,055 | **8.2** | **21.2** |
| **Total Government Levies and Taxes** | **1,988** | 1,827 | 1,620 | 1,505 | 1,641 | **6.4** | **13.2** |
| Total government levies and taxes as a % of income before total government levies and taxes | **27.1** | 28.3 | 26.9 | 25.8 | 28.1 | **na** | **na** |
| Effective income tax rate (%) | **19.5** | 19.2 | 17.5 | 17.2 | 20.1 | **na** | **na** |
| Adjusted effective income tax rate (%) | **19.8** | 19.9 | 18.0 | 17.5 | 19.7 | **na** | **na** |

Five-year and ten-year CAGR based on CGAAP in 2007 and IFRS in 2012 and 2017.

The adoption of new IFRS standards in 2015 only impacted our results prospectively.

(1) Government levies are included in various non-interest expense categories.

na – not applicable

nm – not meaningful

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## Table 5: Average Assets, Liabilities and Interest Rates

| ($ millions, except as noted) For the year ended October 31 | 2017 Average balances | 2017 Average interest rate (%) | 2017 Interest income/ expense | 2016 Average balances | 2016 Average interest rate (%) | 2016 Interest income/ expense | 2015 Average balances | 2015 Average interest rate (%) | 2015 Interest income/ expense |
|---|---|---|---|---|---|---|---|---|---|
| **Assets** | | | | | | | | | |
| **Canadian Dollar** | | | | | | | | | |
| Deposits with other banks | **570** | **0.43** | **2** | 2,016 | 1.12 | 23 | 1,984 | 1.04 | 21 |
| Securities | **84,985** | **1.15** | **980** | 84,099 | 1.22 | 1,028 | 90,322 | 1.27 | 1,143 |
| Securities borrowed or purchased under resale agreements | **32,528** | **0.95** | **309** | 34,906 | 0.75 | 261 | 29,617 | 0.85 | 251 |
| Loans | | | | | | | | | |
| Residential mortgages | **104,529** | **2.61** | **2,729** | 99,280 | 2.63 | 2,615 | 94,119 | 2.83 | 2,663 |
| Non-residential mortgages | **6,114** | **3.23** | **197** | 6,281 | 3.37 | 212 | 6,176 | 3.71 | 229 |
| Personal and credit cards | **57,675** | **4.77** | **2,752** | 56,211 | 4.71 | 2,645 | 55,219 | 4.87 | 2,690 |
| Businesses and governments | **53,741** | **3.42** | **1,836** | 49,136 | 3.59 | 1,766 | 43,427 | 3.94 | 1,710 |
| Total loans | **222,059** | **3.38** | **7,514** | 210,908 | 3.43 | 7,238 | 198,941 | 3.67 | 7,292 |
| Total Canadian dollar | **340,142** | **2.59** | **8,805** | 331,929 | 2.58 | 8,550 | 320,864 | 2.71 | 8,707 |
| **U.S. Dollar and Other Currencies** | | | | | | | | | |
| Deposits with other banks | **37,685** | **0.85** | **322** | 41,821 | 0.48 | 200 | 48,031 | 0.35 | 169 |
| Securities | **74,991** | **1.29** | **965** | 57,820 | 1.17 | 676 | 54,733 | 1.03 | 562 |
| Securities borrowed or purchased under resale agreements | **54,766** | **0.93** | **508** | 54,210 | 0.59 | 319 | 44,010 | 0.38 | 168 |
| Loans | | | | | | | | | |
| Residential mortgages | **8,548** | **3.55** | **304** | 8,630 | 3.52 | 304 | 8,631 | 3.39 | 293 |
| Non-residential mortgages | **5,159** | **2.08** | **108** | 4,672 | 2.28 | 106 | 4,619 | 2.51 | 116 |
| Personal and credit cards | **11,513** | **3.90** | **449** | 15,771 | 3.32 | 524 | 17,071 | 3.19 | 545 |
| Businesses and governments | **112,141** | **3.90** | **4,372** | 105,953 | 3.61 | 3,823 | 79,678 | 3.26 | 2,598 |
| Total loans | **137,361** | **3.81** | **5,233** | 135,026 | 3.52 | 4,757 | 109,999 | 3.23 | 3,552 |
| Total U.S. dollar and other currencies | **304,803** | **2.31** | **7,028** | 288,877 | 2.06 | 5,952 | 256,773 | 1.73 | 4,451 |
| Other non-interest bearing assets | **77,681** | | | 86,316 | | | 86,754 | | |
| **Total All Currencies** | | | | | | | | | |
| Total assets and interest income | **722,626** | **2.19** | **15,833** | 707,122 | 2.05 | 14,502 | 664,391 | 1.98 | 13,158 |
| **Liabilities** | | | | | | | | | |
| **Canadian Dollar** | | | | | | | | | |
| Deposits | | | | | | | | | |
| Banks | **7,349** | **0.37** | **27** | 9,492 | 0.25 | 24 | 10,158 | 0.52 | 53 |
| Businesses and governments | **103,343** | **1.21** | **1,245** | 98,004 | 1.26 | 1,231 | 94,438 | 1.34 | 1,269 |
| Individuals | **108,200** | **0.70** | **754** | 101,402 | 0.75 | 757 | 94,031 | 0.88 | 832 |
| Total deposits | **218,892** | **0.93** | **2,026** | 208,898 | 0.96 | 2,012 | 198,627 | 1.08 | 2,154 |
| Securities sold but not yet purchased and securities lent or sold (1) | **34,300** | **1.74** | **597** | 37,017 | 1.65 | 612 | 40,637 | 1.85 | 750 |
| Subordinated debt and other interest bearing liabilities | **24,018** | **2.48** | **595** | 25,598 | 2.28 | 584 | 25,713 | 2.40 | 616 |
| Total Canadian dollar | **277,210** | **1.16** | **3,218** | 271,513 | 1.18 | 3,208 | 264,977 | 1.33 | 3,520 |
| **U.S. Dollar and Other Currencies** | | | | | | | | | |
| Deposits | | | | | | | | | |
| Banks | **25,626** | **1.05** | **270** | 26,896 | 0.55 | 148 | 21,626 | 0.27 | 59 |
| Businesses and governments | **182,156** | **0.78** | **1,429** | 178,848 | 0.43 | 761 | 167,544 | 0.27 | 447 |
| Individuals | **57,245** | **0.33** | **190** | 54,081 | 0.24 | 131 | 47,671 | 0.20 | 95 |
| Total deposits | **265,027** | **0.71** | **1,889** | 259,825 | 0.40 | 1,040 | 236,841 | 0.25 | 601 |
| Securities sold but not yet purchased and securities lent or sold (1) | **59,154** | **0.96** | **570** | 50,791 | 0.57 | 288 | 41,792 | 0.48 | 199 |
| Subordinated debt and other interest bearing liabilities | **9,142** | **1.63** | **149** | 7,192 | 1.31 | 94 | 5,749 | 1.31 | 75 |
| Total U.S. dollar and other currencies | **333,323** | **0.78** | **2,608** | 317,808 | 0.45 | 1,422 | 284,382 | 0.31 | 875 |
| Other non-interest bearing liabilities | **69,049** | | | 77,546 | | | 78,130 | | |
| **Total All Currencies** | | | | | | | | | |
| Total liabilities and interest expense | **679,582** | **0.86** | **5,826** | 666,867 | 0.69 | 4,630 | 627,489 | 0.70 | 4,395 |
| Shareholders' equity | **43,044** | | | 40,255 | | | 36,902 | | |
| **Total Liabilities, Interest Expense and Shareholders' Equity** | **722,626** | **0.81** | **5,826** | 707,122 | 0.65 | 4,630 | 664,391 | 0.66 | 4,395 |
| **Net interest margin** | | | | | | | | | |
| – based on earning assets | | **1.55** | | | 1.59 | | | 1.51 | |
| – based on total assets | | **1.38** | | | 1.40 | | | 1.32 | |
| **Net interest income based on total assets** | | | **10,007** | | | 9,872 | | | 8,763 |
| **Adjusted net interest margin** | | | | | | | | | |
| – based on earning assets | | **1.55** | | | 1.59 | | | 1.51 | |
| – based on total assets | | **1.38** | | | 1.40 | | | 1.32 | |
| **Adjusted net interest income based on total assets** | | | **10,007** | | | 9,872 | | | 8,764 |

(1) For the years ended October 31, 2017, 2016 and 2015, the maximum amount of securities lent or sold under repurchase agreements at any month end amounted to $72,826 million, $67,169 million and $57,385 million, respectively.

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## Table 6: Volume/Rate Analysis of Changes in Net Interest Income

| ($ millions) For the year ended October 31 | 2017/2016 Increase (decrease) due to change in Average balance | Average rate | Total | 2016/2015 Increase (decrease) due to change in Average balance | Average rate | Total |
|---|---|---|---|---|---|---|
| **Assets** | | | | | | |
| **Canadian Dollar** | | | | | | |
| Deposits with other banks | **(17)** | **(4)** | **(21)** | – | 2 | 2 |
| Securities | **11** | **(59)** | **(48)** | (79) | (36) | (115) |
| Securities borrowed or purchased under resale agreements | **(17)** | **65** | **48** | 45 | (35) | 10 |
| Loans | | | | | | |
| Residential mortgages | **138** | **(24)** | **114** | 146 | (194) | (48) |
| Non-residential mortgages | **(6)** | **(9)** | **(15)** | 4 | (21) | (17) |
| Personal and credit cards | **69** | **38** | **107** | 47 | (92) | (45) |
| Businesses and governments | **166** | **(96)** | **70** | 225 | (169) | 56 |
| Total loans | **367** | **(91)** | **276** | 422 | (476) | (54) |
| Change in Canadian dollar interest income | **344** | **(89)** | **255** | 388 | (545) | (157) |
| **U.S. Dollar and Other Currencies** | | | | | | |
| Deposits with other banks | **(19)** | **141** | **122** | (22) | 53 | 31 |
| Securities | **201** | **88** | **289** | 31 | 83 | 114 |
| Securities borrowed or purchased under resale agreements | **3** | **186** | **189** | 39 | 112 | 151 |
| Loans | | | | | | |
| Residential mortgages | **(3)** | **3** | **–** | – | 11 | 11 |
| Non-residential mortgages | **12** | **(10)** | **2** | 1 | (11) | (10) |
| Personal and credit cards | **(142)** | **67** | **(75)** | (41) | 20 | (21) |
| Businesses and governments | **223** | **326** | **549** | 857 | 368 | 1,225 |
| Total loans | **90** | **386** | **476** | 817 | 388 | 1,205 |
| Change in U.S. dollar and other currencies interest income | **275** | **801** | **1,076** | 865 | 636 | 1,501 |
| **Total All Currencies** | | | | | | |
| Change in total interest income (a) | **619** | **712** | **1,331** | 1,253 | 91 | 1,344 |
| **Liabilities** | | | | | | |
| **Canadian Dollar** | | | | | | |
| Deposits | | | | | | |
| Banks | **(6)** | **9** | **3** | (4) | (25) | (29) |
| Businesses and governments | **68** | **(54)** | **14** | 48 | (86) | (38) |
| Individuals | **51** | **(54)** | **(3)** | 65 | (140) | (75) |
| Total deposits | **113** | **(99)** | **14** | 109 | (251) | (142) |
| Securities sold but not yet purchased and securities lent or sold | **(45)** | **30** | **(15)** | (67) | (71) | (138) |
| Subordinated debt and other interest bearing liabilities | **(36)** | **47** | **11** | (3) | (29) | (32) |
| Change in Canadian dollar interest expense | **32** | **(22)** | **10** | 39 | (351) | (312) |
| **U.S. Dollar and Other Currencies** | | | | | | |
| Deposits | | | | | | |
| Banks | **(7)** | **129** | **122** | 14 | 75 | 89 |
| Businesses and governments | **14** | **654** | **668** | 30 | 284 | 314 |
| Individuals | **8** | **51** | **59** | 13 | 23 | 36 |
| Total deposits | **15** | **834** | **849** | 57 | 382 | 439 |
| Securities sold but not yet purchased and securities lent or sold | **47** | **235** | **282** | 43 | 46 | 89 |
| Subordinated debt and other interest bearing liabilities | **25** | **30** | **55** | 19 | – | 19 |
| Change in U.S. dollar and other currencies interest expense | **87** | **1,099** | **1,186** | 119 | 428 | 547 |
| **Total All Currencies** | | | | | | |
| Change in total interest expense (b) | **119** | **1,077** | **1,196** | 158 | 77 | 235 |
| Change in total net interest income (a – b) | **500** | **(365)** | **135** | 1,095 | 14 | 1,109 |

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## Table 7: Net Loans and Acceptances – Segmented Information (1)

| ($ millions) | Canada | | | | | United States | | | | | Other countries | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| As at October 31 | **2017** | 2016 | 2015 | 2014 | 2013 | **2017** | 2016 | 2015 | 2014 | 2013 | **2017** | 2016 | 2015 | 2014 | 2013 |
| Consumer | | | | | | | | | | | | | | | |
| Residential mortgages | **106,647** | 103,558 | 96,975 | 92,972 | 88,677 | **8,587** | 8,686 | 8,905 | 7,980 | 7,646 | **–** | – | – | – | – |
| Credit cards | **7,550** | 7,541 | 7,427 | 7,476 | 7,413 | **521** | 560 | 553 | 496 | 457 | **–** | – | – | – | – |
| Consumer instalment and other personal loans | **51,637** | 50,368 | 49,181 | 48,955 | 49,195 | **9,798** | 13,974 | 16,098 | 15,088 | 14,364 | **373** | 215 | 206 | 1 | – |
| Total consumer | **165,834** | 161,467 | 153,583 | 149,403 | 145,285 | **18,906** | 23,220 | 25,556 | 23,564 | 22,467 | **373** | 215 | 206 | 1 | – |
| Total businesses and governments | **85,494** | 79,443 | 69,772 | 63,896 | 57,967 | **96,656** | 98,371 | 75,430 | 56,389 | 45,842 | **12,395** | 10,555 | 10,975 | 11,145 | 8,954 |
| Total loans and acceptances, net of specific allowances | **251,328** | 240,910 | 223,355 | 213,299 | 203,252 | **115,562** | 121,591 | 100,986 | 79,953 | 68,309 | **12,768** | 10,770 | 11,181 | 11,146 | 8,954 |
| Collective allowance | **(843)** | (893) | (857) | (795) | (791) | **(733)** | (789) | (803) | (747) | (694) | **–** | – | – | – | – |
| Total net loans and acceptances | **250,485** | 240,017 | 222,498 | 212,504 | 202,461 | **114,829** | 120,802 | 100,183 | 79,206 | 67,615 | **12,768** | 10,770 | 11,181 | 11,146 | 8,954 |

## Table 8: Net Impaired Loans and Acceptances – Segmented Information (2)

| ($ millions, except as noted) | Canada | | | | | United States | | | | | Other countries | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| As at October 31 | **2017** | 2016 | 2015 | 2014 | 2013 | **2017** | 2016 | 2015 | 2014 | 2013 | **2017** | 2016 | 2015 | 2014 | 2013 |
| Consumer | | | | | | | | | | | | | | | |
| Residential mortgages | **160** | 144 | 159 | 168 | 157 | **161** | 175 | 173 | 303 | 369 | **–** | – | – | – | – |
| Consumer instalment and other personal loans | **127** | 121 | 117 | 136 | 100 | **293** | 345 | 316 | 309 | 274 | **–** | – | – | – | – |
| Total consumer | **287** | 265 | 276 | 304 | 257 | **454** | 520 | 489 | 612 | 643 | **–** | – | – | – | – |
| Businesses and governments | **248** | 298 | 220 | 247 | 253 | **762** | 843 | 613 | 507 | 944 | **30** | 1 | 4 | 4 | 3 |
| Total impaired loans and acceptances, net of specific allowances | **535** | 563 | 496 | 551 | 510 | **1,216** | 1,363 | 1,102 | 1,119 | 1,587 | **30** | 1 | 4 | 4 | 3 |
| **Condition Ratios** (1) | | | | | | | | | | | | | | | |
| NIL as a % of net loans and acceptances (2) (3) | **0.21** | 0.23 | 0.22 | 0.26 | 0.25 | **1.04** | 1.13 | 1.10 | 1.43 | 2.38 | **0.23** | 0.01 | 0.04 | 0.04 | 0.03 |
| NIL as a % of net loans and acceptances (2) (3) | | | | | | | | | | | | | | | |
| Consumer | **0.17** | 0.16 | 0.18 | 0.20 | 0.18 | **2.40** | 2.26 | 1.94 | 2.63 | 2.90 | **–** | – | – | – | – |
| Businesses and governments | **0.29** | 0.38 | 0.32 | 0.39 | 0.44 | **0.79** | 0.86 | 0.82 | 0.92 | 2.12 | **0.24** | 0.01 | 0.04 | 0.04 | 0.03 |

(1) Aggregate Net Loans and Acceptances balances are net of collective allowances, and all specific allowances excluding those related to off-balance sheet instruments and undrawn commitments. The Consumer and Businesses and governments Net Loans and Acceptances balances are stated net of specific allowances only (excluding those related to off-balance sheet instruments and undrawn commitments).
(2) Net Impaired Loans balances are net of specific allowances, excluding off-balance sheet instruments and undrawn commitments.
(3) Ratios are presented including purchased portfolios.

| Total | | | | |
|---|---|---|---|---|
| **2017** | 2016 | 2015 | 2014 | 2013 |
| **115,234** | 112,244 | 105,880 | 100,952 | 96,323 |
| **8,071** | 8,101 | 7,980 | 7,972 | 7,870 |
| **61,808** | 64,557 | 65,485 | 64,044 | 63,559 |
| **185,113** | 184,902 | 179,345 | 172,968 | 167,752 |
| **194,545** | 188,369 | 156,177 | 131,430 | 112,763 |
| **379,658** | 373,271 | 335,522 | 304,398 | 280,515 |
| **(1,576)** | (1,682) | (1,660) | (1,542) | (1,485) |
| **378,082** | 371,589 | 333,862 | 302,856 | 279,030 |

| Total | | | | |
|---|---|---|---|---|
| **2017** | 2016 | 2015 | 2014 | 2013 |
| **321** | 319 | 332 | 471 | 526 |
| **420** | 466 | 433 | 445 | 374 |
| **741** | 785 | 765 | 916 | 900 |
| **1,040** | 1,142 | 837 | 758 | 1,200 |
| **1,781** | 1,927 | 1,602 | 1,674 | 2,100 |
| **0.47** | 0.52 | 0.48 | 0.55 | 0.75 |
| **0.40** | 0.42 | 0.43 | 0.53 | 0.54 |
| **0.53** | 0.61 | 0.54 | 0.58 | 1.07 |

## Table 9: Net Loans and Acceptances – Segmented Information (1)

($ millions)

| As at October 31 | **2017** | 2016 | 2015 | 2014 | 2013 |
|---|---|---|---|---|---|
| **Net Loans and Acceptances by Province** | | | | | |
| Atlantic provinces | **13,684** | 13,740 | 13,361 | 13,065 | 11,244 |
| Quebec | **38,909** | 38,272 | 36,486 | 35,647 | 33,746 |
| Ontario | **105,868** | 98,448 | 89,460 | 84,498 | 80,726 |
| Prairie provinces | **46,856** | 46,430 | 43,612 | 42,043 | 38,825 |
| British Columbia and territories | **45,168** | 43,127 | 39,579 | 37,251 | 37,920 |
| Total net loans and acceptances in Canada | **250,485** | 240,017 | 222,498 | 212,504 | 202,461 |
| **Net Businesses and Governments Loans by Industry** | | | | | |
| Commercial real estate | **26,479** | 24,114 | 20,597 | 17,636 | 17,606 |
| Construction (non-real estate) | **3,916** | 3,563 | 3,544 | 3,101 | 2,934 |
| Retail trade | **18,496** | 16,859 | 14,096 | 12,580 | 10,229 |
| Wholesale trade | **11,612** | 12,157 | 10,243 | 8,281 | 7,345 |
| Agriculture | **11,114** | 10,951 | 9,891 | 9,155 | 8,380 |
| Communications | **625** | 895 | 815 | 831 | 729 |
| Manufacturing | **20,070** | 18,689 | 16,187 | 13,612 | 11,250 |
| Mining | **1,344** | 1,862 | 1,309 | 1,085 | 959 |
| Oil and gas | **8,166** | 7,930 | 6,667 | 5,943 | 3,908 |
| Transportation | **10,496** | 10,694 | 3,735 | 2,532 | 2,152 |
| Utilities | **2,890** | 2,692 | 1,984 | 1,670 | 1,309 |
| Forest products | **835** | 889 | 859 | 587 | 631 |
| Service industries | **34,055** | 35,481 | 28,384 | 22,114 | 18,321 |
| Financial institutions | **39,082** | 35,977 | 31,220 | 24,096 | 19,019 |
| Government | **1,541** | 1,394 | 1,874 | 2,076 | 1,719 |
| Other | **3,824** | 4,222 | 4,772 | 6,131 | 6,272 |
| | **194,545** | 188,369 | 156,177 | 131,430 | 112,763 |

## Table 10: Net Impaired Loans and Acceptances – Segmented Information (2)

($ millions)

| As at October 31 | **2017** | 2016 | 2015 | 2014 | 2013 |
|---|---|---|---|---|---|
| **Net Impaired Businesses and Governments Loans** | | | | | |
| Commercial real estate | **45** | 60 | 87 | 159 | 379 |
| Construction (non-real estate) | **39** | 45 | 83 | 84 | 32 |
| Retail trade | **36** | 13 | 55 | 38 | 74 |
| Wholesale trade | **97** | 51 | 47 | 35 | 64 |
| Agriculture | **238** | 221 | 129 | 103 | 118 |
| Communications | **–** | 1 | 13 | 59 | – |
| Manufacturing | **70** | 106 | 102 | 100 | 74 |
| Mining | **1** | 2 | 3 | 2 | 5 |
| Oil and gas | **145** | 408 | 100 | 1 | 30 |
| Transportation | **156** | 88 | 30 | 7 | 23 |
| Utilities | **4** | 12 | 14 | – | – |
| Forest products | **2** | 7 | 9 | 13 | 19 |
| Service industries | **181** | 82 | 107 | 145 | 246 |
| Financial institutions | **2** | 39 | 48 | 9 | – |
| Government | **3** | 6 | – | 2 | 61 |
| Other | **21** | 1 | 10 | 1 | 75 |
| | **1,040** | 1,142 | 837 | 758 | 1,200 |

(1) Aggregated Net Loans and Acceptances are net of collective allowances, and all specific allowances excluding those related to off-balance sheet instruments and undrawn commitments. The Consumer and Businesses and governments Net Loans and Acceptances balances are stated net of specific allowances only (excluding those related to off-balance sheet instruments and undrawn commitments).

(2) Net Impaired Loans balances are net of specific allowances, excluding off-balance sheet instruments and undrawn commitments.

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## Table 11: Changes in Gross Impaired Loans – Segmented Information (3)

| ($ millions, except as noted) | Canada | | | | | United States | | | | | Other countries | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| As at October 31 | **2017** | 2016 | 2015 | 2014 | 2013 | **2017** | 2016 | 2015 | 2014 | 2013 | **2017** | 2016 | 2015 | 2014 | 2013 |
| Gross impaired loans and acceptances (GIL), beginning of year | | | | | | | | | | | | | | | |
| Consumer | **356** | 359 | 398 | 348 | 338 | **585** | 557 | 678 | 702 | 646 | **–** | – | – | – | – |
| Businesses and governments | **380** | 282 | 344 | 406 | 548 | **1,009** | 757 | 623 | 1,081 | 1,401 | **2** | 4 | 5 | 7 | 43 |
| Total GIL, beginning of year | **736** | 641 | 742 | 754 | 886 | **1,594** | 1,314 | 1,301 | 1,783 | 2,047 | **2** | 4 | 5 | 7 | 43 |
| Additions to impaired loans and acceptances | | | | | | | | | | | | | | | |
| Consumer | **697** | 631 | 617 | 643 | 584 | **360** | 473 | 526 | 529 | 637 | **–** | – | – | – | – |
| Businesses and governments | **281** | 453 | 231 | 285 | 294 | **799** | 953 | 542 | 685 | 931 | **56** | 2 | 5 | – | 3 |
| Total additions | **978** | 1,084 | 848 | 928 | 878 | **1,159** | 1,426 | 1,068 | 1,214 | 1,568 | **56** | 2 | 5 | – | 3 |
| Reductions to impaired loans and acceptances (1) | | | | | | | | | | | | | | | |
| Consumer | **(474)** | (452) | (479) | (431) | (416) | **(301)** | (282) | (432) | (321) | (243) | **–** | – | – | – | – |
| Businesses and governments | **(256)** | (245) | (151) | (224) | (274) | **(690)** | (450) | (239) | (859) | (973) | **(7)** | (4) | (5) | (2) | (36) |
| Total reductions due to net repayments and other | **(730)** | (697) | (630) | (655) | (690) | **(991)** | (732) | (671) | (1,180) | (1,216) | **(7)** | (4) | (5) | (2) | (36) |
| Write-offs | | | | | | | | | | | | | | | |
| Consumer | **(186)** | (182) | (177) | (162) | (158) | **(136)** | (163) | (215) | (232) | (338) | **–** | – | – | – | – |
| Businesses and governments | **(51)** | (110) | (142) | (123) | (162) | **(249)** | (251) | (169) | (284) | (278) | **(1)** | – | (1) | – | (3) |
| Total write-offs | **(237)** | (292) | (319) | (285) | (320) | **(385)** | (414) | (384) | (516) | (616) | **(1)** | – | (1) | – | (3) |
| Gross impaired loans and acceptances, end of year | | | | | | | | | | | | | | | |
| Consumer | **393** | 356 | 359 | 398 | 348 | **508** | 585 | 557 | 678 | 702 | **–** | – | – | – | – |
| Businesses and governments | **354** | 380 | 282 | 344 | 406 | **869** | 1,009 | 757 | 623 | 1,081 | **50** | 2 | 4 | 5 | 7 |
| Total GIL, end of year | **747** | 736 | 641 | 742 | 754 | **1,377** | 1,594 | 1,314 | 1,301 | 1,783 | **50** | 2 | 4 | 5 | 7 |
| **Condition Ratios** | | | | | | | | | | | | | | | |
| GIL as a % of Gross Loans | | | | | | | | | | | | | | | |
| Consumer | **0.24** | 0.22 | 0.23 | 0.27 | 0.24 | **2.69** | 2.52 | 2.18 | 2.87 | 3.12 | **–** | – | – | – | – |
| Businesses and governments | **0.41** | 0.48 | 0.40 | 0.54 | 0.68 | **0.90** | 1.03 | 1.01 | 1.10 | 2.34 | **0.40** | 0.02 | 0.04 | 0.04 | 0.10 |
| Total Loans and Acceptances | **0.30** | 0.31 | 0.29 | 0.35 | 0.37 | **1.19** | 1.31 | 1.30 | 1.62 | 2.60 | **0.39** | 0.02 | 0.04 | 0.04 | 0.10 |
| GIL as a % of equity and allowance for credit losses (2) (3) | **un** | un | un | un | un | **un** | un | un | un | un | **un** | un | un | un | un |

(1) Includes amounts returning to performing status, sales, repayments, the impact of foreign exchange, and offsets for consumer write-offs that are not recognized as formations.
(2) Ratios are presented including purchased portfolios.
(3) GIL excludes Purchased Credit Impaired Loans.

un – unavailable

| Total | | | | |
|---|---|---|---|---|
| **2017** | 2016 | 2015 | 2014 | 2013 |
| **941** | 916 | 1,076 | 1,050 | 984 |
| **1,391** | 1,043 | 972 | 1,494 | 1,992 |
| **2,332** | 1,959 | 2,048 | 2,544 | 2,976 |
| **1,057** | 1,104 | 1,143 | 1,172 | 1,221 |
| **1,136** | 1,408 | 778 | 970 | 1,228 |
| **2,193** | 2,512 | 1,921 | 2,142 | 2,449 |
| **(775)** | (734) | (911) | (752) | (659) |
| **(953)** | (699) | (395) | (1,085) | (1,283) |
| **(1,728)** | (1,433) | (1,306) | (1,837) | (1,942) |
| **(322)** | (345) | (392) | (394) | (496) |
| **(301)** | (361) | (312) | (407) | (443) |
| **(623)** | (706) | (704) | (801) | (939) |
| **901** | 941 | 916 | 1,076 | 1,050 |
| **1,273** | 1,391 | 1,043 | 972 | 1,494 |
| **2,174** | 2,332 | 1,959 | 2,048 | 2,544 |
| **0.49** | 0.51 | 0.51 | 0.62 | 0.63 |
| **0.65** | 0.74 | 0.67 | 0.74 | 1.32 |
| **0.57** | 0.62 | 0.58 | 0.67 | 0.91 |
| **4.69** | 5.25 | 4.67 | 5.49 | 7.68 |

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## Table 12: Changes in Allowance for Credit Losses – Segmented Information

| ($ millions, except as noted) | Canada | | | | | United States | | | | | Other countries | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| As at October 31 | **2017** | 2016 | 2015 | 2014 | 2013 | **2017** | 2016 | 2015 | 2014 | 2013 | **2017** | 2016 | 2015 | 2014 | 2013 |
| **Allowance for credit losses (ACL), beginning of year** | | | | | | | | | | | | | | | |
| Consumer | **595** | 614 | 615 | 602 | 518 | **254** | 393 | 333 | 278 | 291 | **–** | – | – | – | – |
| Businesses and governments | **471** | 388 | 371 | 433 | 450 | **793** | 657 | 646 | 653 | 659 | **1** | – | 1 | 4 | 18 |
| Total ACL, beginning of year | **1,066** | 1,002 | 986 | 1,035 | 968 | **1,047** | 1,050 | 979 | 931 | 950 | **1** | – | 1 | 4 | 18 |
| Provision for credit losses | | | | | | | | | | | | | | | |
| Consumer | **413** | 403 | 412 | 436 | 521 | **78** | (31) | 122 | 202 | 262 | **–** | – | – | – | – |
| Businesses and governments | **40** | 180 | 149 | 97 | 133 | **222** | 263 | (70) | (172) | (327) | **21** | – | (1) | (2) | (2) |
| Total provision for credit losses | **453** | 583 | 561 | 533 | 654 | **300** | 232 | 52 | 30 | (65) | **21** | – | (1) | (2) | (2) |
| Recoveries | | | | | | | | | | | | | | | |
| Consumer | **134** | 102 | 111 | 99 | 81 | **81** | 87 | 151 | 102 | 95 | **–** | – | – | – | – |
| Businesses and governments | **10** | 14 | 13 | 15 | (1) | **40** | 140 | 181 | 408 | 597 | **–** | – | – | – | – |
| Total recoveries | **144** | 116 | 124 | 114 | 80 | **121** | 227 | 332 | 510 | 692 | **–** | – | – | – | – |
| Write-offs | | | | | | | | | | | | | | | |
| Consumer | **(520)** | (511) | (521) | (500) | (507) | **(161)** | (175) | (232) | (242) | (347) | **–** | – | – | – | – |
| Businesses and governments | **(51)** | (110) | (143) | (122) | (160) | **(249)** | (251) | (168) | (285) | (280) | **(1)** | – | (1) | – | (3) |
| Total write-offs | **(571)** | (621) | (664) | (622) | (667) | **(410)** | (426) | (400) | (527) | (627) | **(1)** | – | (1) | – | (3) |
| Other, including foreign exchange rate changes | | | | | | | | | | | | | | | |
| Consumer | **(10)** | (13) | (3) | (22) | (11) | **(23)** | (20) | 19 | (7) | (23) | **–** | – | – | – | – |
| Businesses and governments | **(27)** | (1) | (2) | (52) | 11 | **(114)** | (16) | 68 | 42 | 4 | **(1)** | 1 | 1 | (1) | (9) |
| Total Other, including foreign exchange rate changes | **(37)** | (14) | (5) | (74) | – | **(137)** | (36) | 87 | 35 | (19) | **(1)** | 1 | 1 | (1) | (9) |
| **ACL, end of year** | | | | | | | | | | | | | | | |
| Consumer | **612** | 595 | 614 | 615 | 602 | **229** | 254 | 393 | 333 | 278 | **–** | – | – | – | – |
| Businesses and governments | **443** | 471 | 388 | 371 | 433 | **692** | 793 | 657 | 646 | 653 | **20** | 1 | – | 1 | 4 |
| Total ACL, end of year | **1,055** | 1,066 | 1,002 | 986 | 1,035 | **921** | 1,047 | 1,050 | 979 | 931 | **20** | 1 | – | 1 | 4 |
| **Allocation of Write-offs by Market** | | | | | | | | | | | | | | | |
| Consumer | **(520)** | (511) | (521) | (500) | (507) | **(161)** | (175) | (232) | (242) | (347) | **–** | – | – | – | – |
| Businesses and governments | **(51)** | (110) | (143) | (122) | (160) | **(249)** | (251) | (168) | (285) | (280) | **(1)** | – | (1) | – | (3) |
| **Allocation of Recoveries by Market** | | | | | | | | | | | | | | | |
| Consumer | **134** | 102 | 111 | 99 | 81 | **81** | 87 | 151 | 102 | 95 | **–** | – | – | – | – |
| Businesses and governments | **10** | 14 | 13 | 15 | (1) | **40** | 140 | 181 | 408 | 597 | **–** | – | – | – | – |
| Net write-offs as a % of average loans and acceptances (1) | **un** | un | un | un | un | **un** | un | un | un | un | **un** | un | un | un | un |

## Table 13: Allocation of Allowance for Credit Losses – Segmented Information

| ($ millions, except as noted) | Canada | | | | | United States | | | | | Other countries | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| As at October 31 | **2017** | 2016 | 2015 | 2014 | 2013 | **2017** | 2016 | 2015 | 2014 | 2013 | **2017** | 2016 | 2015 | 2014 | 2013 |
| Consumer | | | | | | | | | | | | | | | |
| Residential mortgages | **12** | 15 | 17 | 20 | 27 | **12** | 18 | 21 | 41 | 42 | **–** | – | – | – | – |
| Consumer instalment and other personal loans | **94** | 76 | 66 | 74 | 64 | **42** | 47 | 47 | 25 | 17 | **–** | – | – | – | – |
| Total consumer | **106** | 91 | 83 | 94 | 91 | **54** | 65 | 68 | 66 | 59 | **–** | – | – | – | – |
| Businesses and governments | **106** | 82 | 62 | 97 | 153 | **107** | 166 | 144 | 116 | 137 | **20** | 1 | – | 1 | 4 |
| Off-balance sheet | **–** | – | – | – | – | **27** | 27 | 35 | 50 | 41 | **–** | – | – | – | – |
| Total specific allowances | **212** | 173 | 145 | 191 | 244 | **188** | 258 | 247 | 232 | 237 | **20** | 1 | – | 1 | 4 |
| Collective allowance | **843** | 893 | 857 | 795 | 791 | **733** | 789 | 803 | 747 | 694 | **–** | – | – | – | – |
| Allowance for credit losses | **1,055** | 1,066 | 1,002 | 986 | 1,035 | **921** | 1,047 | 1,050 | 979 | 931 | **20** | 1 | – | 1 | 4 |
| **Coverage Ratios** | | | | | | | | | | | | | | | |
| Specific allowance for credit losses as a % of gross impaired loans and acceptances (1) (2) | | | | | | | | | | | | | | | |
| Total | **28.4** | 23.5 | 22.6 | 25.7 | 32.4 | **11.7** | 14.5 | 16.1 | 14.0 | 11.0 | **40.0** | 50.0 | – | 20.0 | 57.1 |
| Consumer | **27.0** | 25.6 | 23.1 | 23.6 | 26.1 | **10.6** | 11.1 | 12.2 | 9.7 | 8.4 | **–** | – | – | – | – |
| Businesses and governments | **29.9** | 21.6 | 22.0 | 28.2 | 37.7 | **12.3** | 16.5 | 19.0 | 18.6 | 12.7 | **40.0** | 50.0 | – | 20.0 | 57.1 |

(1) Ratios are presented including purchased portfolios.
(2) Ratios exclude specific allowances for Other Credit Instruments, which are included in Other Liabilities.
un – unavailable

| | | Total | | |
|---|---|---|---|---|
| **2017** | 2016 | 2015 | 2014 | 2013 |
| **849** | 1,007 | 948 | 880 | 809 |
| **1,265** | 1,045 | 1,018 | 1,090 | 1,127 |
| **2,114** | 2,052 | 1,966 | 1,970 | 1,936 |
| **491** | 372 | 534 | 638 | 783 |
| **283** | 443 | 78 | (77) | (196) |
| **774** | 815 | 612 | 561 | 587 |
| **215** | 189 | 262 | 201 | 176 |
| **50** | 154 | 194 | 423 | 596 |
| **265** | 343 | 456 | 624 | 772 |
| **(681)** | (686) | (753) | (742) | (854) |
| **(301)** | (361) | (312) | (407) | (443) |
| **(982)** | (1,047) | (1,065) | (1,149) | (1,297) |
| **(33)** | (33) | 16 | (29) | (34) |
| **(142)** | (16) | 67 | (11) | 6 |
| **(175)** | (49) | 83 | (40) | (28) |
| **841** | 849 | 1,007 | 948 | 880 |
| **1,155** | 1,265 | 1,045 | 1,018 | 1,090 |
| **1,996** | 2,114 | 2,052 | 1,966 | 1,970 |
| **(681)** | (686) | (753) | (742) | (854) |
| **(301)** | (361) | (312) | (407) | (443) |
| **215** | 189 | 262 | 201 | 176 |
| **50** | 154 | 194 | 423 | 596 |
| **0.19** | 0.20 | 0.19 | 0.18 | 0.20 |

| | | Total | | |
|---|---|---|---|---|
| **2017** | 2016 | 2015 | 2014 | 2013 |
| **24** | 33 | 38 | 61 | 69 |
| **136** | 123 | 113 | 99 | 81 |
| **160** | 156 | 151 | 160 | 150 |
| **233** | 249 | 206 | 214 | 294 |
| **27** | 27 | 35 | 50 | 41 |
| **420** | 432 | 392 | 424 | 485 |
| **1,576** | 1,682 | 1,660 | 1,542 | 1,485 |
| **1,996** | 2,114 | 2,052 | 1,966 | 1,970 |
| **18.1** | 17.4 | 18.2 | 18.3 | 17.5 |
| **17.8** | 16.6 | 16.5 | 14.9 | 14.3 |
| **18.3** | 17.9 | 19.8 | 22.0 | 19.7 |

SUPPLEMENTAL INFORMATION

## Table 14: Specific Allowances for Credit Losses – Segmented Information

($ millions)

| As at October 31 | 2017 | 2016 | 2015 | 2014 | 2013 |
|---|---|---|---|---|---|
| **Businesses and Governments** | | | | | |
| **Specific Allowances by Industry** | | | | | |
| Commercial real estate | **15** | 13 | 17 | 13 | 46 |
| Construction (non-real estate) | **14** | 4 | 8 | 16 | 26 |
| Retail trade | **14** | 12 | 23 | 8 | 13 |
| Wholesale trade | **17** | 31 | 19 | 10 | 25 |
| Agriculture | **11** | 19 | 6 | 8 | 9 |
| Communications | **–** | 1 | 9 | – | – |
| Manufacturing | **51** | 36 | 38 | 33 | 36 |
| Mining | **–** | 1 | 1 | 10 | 3 |
| Oil and gas | **42** | 45 | 2 | – | 1 |
| Transportation | **13** | 9 | 5 | 2 | 4 |
| Utilities | **2** | 3 | – | – | – |
| Forest products | **1** | 1 | 2 | 9 | 11 |
| Service industries | **51** | 50 | 33 | 100 | 59 |
| Financial institutions | **2** | 10 | 3 | 2 | 29 |
| Government | **–** | – | – | – | 1 |
| Other | **–** | 14 | 40 | 3 | 31 |
| Total specific allowances for credit losses on businesses and governments loans (1) | **233** | 249 | 206 | 214 | 294 |

## Table 15: Provision for Credit Losses – Segmented Information

($ millions)

| For the year ended October 31 | 2017 | 2016 | 2015 | 2014 | 2013 |
|---|---|---|---|---|---|
| **Consumer** | | | | | |
| Residential mortgages | **11** | 24 | 11 | 77 | 129 |
| Cards | **255** | 264 | 272 | 268 | 305 |
| Consumer instalment and other personal loans | **232** | 246 | 225 | 251 | 313 |
| Total consumer | **498** | 534 | 508 | 596 | 747 |
| **Businesses and Governments** | | | | | |
| Commercial real estate | **(4)** | (16) | (37) | (141) | (185) |
| Construction (non-real estate) | **25** | 15 | – | 7 | 36 |
| Retail trade | **29** | 13 | 8 | 1 | (4) |
| Wholesale trade | **24** | 11 | 19 | 29 | 10 |
| Agriculture | **31** | 56 | 3 | 15 | 8 |
| Communications | **(1)** | 2 | 13 | – | (6) |
| Manufacturing | **28** | 29 | 67 | 44 | 2 |
| Mining | **–** | 20 | 2 | 7 | 2 |
| Oil and gas | **9** | 105 | 25 | – | – |
| Transportation | **108** | 56 | (4) | 10 | (9) |
| Utilities | **–** | 3 | – | – | – |
| Forest products | **–** | (1) | – | (1) | 3 |
| Service industries | **102** | 21 | (29) | 80 | (37) |
| Financial institutions | **(3)** | (7) | 8 | (34) | (15) |
| Government | **–** | – | (2) | (3) | (6) |
| Other | **4** | (26) | 31 | (49) | 51 |
| Total businesses and governments | **352** | 281 | 104 | (35) | (150) |
| Total specific provisions | **850** | 815 | 612 | 561 | 597 |
| Collective provision for credit losses | **(76)** | – | – | – | (10) |
| Total provision for credit losses | **774** | 815 | 612 | 561 | 587 |
| **Performance Ratios** (%) | | | | | |
| PCL-to-average net loans and acceptances (2) | **0.21** | 0.23 | 0.19 | 0.19 | 0.22 |
| PCL-to-segmented average net loans and acceptances | | | | | |
| Consumer | **0.27** | 0.21 | 0.30 | 0.37 | 0.49 |
| Businesses and governments | **0.15** | 0.25 | 0.05 | (0.06) | (0.18) |
| Specific PCL-to-average net loans and acceptances | **0.23** | 0.23 | 0.19 | 0.19 | 0.23 |

(1) Amounts for 2017 exclude specific allowances of $1 million related to Other Credit Instruments (2016 – $1 million, 2015 – $4 million, 2014 – $23 million, 2013 – $21 million) included in Other Liabilities.

(2) Ratios are presented including purchased portfolios.

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## Table 16: Risk-Weighted Assets

| ($ millions) As at October 31 | Basel III Exposure at Default Standardized Approach | Exposure at Default Advanced Approach | Exposure at Default 2017 Total | Risk-weighted assets Standardized Approach | Risk-weighted assets Advanced Approach | Risk-weighted assets 2017 Total | Exposure at Default Standardized Approach | Exposure at Default Advanced Approach | Exposure at Default 2016 Total | Risk-weighted assets Standardized Approach | Risk-weighted assets Advanced Approach | Risk-weighted assets 2016 Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Credit Risk | | | | | | | | | | | | |
| Wholesale | | | | | | | | | | | | |
| Corporate, including specialized lending | **19,422** | **267,588** | **287,010** | **19,498** | **80,923** | **100,421** | 22,074 | 242,454 | 264,528 | 22,154 | 82,334 | 104,488 |
| Corporate small and medium-sized enterprises | **–** | **67,900** | **67,900** | **–** | **35,246** | **35,246** | – | 64,409 | 64,409 | – | 33,755 | 33,755 |
| Sovereign | **148** | **100,800** | **100,948** | **77** | **1,550** | **1,627** | 122 | 87,124 | 87,246 | 64 | 1,912 | 1,976 |
| Bank | **314** | **78,573** | **78,887** | **314** | **5,578** | **5,892** | 264 | 40,734 | 40,998 | 264 | 4,222 | 4,486 |
| Retail | | | | | | | | | | | | |
| Residential mortgages, excluding home equity line of credit | **1,865** | **100,940** | **102,805** | **970** | **7,014** | **7,984** | 2,594 | 99,076 | 101,670 | 1,349 | 6,766 | 8,115 |
| Home equity line of credit | **306** | **40,895** | **41,201** | **217** | **5,209** | **5,426** | 431 | 39,177 | 39,608 | 306 | 5,829 | 6,135 |
| Qualifying revolving retail | **–** | **34,826** | **34,826** | **–** | **5,465** | **5,465** | – | 34,016 | 34,016 | – | 5,110 | 5,110 |
| Other retail, excluding small and medium-sized enterprises | **2,292** | **31,873** | **34,165** | **1,510** | **9,748** | **11,258** | 2,395 | 35,154 | 37,549 | 1,567 | 10,367 | 11,934 |
| Retail small and medium-sized enterprises | **6,854** | **4,112** | **10,966** | **5,231** | **2,351** | **7,582** | 7,135 | 4,064 | 11,199 | 5,427 | 2,269 | 7,696 |
| Equity | **–** | **2,205** | **2,205** | **–** | **1,626** | **1,626** | – | 2,122 | 2,122 | – | 1,403 | 1,403 |
| Trading book | **110** | **93,836** | **93,946** | **110** | **9,432** | **9,542** | 261 | 145,411 | 145,672 | 261 | 9,414 | 9,675 |
| Securitization | **–** | **29,201** | **29,201** | **–** | **2,476** | **2,476** | – | 23,269 | 23,269 | – | 1,878 | 1,878 |
| Other credit risk assets – non-counterparty managed assets | **–** | **22,052** | **22,052** | **–** | **15,631** | **15,631** | – | 24,328 | 24,328 | – | 16,197 | 16,197 |
| Scaling factor for credit risk assets under AIRB Approach (1) | **–** | **–** | **–** | **–** | **9,648** | **9,648** | – | – | – | – | 9,651 | 9,651 |
| Total Credit Risk | **31,311** | **874,801** | **906,112** | **27,927** | **191,897** | **219,824** | 35,276 | 841,338 | 876,614 | 31,392 | 191,107 | 222,499 |
| Market Risk | **–** | **–** | **–** | **1,868** | **6,580** | **8,448** | – | – | – | 1,211 | 7,751 | 8,962 |
| Operational Risk | **–** | **–** | **–** | **5,355** | **27,418** | **32,773** | – | – | – | 4,982 | 25,520 | 30,502 |
| Common Equity Tier 1 (CET 1) Capital Risk-Weighted Assets before Capital Floor | **31,311** | **874,801** | **906,112** | **35,150** | **225,895** | **261,045** | 35,276 | 841,338 | 876,614 | 37,585 | 224,378 | 261,963 |
| Basel I Capital Floor | | | | **–** | **8,421** | **8,421** | | | | – | 15,599 | 15,599 |
| Common Equity Tier 1 (CET 1) Capital Risk-Weighted Assets | | | | **35,150** | **234,316** | **269,466** | | | | 37,585 | 239,977 | 277,562 |
| Tier 1 Capital Risk-Weighted Assets before Credit Valuation Adjustment (CVA) and Capital Floor | | | | | **225,895** | **261,045** | | | | | 224,378 | 261,963 |
| Additional CVA adjustment, prescribed by OSFI, for Tier 1 Capital | **–** | **–** | **–** | **–** | **290** | **290** | – | – | – | – | 380 | 380 |
| Basel I Capital Floor | **–** | **–** | **–** | **–** | **8,131** | **8,131** | – | – | – | – | 15,219 | 15,219 |
| Tier 1 Capital Risk-Weighted Assets | | | | **35,150** | **234,316** | **269,466** | | | | 37,585 | 239,977 | 277,562 |
| Total Capital Risk-Weighted Assets before CVA and Capital Floor | | | | | **225,895** | **261,045** | | | | | 224,378 | 261,963 |
| Additional CVA adjustment, prescribed by OSFI, for Total Capital | **–** | **–** | **–** | **–** | **522** | **522** | – | – | – | – | 705 | 705 |
| Basel I Capital Floor | **–** | **–** | **–** | **–** | **7,899** | **7,899** | – | – | – | – | 14,894 | 14,894 |
| Total Capital Risk-Weighted Assets | | | | **35,150** | **234,316** | **269,466** | | | | 37,585 | 239,977 | 277,562 |

(1) The scaling factor is applied to the risk-weighted assets amounts for credit risk under the AIRB Approach.

## Table 17: Average Deposits

| ($ millions, except as noted) | 2017 Average balance | 2017 Average rate paid (%) | 2016 Average balance | 2016 Average rate paid (%) | 2015 Average balance | 2015 Average rate paid (%) |
|---|---|---|---|---|---|---|
| **Deposits Booked in Canada** | | | | | | |
| Demand deposits – interest bearing | **21,253** | **0.44** | 19,493 | 0.33 | 18,910 | 0.36 |
| Demand deposits – non-interest bearing | **41,985** | **–** | 37,296 | – | 31,762 | – |
| Payable after notice | **81,279** | **0.49** | 77,231 | 0.44 | 76,458 | 0.57 |
| Payable on a fixed date | **147,097** | **1.50** | 136,821 | 1.38 | 120,764 | 1.42 |
| Total deposits booked in Canada | **291,614** | **0.93** | 270,841 | 0.85 | 247,894 | 0.89 |
| **Deposits Booked in the United States and Other Countries** | | | | | | |
| Banks located in the United States and other countries (1) | **24,730** | **1.05** | 26,209 | 0.55 | 23,952 | 0.36 |
| Governments and institutions in the United States and other countries | **9,196** | **0.76** | 6,867 | 0.36 | 6,804 | 0.24 |
| Other demand deposits | **14,327** | **0.04** | 17,346 | 0.02 | 16,109 | 0.01 |
| Other deposits payable after notice or on a fixed date | **144,052** | **0.61** | 147,460 | 0.40 | 140,709 | 0.31 |
| Total deposits booked in the United States and other countries | **192,305** | **0.63** | 197,882 | 0.38 | 187,574 | 0.29 |
| **Total average deposits** | **483,919** | **0.81** | 468,723 | 0.65 | 435,468 | 0.63 |

As at October 31, 2017, 2016 and 2015: deposits by foreign depositors in our Canadian bank offices amounted to $44,746 million, $52,834 million and $37,477 million, respectively; total deposits payable after notice included $33,561 million, $30,122 million and $29,104 million, respectively, of chequing accounts that would have been classified as demand deposits under U.S. reporting requirements; and total deposits payable on a fixed date included $30,648 million, $35,460 million and $25,926 million, respectively, of federal funds purchased, commercial paper issued and other deposit liabilities. These amounts would have been classified as short-term borrowings for U.S. reporting purposes.

(1) Includes regulated and central banks.

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GLOSSARY OF FINANCIAL TERMS

# Glossary of Financial Terms

**Adjusted Earnings and Measures** present results adjusted to exclude the impact of certain items, as set out in the Non-GAAP Measures section. Management considers both reported and adjusted results to be useful in assessing underlying ongoing business performance.
Page 29

**Allowance for Credit Losses** represents an amount deemed adequate by management to absorb credit-related losses on loans and acceptances and other credit instruments. Allowance for credit losses can be specific or collective and is recorded on the balance sheet as a deduction from loans and acceptances or, as they relate to credit instruments, as other liabilities.
Pages 78, 91, 113

**Assets under Administration and under Management** refers to assets administered or managed by a financial institution that are beneficially owned by clients and therefore not reported on the balance sheet of the administering or managing financial institution.

**Asset-Backed Commercial Paper (ABCP)** is a short-term investment. The commercial paper is backed by physical assets such as trade receivables, and is generally used for short-term financing needs.
Pages 76, 104

**Average Earning Assets** represents the daily or monthly average balance of deposits with other banks and loans and securities, over a one-year period.

**Bankers' Acceptances (BAs)** are bills of exchange or negotiable instruments drawn by a borrower for payment at maturity and accepted by a bank. BAs constitute a guarantee of payment by the bank and can be traded in the money market. The bank earns a "stamping fee" for providing this guarantee.

**Basis Point** is one one-hundredth of a percentage point.

**Business Risk** arises from the specific business activities of an enterprise and the effects these could have on its earnings.
Page 111

**Collective Allowance** is maintained to cover impairment in the existing credit portfolio that cannot yet be associated with specific credit assets. Our approach to establishing and maintaining the collective allowance is based on the requirements of IFRS, considering guidelines issued by our regulator, OSFI. The collective allowance is assessed on a quarterly basis and a number of factors are considered when determining its level, including the long-run expected loss amount and management's credit judgment with respect to current macroeconomic and portfolio conditions.
Pages 42, 91, 153

**Common Equity Tier 1 (CET1) capital** is comprised of common shareholders' equity less deductions for goodwill, intangible assets, pension assets, certain deferred tax assets and certain other items.
Pages 72, 182

**Common Equity Tier 1 Ratio** reflects CET1 capital divided by CET1 capital risk weighted assets.
Pages 35, 69, 70, 182

**Common Shareholders' Equity** is the most permanent form of capital. For regulatory capital purposes, common shareholders' equity is comprised of common shareholders' equity, net of capital deductions.

**Credit and Counterparty Risk** is the potential for loss due to the failure of a borrower, endorser, guarantor or counterparty to repay a loan or honour another predetermined financial obligation.
Pages 86, 156

**Derivatives** are contracts with a value that is "derived" from movements in interest or foreign exchange rates, equity or commodity prices or other indices. Derivatives allow for the transfer, modification or reduction of current or expected risks from changes in rates and prices.

**Dividend Payout Ratio** represents common share dividends as a percentage of net income available to common shareholders. It is computed by dividing dividends per share by basic earnings per share.

**Earnings Per Share (EPS)** is calculated by dividing net income attributable to bank shareholders, after deduction of preferred dividends, by the average number of common shares outstanding. Diluted EPS, which is our basis for measuring performance, adjusts for possible conversions of financial instruments into common shares if those conversions would reduce EPS. Adjusted EPS is calculated in the same manner, using adjusted net income.
Pages 34, 191

**Earnings Sensitivity** is a measure of the impact of potential changes in interest rates on the projected 12-month before-tax net income of a portfolio of assets, liabilities and off-balance sheet positions in response to prescribed parallel interest rate movements.
Page 97

**Economic Capital** is an expression of the enterprise's capital demand requirement relative to the bank's view of the economic risks in its underlying business activities. It represents management's estimation of the likely magnitude of economic losses that could occur should severely adverse situations arise, and allows returns to be measured on a consistent basis across such risks. Economic capital is calculated for various types of risk, including credit, market (trading and non-trading), operational and business, based on a one-year time horizon using a defined confidence level.
Pages 74, 85

**Economic Value Sensitivity** is a measure of the impact of potential changes in interest rates on the market value of a portfolio of assets, liabilities and off-balance sheet positions in response to prescribed parallel interest rate movements.
Page 97

**Efficiency Ratio (or Expense-to-Revenue Ratio)** is a measure of productivity. It is calculated as non-interest expense divided by total revenue, expressed as a percentage. The adjusted efficiency ratio is calculated in the same manner, utilizing adjusted total revenue and non-interest expense.
Page 43

**Environmental and Social Risk** is the potential for loss or damage to BMO's reputation resulting from environmental or social concerns related to BMO or its customers. Environmental and social risk is often associated with credit, operational and reputation risk.
Page 111

**Fair Value** is the amount of consideration that would be agreed upon in an arm's-length transaction between knowledgeable, willing parties who are under no compulsion to act.

**Forwards and Futures** are contractual agreements to either buy or sell a specified amount of a currency, commodity, interest-rate-sensitive financial instrument or security at a specified price and date in the future. Forwards are customized contracts transacted in the over-the-counter market. Futures are transacted in standardized amounts on regulated exchanges and are subject to daily cash margining.
Page 159

**Hedging** is a risk management technique used to neutralize, manage or offset interest rate, foreign currency, equity, commodity or credit exposures arising from normal banking activities.

**Impaired Loans** are loans for which there is no longer reasonable assurance of the timely collection of principal or interest.

**Innovative Tier 1 Capital** is a form of Tier 1 capital issued by structured entities that can be included in calculating a bank's Tier 1 Capital Ratio, Total Capital Ratio and Leverage Ratio. Under Basel III, Innovative Tier 1 Capital is non-qualifying and is part of the grandfathered capital being phased out between 2013 and 2022.

**Insurance Risk** is the potential for loss as a result of actual experience being different from that assumed when an insurance product was designed and priced. It generally entails the inherent unpredictability that can arise from assuming long-term policy liabilities or from the uncertainty of future events. Insurance provides protection against the financial consequences of insured risks by transferring those risks to the insurer (under specific terms and conditions) in exchange for premiums. Insurance risk is inherent in all our insurance products, including annuities and life, accident and sickness, and creditor insurance, as well as in our reinsurance business.
Page 99

**Legal and Regulatory Risk** is the potential for loss or harm created by failing to comply with laws or satisfy contractual obligations or regulatory requirements. This includes the risks of failing to: comply with the law (in letter or in spirit) or maintain standards of care; implement legislative or regulatory requirements; enforce or comply with contractual terms; assert non-contractual rights; effectively manage disputes; or act in a manner so as to maintain our reputation.
Page 109

**Leverage Ratio** reflects Tier 1 capital divided by the sum of on-balance sheet items and specified off-balance sheet items, net of specified adjustments.
Page 70

**Liquidity and Funding Risk** is the potential for loss if BMO is unable to meet financial commitments in a timely manner at reasonable prices as they become due. Financial commitments include liabilities to depositors and suppliers, and lending, investment and pledging commitments.
Pages 99, 156

**Market Risk** is the potential for adverse changes in the value of BMO's assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity and commodity prices and their implied volatilities, and credit spreads, and includes the risk of credit migration and default in our trading book.
Pages 94, 156

**Mark-to-Market** represents the valuation of financial instruments at market rates as of the balance sheet date, where required by accounting rules.

**Model Risk** is the potential for adverse consequences following from decisions that are based on incorrect or misused model results. These adverse consequences can include financial loss, poor business decision-making or damage to reputation.
Page 107

**Net Interest Income** is comprised of earnings on assets, such as loans and securities, including interest and dividend income, less interest expense paid on liabilities, such as deposits.
Page 39

**Net Interest Margin** is the ratio of net interest income to average earning assets, expressed as a percentage or in basis points. Net interest margin is sometimes computed using total assets.
Page 39

**Net Non-Interest Revenue** is non-interest revenue, net of insurance claims, commissions and changes in policy benefit liabilities.

**Notional Amount** refers to the principal amount used to calculate interest and other payments under derivative contracts. The principal amount does not change hands under the terms of a derivative contract, except in the case of cross-currency swaps.

**Off-Balance Sheet Financial Instruments** consist of a variety of financial arrangements offered to clients, which include credit derivatives, written put options, backstop liquidity facilities, standby letters of credit, performance guarantees, credit enhancements, commitments to extend credit, securities lending, documentary and commercial letters of credit, and other indemnifications.

**Office of the Superintendent of Financial Institutions Canada (OSFI)** is the government agency responsible for regulating banks, insurance companies, trust companies, loan companies and pension plans in Canada.

**Operational Risk** is the potential for loss resulting from inadequate or failed internal processes or systems, human interactions or external events, but excludes business risk, credit risk and market risk.
Page 105

**Options** are contractual agreements that convey to the purchaser the right but not the obligation to either buy or sell a specified amount of a currency, commodity, interest-rate-sensitive financial instrument or security at a fixed future date or at any time within a fixed future period.
Page 159

**Provision for Credit Losses** is a charge to income that represents an amount deemed adequate by management to fully provide for impairment in a portfolio of loans and acceptances and other credit instruments, given the composition of the portfolio, the probability of default, the economic environment and the allowance for credit losses already established.
Pages 42, 65, 153

**Reputation Risk** is the potential for loss or harm to the BMO brand. It may arise even if other risks are managed effectively.
Page 112

**Return on Equity or Return on Common Shareholders' Equity (ROE)** is calculated as net income, less non-controlling interest in subsidiaries and preferred dividends, as a percentage of average common shareholders' equity. Common shareholders' equity is comprised of common share capital, contributed surplus, accumulated other comprehensive income (loss) and retained earnings. Adjusted ROE is calculated using adjusted net income rather than net income.
Pages 35, 65

**Return on Tangible Common Equity (ROTCE)** is calculated as net income available to common shareholders adjusted for the amortization of acquisition-related intangible assets as a percentage of average tangible common equity. Adjusted ROTCE is calculated using adjusted net income rather than net income.
Pages 35, 65

**Risk-Weighted Assets (RWA)** are defined as on- and off-balance sheet exposures that are risk-weighted based on guidelines established by OSFI. The term is used for capital management and regulatory reporting purposes.
Page 70

**Securities Borrowed or Purchased under Resale Agreements** are low-cost, low-risk instruments, often supported by the pledge of cash collateral, which arise from transactions that involve the borrowing or purchasing of securities.

**Securities Lent or Sold under Repurchase Agreements** are low-cost, low-risk liabilities, often supported by cash collateral, which arise from transactions that involve the lending or selling of securities.

**Securitization** is the practice of selling pools of contractual debts, such as residential mortgages, auto loans and credit card debt obligations, to third parties.
Page 76

**Specific Allowance** reduces the carrying value of specific credit assets to the amount we expect to recover if there is evidence of deterioration in credit quality.
Pages 91, 153

**Strategic Risk** is the potential for loss due to changes in the external business environment and/or failure to properly respond to these changes as a result of inaction, ineffective strategies or poor implementation of strategies.
Page 111

**Stressed Value at Risk (SVaR)** is measured for specific classes of risk in BMO's trading and underwriting activities related to interest rates, foreign exchange rates, credit spreads, equity and commodity prices and their implied volatilities, where model inputs are calibrated to historical data from a period of significant financial stress. This measure calculates the maximum loss likely to be experienced in the trading and underwriting portfolios, measured at a 99% confidence level over a specified holding period.
Page 94

**Structured Entities (SEs)** include entities for which voting or similar rights are not the dominant factor in determining control of the entity. We are required to consolidate an SE if we control the entity by having power over the entity, exposure to variable returns as a result of our involvement and the ability to exercise power to affect the amount of our returns.
Pages 77, 157

**Structural (Non-Trading) Market Risk** is comprised of interest rate risk arising from banking activities (loans and deposits) and foreign exchange risk arising from our foreign currency operations and exposures.
Page 97

**Swaps** are contractual agreements between two parties to exchange a series of cash flows. The various swap agreements that we enter into are as follows:

- *Commodity swaps* – counterparties generally exchange fixed-rate and floating-rate payments based on a notional value of a single commodity.
- *Credit default swaps* – one counterparty pays the other a fee in exchange for that other counterparty agreeing to make a payment if a credit event occurs, such as bankruptcy or failure to pay.
- *Cross-currency interest rate swaps* – fixed-rate and floating-rate interest payments and principal amounts are exchanged in different currencies.
- *Cross-currency swaps* – fixed-rate interest payments and principal amounts are exchanged in different currencies.
- *Equity swaps* – counterparties exchange the return on an equity security or a group of equity securities for a return based on a fixed or floating interest rate or the return on another equity security or group of equity securities.
- *Interest rate swaps* – counterparties generally exchange fixed-rate and floating-rate interest payments based on a notional value in a single currency.
- *Total return swaps* – one counterparty agrees to pay or receive from the other cash amounts based on changes in the value of a reference asset or group of assets, including any returns such as interest earned on these assets, in exchange for amounts that are based on prevailing market funding rates.

Page 159

**Tangible Common Equity** is calculated as common shareholders' equity less goodwill and acquisition- related intangible assets, net of related deferred tax liabilities.
Page 35

**Taxable Equivalent Basis (teb):** Revenues of operating groups are presented in our MD&A on a taxable equivalent basis (teb). Revenue and the provision for income taxes are increased on tax-exempt securities to an equivalent before-tax basis to facilitate comparisons of income between taxable and tax-exempt sources.
Pages 38, 195

**Tier 1 Capital** is comprised of CET1 and additional Tier 1 Capital which consists of preferred shares and innovative hybrid instruments subject to phase-out, less certain regulatory deductions.
Pages 70, 182

**Tier 1 Capital Ratio** reflects Tier 1 capital divided by Tier 1 capital risk-weighted assets.
Pages 70, 182

**Total Capital** includes Tier 1 and Tier 2 capital. **Tier 2 capital** is primarily comprised of subordinated debentures and a portion of the collective and individual allowances for credit losses, less certain regulatory deductions.
Pages 70, 182

**Total Capital Ratio** reflects Total capital divided by Total capital risk-weighted assets.
Pages 70, 182

**Total Shareholder Return:** The three-year and five-year average annual total shareholder return (TSR) represents the average annual total return earned on an investment in BMO common shares made at the beginning of a three-year and five-year period, respectively. The return includes the change in share price and assumes dividends received were reinvested in additional common shares. The one-year TSR also assumes that dividends were reinvested in shares.
Page 34

**Trading and Underwriting Market Risk** gives rise to market risk associated with buying and selling financial products in the course of servicing customer requirements, market making and related financing activities, and from assisting clients to raise funds by way of securities issuance.
Page 94

**Trading-Related Revenues** include net interest income and non-interest revenue earned from on- and off-balance sheet positions undertaken for trading purposes. The management of these positions typically includes marking them to market on a daily basis. Trading-related revenues include income (expense) and gains (losses) from both on-balance sheet instruments and interest rate, foreign exchange (including spot positions), equity, commodity and credit contracts.
Page 40

**Value at Risk (VaR)** is measured for specific classes of risk in BMO's trading and underwriting activities related to interest rates, foreign exchange rates, credit spreads, equity and commodity prices and their implied volatilities. This measure calculates the maximum loss likely to be experienced in the trading and underwriting portfolios, measured at a 99% confidence level over a specified holding period.
Pages 94, 95

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# Statement of Management's Responsibility for Financial Information

Management of Bank of Montreal (the "bank") is responsible for the preparation and presentation of the annual consolidated financial statements, Management's Discussion and Analysis ("MD&A") and all other information in the Annual Report.

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board and meet the applicable requirements of the Canadian Securities Administrators ("CSA") and the Securities and Exchange Commission ("SEC") in the United States. The financial statements also comply with the provisions of the *Bank Act (Canada)* and related regulations, including interpretations of IFRS by our regulator, the Office of the Superintendent of Financial Institutions Canada. The MD&A has been prepared in accordance with the requirements of securities regulators, including National Instrument 51-102 *Continuous Disclosure Obligations* of the CSA.

The consolidated financial statements and information in the MD&A necessarily include amounts based on informed judgments and estimates of the expected effects of current events and transactions with appropriate consideration to materiality. In addition, in preparing the financial information we must interpret the requirements described above, make determinations as to the relevancy of information to be included, and make estimates and assumptions that affect reported information. The MD&A also includes information regarding the impact of current transactions and events, sources of liquidity and capital resources, operating trends, risks and uncertainties. Actual results in the future may differ materially from our present assessment of this information because events and circumstances in the future may not occur as expected.

The financial information presented in the bank's Annual Report is consistent with that in the consolidated financial statements.

In meeting our responsibility for the reliability and timeliness of financial information, we maintain and rely on a comprehensive system of internal controls, including organizational and procedural controls, disclosure controls and procedures, and internal control over financial reporting. Our system of internal controls includes written communication of our policies and procedures governing corporate conduct and risk management; comprehensive business planning; effective segregation of duties; delegation of authority and personal accountability; escalation of relevant information for decisions regarding public disclosure; careful selection and training of personnel; and accounting policies that we regularly update. Our internal controls are designed to provide reasonable assurance that transactions are authorized, assets are safeguarded and proper records are maintained and that we are in compliance with all regulatory requirements. The system of internal controls is further supported by a compliance function, which is designed to ensure that we and our employees comply with securities legislation and conflict of interest rules, and by an internal audit staff, which conducts periodic audits of all aspects of our operations.

As of October 31, 2017, we, as the bank's Chief Executive Officer and Chief Financial Officer, have determined that the bank's internal control over financial reporting is effective. We have certified Bank of Montreal's annual filings with the CSA and with the SEC pursuant to National Instrument 52-109, *Certification of Disclosure in Issuers' Annual and Interim Filings* and the *Securities Exchange Act of 1934*.

In order to provide their audit opinions on our consolidated financial statements and on the bank's internal control over financial reporting, the Shareholders' Auditors audit our system of internal controls over financial reporting and conduct work to the extent that they consider appropriate. Their audit opinion on the bank's internal control over financial reporting as of October 31, 2017 is set forth on page 138.

The Board of Directors, based on recommendations from its Audit and Conduct Review Committee, reviews and approves the financial information contained in the Annual Report, including the MD&A. The Board of Directors and its relevant committees oversee management's responsibilities for the preparation and presentation of financial information, maintenance of appropriate internal controls, compliance with legal and regulatory requirements, management and control of major risk areas, and assessment of significant and related party transactions.

The Audit and Conduct Review Committee, which is comprised entirely of independent directors, is also responsible for selecting the Shareholders' Auditors and reviewing the qualifications, independence and performance of both the Shareholders' Auditors and internal audit. The Shareholders' Auditors and the bank's Chief Auditor have full and free access to the Board of Directors, its Audit and Conduct Review Committee and other relevant committees to discuss audit, financial reporting and related matters.

The Office of the Superintendent of Financial Institutions Canada conducts examinations and inquiries into the affairs of the bank as are deemed necessary to ensure that the provisions of the *Bank Act,* with respect to the safety of the depositors, are being duly observed and that the bank is in sound financial condition.





**Darryl White**
Chief Executive Officer

**Thomas E. Flynn**
Chief Financial Officer

Toronto, Canada
December 5, 2017

# Independent Auditors' Report of Registered Public Accounting Firm

## To the Shareholders of Bank of Montreal

We have audited the accompanying consolidated financial statements of Bank of Montreal (the "Bank"), which comprise the consolidated balance sheets as at October 31, 2017 and October 31, 2016, the consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended October 31, 2017, and notes, comprising a summary of significant accounting policies and other explanatory information.

**Management's Responsibility for the Consolidated Financial Statements**

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

**Auditors' Responsibility**

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Bank's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

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

**Opinion**

In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Bank as at October 31, 2017 and October 31, 2016, and its consolidated financial performance and its consolidated cash flows for each of the years in the three-year period ended October 31, 2017 in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.

**Other Matter**

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Bank's internal control over financial reporting as of October 31, 2017, based on the criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated December 5, 2017 expressed an unmodified (unqualified) opinion on the effectiveness of the Bank's internal control over financial reporting.



**Chartered Professional Accountants, Licensed Public Accountants**
December 5, 2017
Toronto, Canada

# Report of Independent Registered Public Accounting Firm

## To the Shareholders of Bank of Montreal

We have audited Bank of Montreal's (the "Bank") internal control over financial reporting as of October 31, 2017, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Bank's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included under the heading "Management's Annual Report on Disclosure Controls and Procedures and Internal Control over Financial Reporting" in the accompanying Management's Discussion and Analysis. Our responsibility is to express an opinion on the Bank's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

In our opinion, the Bank maintained, in all material respects, effective internal control over financial reporting as of October 31, 2017, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

We also have audited, in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of the Bank as at October 31, 2017 and 2016, the consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended October 31, 2017, and notes, comprising a summary of significant accounting policies and other explanatory information, and our report dated December 5, 2017 expressed an unmodified (unqualified) opinion on those consolidated financial statements.



**Chartered Professional Accountants, Licensed Public Accountants**
December 5, 2017
Toronto, Canada

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# Consolidated Statement of Income

| For the Year Ended October 31 (Canadian $ in millions, except as noted) | 2017 | 2016 | 2015 |
|---|---|---|---|
| **Interest, Dividend and Fee Income** | | | |
| Loans | $ 13,564 | $ 12,575 | $ 11,263 |
| Securities (Note 3) | 1,945 | 1,704 | 1,705 |
| Deposits with banks | 324 | 223 | 190 |
| | 15,833 | 14,502 | 13,158 |
| **Interest Expense** | | | |
| Deposits | 3,915 | 3,052 | 2,755 |
| Subordinated debt | 155 | 170 | 163 |
| Other liabilities | 1,756 | 1,408 | 1,477 |
| | 5,826 | 4,630 | 4,395 |
| **Net Interest Income** | 10,007 | 9,872 | 8,763 |
| **Non-Interest Revenue** | | | |
| Securities commissions and fees | 969 | 924 | 901 |
| Deposit and payment service charges | 1,187 | 1,141 | 1,077 |
| Trading revenues | 1,352 | 1,192 | 987 |
| Lending fees | 917 | 859 | 737 |
| Card fees | 415 | 461 | 460 |
| Investment management and custodial fees | 1,622 | 1,556 | 1,552 |
| Mutual fund revenues | 1,411 | 1,364 | 1,377 |
| Underwriting and advisory fees | 1,036 | 820 | 706 |
| Securities gains, other than trading (Note 3) | 171 | 84 | 171 |
| Foreign exchange, other than trading | 191 | 162 | 172 |
| Insurance revenue | 2,070 | 2,023 | 1,762 |
| Investments in associates and joint ventures | 386 | 140 | 207 |
| Other | 526 | 489 | 517 |
| | 12,253 | 11,215 | 10,626 |
| **Total Revenue** | 22,260 | 21,087 | 19,389 |
| **Provision for Credit Losses** (Note 4) | 774 | 815 | 612 |
| **Insurance Claims, Commissions and Changes in Policy Benefit Liabilities** (Note 14) | 1,538 | 1,543 | 1,254 |
| **Non-Interest Expense** | | | |
| Employee compensation (Notes 21 and 22) | 7,467 | 7,382 | 7,081 |
| Premises and equipment (Note 9) | 2,491 | 2,393 | 2,137 |
| Amortization of intangible assets (Note 11) | 485 | 444 | 411 |
| Travel and business development | 693 | 646 | 605 |
| Communications | 286 | 294 | 314 |
| Business and capital taxes | 38 | 42 | 45 |
| Professional fees | 563 | 523 | 595 |
| Other | 1,279 | 1,273 | 994 |
| | 13,302 | 12,997 | 12,182 |
| **Income Before Provision for Income Taxes** | 6,646 | 5,732 | 5,341 |
| Provision for income taxes (Note 23) | 1,296 | 1,101 | 936 |
| **Net Income** | $ 5,350 | $ 4,631 | $ 4,405 |
| Attributable to: | | | |
| Bank shareholders | 5,348 | 4,622 | 4,370 |
| Non-controlling interest in subsidiaries | 2 | 9 | 35 |
| **Net Income** | $ 5,350 | $ 4,631 | $ 4,405 |
| **Earnings Per Share** (Canadian $) (Note 24) | | | |
| Basic | $ 7.95 | $ 6.94 | $ 6.59 |
| Diluted | 7.92 | 6.92 | 6.57 |
| Dividends per common share | 3.56 | 3.40 | 3.24 |

The accompanying notes are an integral part of these consolidated financial statements.
Certain comparative figures have been reclassified to conform with the current year's presentation.



**Darryl White**
Chief Executive Officer



**Philip S. Orsino**
Chairman, Audit and Conduct Review Committee

CONSOLIDATED FINANCIAL STATEMENTS

# Consolidated Statement of Comprehensive Income

| For the Year Ended October 31 (Canadian $ in millions) | 2017 | 2016 | 2015 |
|---|---|---|---|
| **Net Income** | **$ 5,350** | $ 4,631 | $ 4,405 |
| **Other Comprehensive Income (Loss), net of taxes** (Note 23) | | | |
| Items that may subsequently be reclassified to net income | | | |
| Net change in unrealized gains (losses) on available-for-sale securities | | | |
| Unrealized gains (losses) on available-for-sale securities arising during the year (1) | **95** | 151 | (166) |
| Reclassification to earnings of (gains) in the year (2) | **(87)** | (28) | (65) |
| | **8** | 123 | (231) |
| Net change in unrealized gains (losses) on cash flow hedges | | | |
| Gains (losses) on cash flow hedges arising during the year (3) | **(839)** | (26) | 528 |
| Reclassification to earnings of (gains) losses on cash flow hedges (4) | **61** | 10 | (57) |
| | **(778)** | (16) | 471 |
| Net gains (losses) on translation of net foreign operations | | | |
| Unrealized gains (losses) on translation of net foreign operations | **(885)** | 213 | 3,187 |
| Unrealized gains (losses) on hedges of net foreign operations (5) | **23** | 41 | (482) |
| | **(862)** | 254 | 2,705 |
| Items that will not be reclassified to net income | | | |
| Gains (losses) on remeasurement of pension and other employee future benefit plans (6) | **420** | (422) | 200 |
| Gains (losses) on remeasurement of own credit risk on financial liabilities designated at fair value (Note 1) (7) | **(148)** | (153) | 120 |
| | **272** | (575) | 320 |
| **Other Comprehensive Income (Loss), net of taxes** (Note 23) | **(1,360)** | (214) | 3,265 |
| **Total Comprehensive Income** | **$ 3,990** | $ 4,417 | $ 7,670 |
| Attributable to: | | | |
| Bank shareholders | **3,988** | 4,408 | 7,635 |
| Non-controlling interest in subsidiaries | **2** | 9 | 35 |
| **Total Comprehensive Income** | **$ 3,990** | $ 4,417 | $ 7,670 |

(1) Net of income tax (provision) recovery of $(21) million, $(64) million and $63 million for the year ended, respectively.
(2) Net of income tax provision of $36 million, $11 million and $24 million for the year ended, respectively.
(3) Net of income tax (provision) recovery of $322 million, $(4) million and $(188) million for the year ended, respectively.
(4) Net of income tax provision (recovery) of $(21) million, $(6) million and $14 million for the year ended, respectively.
(5) Net of income tax (provision) recovery of $(8) million, $(10) million and $167 million for the year ended, respectively.
(6) Net of income tax (provision) recovery of $(157) million, $156 million and $(51) million for the year ended, respectively.
(7) Net of income tax (provision) recovery of $53 million, $55 million and $(43) million for the year ended, respectively.

The accompanying notes are an integral part of these consolidated financial statements.

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# Consolidated Balance Sheet

| As at October 31 (Canadian $ in millions) | 2017 | 2016 |
|---|---|---|
| **Assets** | | |
| **Cash and Cash Equivalents** (Note 2) | $ 32,599 | $ 31,653 |
| **Interest Bearing Deposits with Banks** (Note 2) | 6,490 | 4,449 |
| **Securities** (Note 3) | | |
| Trading | 99,069 | 84,458 |
| Available-for-sale | 54,075 | 55,663 |
| Held-to-maturity | 9,094 | 8,965 |
| Other | 960 | 899 |
| | 163,198 | 149,985 |
| **Securities Borrowed or Purchased Under Resale Agreements** (Note 4) | 75,047 | 66,646 |
| **Loans** (Notes 4 and 6) | | |
| Residential mortgages | 115,258 | 112,277 |
| Consumer instalment and other personal | 61,944 | 64,680 |
| Credit cards | 8,071 | 8,101 |
| Businesses and governments | 178,232 | 175,597 |
| | 363,505 | 360,655 |
| Allowance for credit losses (Note 4) | (1,833) | (1,925) |
| | 361,672 | 358,730 |
| **Other Assets** | | |
| Derivative instruments (Note 8) | 28,951 | 39,183 |
| Customers' liability under acceptances (Note 12) | 16,546 | 13,021 |
| Premises and equipment (Note 9) | 2,033 | 2,147 |
| Goodwill (Note 11) | 6,244 | 6,381 |
| Intangible assets (Note 11) | 2,159 | 2,178 |
| Current tax assets | 1,371 | 906 |
| Deferred tax assets (Note 23) | 2,865 | 3,101 |
| Other (Note 12) | 10,405 | 9,555 |
| | 70,574 | 76,472 |
| **Total Assets** | $ 709,580 | $ 687,935 |
| **Liabilities and Equity** | | |
| **Deposits** (Note 13) | $ 483,488 | $ 473,372 |
| **Other Liabilities** | | |
| Derivative instruments (Note 8) | 27,804 | 38,227 |
| Acceptances (Note 14) | 16,546 | 13,021 |
| Securities sold but not yet purchased (Note 14) | 25,163 | 25,106 |
| Securities lent or sold under repurchase agreements (Note 14) | 55,119 | 40,718 |
| Securitization and structured entities' liabilities (Notes 6 and 7) | 23,054 | 22,377 |
| Current tax liabilities | 125 | 81 |
| Deferred tax liabilities (Note 23) | 233 | 242 |
| Other (Note 14) | 28,665 | 28,024 |
| | 176,709 | 167,796 |
| **Subordinated Debt** (Note 15) | 5,029 | 4,439 |
| **Equity** | | |
| Preferred shares (Note 16) | 4,240 | 3,840 |
| Common shares (Note 16) | 13,032 | 12,539 |
| Contributed surplus | 307 | 294 |
| Retained earnings | 23,709 | 21,205 |
| Accumulated other comprehensive income | 3,066 | 4,426 |
| Total shareholders' equity | 44,354 | 42,304 |
| Non-controlling interest in subsidiaries (Note 16) | – | 24 |
| **Total Equity** | 44,354 | 42,328 |
| **Total Liabilities and Equity** | $ 709,580 | $ 687,935 |

The accompanying notes are an integral part of these consolidated financial statements.

CONSOLIDATED FINANCIAL STATEMENTS

# Consolidated Statement of Changes in Equity

| For the Year Ended October 31 (Canadian $ in millions) | 2017 | 2016 | 2015 |
|---|---|---|---|
| **Preferred Shares** (Note 16) | | | |
| Balance at beginning of year | **$ 3,840** | $ 3,240 | $ 3,040 |
| Issued during the year | **900** | 600 | 950 |
| Redeemed during the year | **(500)** | – | (750) |
| Balance at End of Year | **4,240** | 3,840 | 3,240 |
| **Common Shares** (Note 16) | | | |
| Balance at beginning of year | **12,539** | 12,313 | 12,357 |
| Issued under the Shareholder Dividend Reinvestment and Share Purchase Plan (Note 16) | **448** | 90 | 58 |
| Issued under the Stock Option Plan (Note 16) | **146** | 136 | 51 |
| Repurchased for cancellation (Note 16) | **(101)** | – | (153) |
| Balance at End of Year | **13,032** | 12,539 | 12,313 |
| **Contributed Surplus** | | | |
| Balance at beginning of year | **294** | 299 | 304 |
| Stock option expense/exercised (Note 21) | **6** | (14) | – |
| Other | **7** | 9 | (5) |
| Balance at End of Year | **307** | 294 | 299 |
| **Retained Earnings** | | | |
| Balance at beginning of year | **21,205** | 18,930 | 17,237 |
| Net income attributable to bank shareholders | **5,348** | 4,622 | 4,370 |
| Dividends – Preferred shares (Note 16) | **(184)** | (150) | (117) |
| – Common shares (Note 16) | **(2,312)** | (2,191) | (2,087) |
| Preferred shares redeemed during the year (Note 16) | **–** | – | (3) |
| Common shares repurchased for cancellation (Note 16) | **(339)** | – | (465) |
| Share issue expense | **(9)** | (6) | (5) |
| Balance at End of Year | **23,709** | 21,205 | 18,930 |
| **Accumulated Other Comprehensive Income (Loss) on Available-for-Sale Securities, net of taxes** | | | |
| Balance at beginning of year | **48** | (75) | 156 |
| Unrealized gains (losses) on available-for-sale securities arising during the year (1) | **95** | 151 | (166) |
| Reclassification to earnings of (gains) in the year (2) | **(87)** | (28) | (65) |
| Balance at End of Year | **56** | 48 | (75) |
| **Accumulated Other Comprehensive Income (Loss) on Cash Flow Hedges, net of taxes** | | | |
| Balance at beginning of year | **596** | 612 | 141 |
| Gains (losses) on cash flow hedges arising during the year (3) | **(839)** | (26) | 528 |
| Reclassification to earnings of (gains) losses in the year (4) | **61** | 10 | (57) |
| Balance at End of Year | **(182)** | 596 | 612 |
| **Accumulated Other Comprehensive Income on Translation of Net Foreign Operations, net of taxes** | | | |
| Balance at beginning of year | **4,327** | 4,073 | 1,368 |
| Unrealized gains (losses) on translation of net foreign operations | **(885)** | 213 | 3,187 |
| Unrealized gains (losses) on hedges of net foreign operations (5) | **23** | 41 | (482) |
| Balance at End of Year | **3,465** | 4,327 | 4,073 |
| **Accumulated Other Comprehensive Income (Loss) on Pension and Other Employee Future Benefit Plans, net of taxes** | | | |
| Balance at beginning of year | **(512)** | (90) | (290) |
| Gains (losses) on remeasurement of pension and other employee future benefit plans (6) | **420** | (422) | 200 |
| Balance at End of Year | **(92)** | (512) | (90) |
| **Accumulated Other Comprehensive Income (Loss) on Own Credit Risk on Financial Liabilities Designated at Fair Value, net of taxes** | | | |
| Balance at beginning of year | **(33)** | 120 | – |
| Gains (losses) on remeasurement of own credit risk on financial liabilities designated at fair value (Note 1) (7) | **(148)** | (153) | 120 |
| Balance at End of Year | **(181)** | (33) | 120 |
| **Total Accumulated Other Comprehensive Income** | **3,066** | 4,426 | 4,640 |
| **Total Shareholders' Equity** | **$ 44,354** | $ 42,304 | $ 39,422 |
| **Non-controlling Interest in Subsidiaries** | | | |
| Balance at beginning of year | **24** | 491 | 1,091 |
| Net income attributable to non-controlling interest | **2** | 9 | 35 |
| Dividends to non-controlling interest | **–** | (10) | (37) |
| Redemption/purchase of non-controlling interest (Note 16) | **(25)** | (450) | (600) |
| Other | **(1)** | (16) | 2 |
| Balance at End of Year | **–** | 24 | 491 |
| **Total Equity** | **$ 44,354** | $ 42,328 | $ 39,913 |

(1) Net of income tax (provision) recovery of $(21) million, $(64) million and $63 million for the year ended, respectively.
(2) Net of income tax provision of $36 million, $11 million and $24 million for the year ended, respectively.
(3) Net of income tax (provision) recovery of $322 million, $(4) million and $(188) million for the year ended, respectively.
(4) Net of income tax provision (recovery) of $(21) million, $(6) million and $14 million for the year ended, respectively.
(5) Net of income tax (provision) recovery of $(8) million, $(10) million and $167 million for the year ended, respectively.
(6) Net of income tax (provision) recovery of $(157) million, $156 million and $(51) million for the year ended, respectively.
(7) Net of income tax (provision) recovery of $53 million, $55 million and $(43) million for the year ended, respectively.

The accompanying notes are an integral part of these consolidated financial statements.

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# Consolidated Statement of Cash Flows

| For the Year Ended October 31 (Canadian $ in millions) | 2017 | 2016 | 2015 |
|---|---|---|---|
| **Cash Flows from Operating Activities** | | | |
| Net Income | **$ 5,350** | $ 4,631 | $ 4,405 |
| Adjustments to determine net cash flows provided by (used in) operating activities | | | |
| Impairment write-down of securities, other than trading (Note 3) | **7** | 17 | 12 |
| Net (gain) on securities, other than trading (Note 3) | **(178)** | (101) | (183) |
| Net (increase) decrease in trading securities | **(16,237)** | (11,403) | 15,613 |
| Provision for credit losses (Note 4) | **774** | 815 | 612 |
| Change in derivative instruments – (Increase) decrease in derivative asset | **15,544** | (306) | (6,178) |
| – Increase (decrease) in derivative liability | **(14,923)** | (5,598) | 9,320 |
| Amortization of premises and equipment (Note 9) | **391** | 384 | 377 |
| Amortization of other assets | **227** | 219 | – |
| Amortization of intangible assets (Note 11) | **485** | 444 | 411 |
| Net decrease in deferred income tax asset | **156** | 108 | 226 |
| Net increase (decrease) in deferred income tax liability | **(12)** | (7) | 76 |
| Net (increase) decrease in current income tax asset | **(497)** | (345) | 298 |
| Net increase (decrease) in current income tax liability | **52** | (18) | (141) |
| Change in accrued interest – (Increase) decrease in interest receivable | **(130)** | (81) | 53 |
| – Increase (decrease) in interest payable | **15** | 64 | (113) |
| Changes in other items and accruals, net | **(2,095)** | 1,771 | 5,820 |
| Net increase in deposits | **16,094** | 22,835 | 7,884 |
| Net (increase) in loans | **(8,857)** | (23,235) | (15,600) |
| Net increase (decrease) in securities sold but not yet purchased | **336** | 3,739 | (7,049) |
| Net increase (decrease) in securities lent or sold under repurchase agreements | **16,535** | (82) | (4,625) |
| Net (increase) decrease in securities borrowed or purchased under resale agreements | **(10,891)** | 2,793 | (7,940) |
| Net increase (decrease) in securitization and structured entities' liabilities | **762** | 628 | (1,028) |
| Net Cash Provided by (Used in) Operating Activities | **2,908** | (2,728) | 2,250 |
| **Cash Flows from Financing Activities** | | | |
| Net increase (decrease) in liabilities of subsidiaries | **(87)** | 3,100 | (390) |
| Proceeds from issuance of covered bonds (Note 13) | **5,845** | 8,945 | 6,684 |
| Redemption of covered bonds (Note 13) | **(2,602)** | (2,101) | (2,498) |
| Proceeds from issuance of subordinated debt (Note 15) | **850** | 2,250 | – |
| Repayment of subordinated debt (Note 15) | **(100)** | (2,200) | (500) |
| Proceeds from issuance of preferred shares (Note 16) | **900** | 600 | 950 |
| Redemption of preferred shares (Note 16) | **(500)** | – | (753) |
| Redemption of capital trust securities (Note 16) | **–** | (450) | (600) |
| Share issue expense | **(9)** | (6) | (5) |
| Proceeds from issuance of common shares (Note 16) | **149** | 137 | 51 |
| Common shares repurchased for cancellation (Note 16) | **(440)** | – | (618) |
| Cash dividends paid | **(2,010)** | (2,219) | (2,135) |
| Cash dividends paid to non-controlling interest | **–** | (10) | (37) |
| Net Cash Provided by Financing Activities | **1,996** | 8,046 | 149 |
| **Cash Flows from Investing Activities** | | | |
| Net (increase) decrease in interest bearing deposits with banks | **(2,245)** | 3,007 | (461) |
| Purchases of securities, other than trading | **(51,917)** | (34,859) | (16,996) |
| Maturities of securities, other than trading | **5,930** | 6,985 | 5,267 |
| Proceeds from sales of securities, other than trading | **45,893** | 22,293 | 16,740 |
| Purchase of non-controlling interest | **(25)** | – | – |
| Premises and equipment – net (purchases) | **(301)** | (224) | (179) |
| Purchased and developed software – net (purchases) | **(490)** | (387) | (345) |
| Acquisitions (Note 10) | **–** | (12,147) | – |
| Net Cash Provided by (Used in) Investing Activities | **(3,155)** | (15,332) | 4,026 |
| Effect of Exchange Rate Changes on Cash and Cash Equivalents | **(803)** | 1,372 | 5,484 |
| Net increase (decrease) in Cash and Cash Equivalents | **946** | (8,642) | 11,909 |
| Cash and Cash Equivalents at Beginning of Year | **31,653** | 40,295 | 28,386 |
| **Cash and Cash Equivalents at End of Year** (Note 2) | **$ 32,599** | $ 31,653 | $ 40,295 |
| **Supplemental Disclosure of Cash Flow Information** | | | |
| Net cash provided by operating activities includes: | | | |
| Amount of interest paid in the year | **$ 5,826** | $ 4,561 | $ 4,476 |
| Amount of income taxes paid in the year | **$ 1,338** | $ 1,201 | $ 641 |
| Amount of interest and dividend income received in the year | **$ 15,900** | $ 14,541 | $ 13,138 |

The accompanying notes are an integral part of these consolidated financial statements.

Certain comparative figures have been reclassified to conform with the current year's presentation.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

# Note 1: Basis of Presentation

Bank of Montreal ("the bank") is a chartered bank under the *Bank Act (Canada)* and is a public company incorporated in Canada. We are a highly diversified financial services company, providing a broad range of personal and commercial banking, wealth management and investment banking products and services. The bank's head office is at 129 rue Saint-Jacques, Montreal, Quebec. Its executive offices are at 100 King Street West, 1 First Canadian Place, Toronto, Ontario. Our common shares are listed on the Toronto Stock Exchange and the New York Stock Exchange.

We have prepared these consolidated financial statements in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"). We also comply with interpretations of IFRS by our regulator, the Office of the Superintendent of Financial Institutions Canada ("OSFI").

Our consolidated financial statements have been prepared on a historic cost basis, except for the revaluation of the following items: assets and liabilities held for trading; available-for-sale financial assets; financial assets and liabilities designated at fair value through profit or loss; financial assets and financial liabilities designated as hedged items in qualifying fair value hedge relationships; cash-settled share-based payment liabilities; defined benefit pension and other employee future benefit liabilities; and insurance-related liabilities.

These consolidated financial statements were authorized for issue by the Board of Directors on December 5, 2017.

## Basis of Consolidation

These consolidated financial statements are inclusive of the financial statements of our subsidiaries as at October 31, 2017. We conduct business through a variety of corporate structures, including subsidiaries, structured entities ("SEs"), associates and joint ventures. Subsidiaries are those entities where we exercise control through our ownership of the majority of the voting shares. We also hold interests in SEs, which we consolidate when we control the SE. These are more fully described in Note 7. All of the assets, liabilities, revenues and expenses of our subsidiaries and consolidated SEs are included in our consolidated financial statements. All intercompany transactions and balances are eliminated on consolidation.

We hold investments in associates, where we exert significant influence over operating, investing and financing decisions (generally companies in which we own between 20% and 50% of the voting shares). These are accounted for using the equity method. The equity method is also applied to our investments in joint ventures. Joint ventures are those entities where we exercise joint control through an agreement with other shareholders. Under the equity method of accounting, investments are initially recorded at cost, and the carrying amount is increased or decreased to recognize our share of investee net income or loss, including other comprehensive income or loss. Our equity accounted investments are recorded as securities, other, in our Consolidated Balance Sheet and our share of the net income or loss is recorded in investments in associates and joint ventures, in our Consolidated Statement of Income. Any other comprehensive income amounts are reflected in the relevant section of our Statement of Comprehensive Income.

Non-controlling interest in subsidiaries is presented in our Consolidated Balance Sheet as a separate component of equity that is distinct from our shareholders' equity. The net income attributable to non-controlling interest in subsidiaries is presented separately in our Consolidated Statement of Income.

## Specific Accounting Policies

To facilitate a better understanding of our consolidated financial statements, we have disclosed our significant accounting policies throughout the following notes with the related financial disclosures by major caption:


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## Translation of Foreign Currencies

We conduct business in a variety of foreign currencies and present our consolidated financial statements in Canadian dollars, which is our functional currency. Monetary assets and liabilities, as well as non-monetary assets and liabilities measured at fair value that are denominated in foreign currencies, are translated into Canadian dollars at the exchange rate in effect at the balance sheet date. Non-monetary assets and liabilities not measured at fair value are translated into Canadian dollars at historical rates. Revenues and expenses denominated in foreign currencies are translated using the average exchange rate for the year.

Unrealized gains and losses arising from translating our net investment in foreign operations into Canadian dollars, net of related hedging activities and applicable income taxes, are included in our Consolidated Statement of Comprehensive Income within net gain (loss) on translation of net foreign operations. When we dispose of a foreign operation such that control, significant influence or joint control is lost, the cumulative amount of the translation gain (loss) and any applicable hedging activities and related income taxes is reclassified to our Consolidated Statement of Income as part of the gain or loss on disposition.

Foreign currency translation gains and losses on available-for-sale debt securities that are denominated in foreign currencies are included in foreign exchange, other than trading, in our Consolidated Statement of Income. Foreign currency translation gains and losses on available-for-sale equity securities that are denominated in foreign currencies are included in accumulated other comprehensive income on available-for-sale securities, net of taxes, in our Consolidated Statement of Changes in Equity. All other foreign currency translation gains and losses are included in foreign exchange, other than trading, in our Consolidated Statement of Income as they arise.

From time to time, we enter into foreign exchange hedge contracts to reduce our exposure to changes in the value of foreign currencies. Realized and unrealized gains and losses that arise on the mark-to-market of foreign exchange contracts related to economic hedges are included in non-interest revenue in our Consolidated Statement of Income. Changes in the fair value of forward contracts that qualify as accounting hedges are recorded in our Consolidated Statement of Comprehensive Income within net change in unrealized gains (losses) on cash flow hedges, with the spot/forward differential (the difference between the foreign currency exchange rate at the inception of the contract and the rate at the end of the contract) recorded in interest income (expense) over the term of the hedge.

## Dividend and Fee Income

*Dividend Income*

Dividend income is recognized when the right to receive payment is established. This is the ex-dividend date for listed equity securities.

*Fee Income*

Fee income (including commissions) is recognized based on the services or products for which the fee is paid. See Note 4 for the accounting treatment for lending fees.

Investment management and custodial fees are based primarily on the balance of assets under management and assets under administration, as at the period end, respectively, for services provided.

Securities commissions and fees and underwriting and advisory fees are recorded as revenue when the related services are completed.

Deposit and payment service charges and insurance fees are recognized over the period in which the related services are provided.

Card fees primarily include interchange income, late fees, cash advance fees and annual fees. Card fees are recorded as billed, except for annual fees, which are recorded evenly throughout the year.

## Leases

We are lessors in both financing leases and operating leases. Leases are classified as financing leases if they transfer substantially all the risks and rewards incidental to ownership of the leased asset to the lessee. Otherwise they are classified as operating leases, as we retain substantially all the risks and rewards of asset ownership.

As lessor in a financing lease, a loan is recognized equal to the investment in the lease, which is calculated as the present value of the minimum payments to be received from the lessee, discounted at the interest rate implicit in the lease, plus any unguaranteed residual value we expect to recover at the end of the lease. Finance lease income is recognized in interest, dividend and fee income, loans, in our Consolidated Statement of Income.

Assets under operating leases are recorded in other assets in our Consolidated Balance Sheet. Rental income is recognized on a straight-line basis over the term of the lease in non-interest revenue, other, in our Consolidated Statement of Income. Depreciation on these assets is recognized on a straight-line basis over the life of the lease in non-interest expense, other, in our Consolidated Statement of Income.

## Assets Held-for-Sale

Non-current non-financial assets classified as held-for-sale are measured at the lower of their carrying amount and fair value less costs to sell and are presented within other assets in our Consolidated Balance Sheet. Subsequent to its initial classification, a non-current asset is no longer depreciated or amortized, and any subsequent write-down in fair value less costs to sell is recognized in non-interest revenue, other, in our Consolidated Statement of Income.

## Use of Estimates and Judgments

The preparation of the consolidated financial statements requires management to use estimates and assumptions that affect the carrying amounts of certain assets and liabilities, certain amounts reported in net income and other related disclosures.

The most significant assets and liabilities for which we must make estimates include allowance for credit losses; financial instruments measured at fair value; pension and other employee future benefits; impairment of securities; income taxes and deferred taxes; purchased loans; goodwill and intangible assets; insurance-related liabilities; and provisions. We make judgments in assessing whether substantially all risks and rewards have been transferred in respect of transfers of financial assets and whether we control SEs, as discussed in Notes 6 and 7, respectively. If actual results were to differ from the estimates, the impact would be recorded in future periods.

We have established detailed policies and control procedures that are intended to ensure these judgments are well controlled, independently reviewed and consistently applied from period to period. We believe that our estimates of the value of our assets and liabilities are appropriate.

*Allowance for Credit Losses*

The allowance for credit losses adjusts the value of loans to reflect their estimated realizable value. In assessing their estimated realizable value, we must rely on estimates and exercise judgment regarding matters for which the ultimate outcome is unknown. These include economic factors, developments affecting companies in particular industries, and specific issues with respect to single borrowers. Changes in circumstances may cause future assessments of credit risk to be materially different from current assessments, which could result in an increase or decrease in the allowance for credit losses.

Additional information regarding the allowance for credit losses is included in Note 4.

*Financial Instruments Measured at Fair Value*

Fair value measurement techniques are used to value various financial assets and financial liabilities and are used in performing impairment testing on certain non-financial assets. Detailed discussions of our fair value measurement techniques are included in Notes 3 and 17.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

*Pension and Other Employee Future Benefits*

Our pension and other employee future benefits expense is calculated by our independent actuaries using assumptions determined by management. If actual experience were to differ from the assumptions used, we would recognize this difference in other comprehensive income.

Pension and other employee future benefits expense, plan assets and defined benefit obligations are also sensitive to changes in discount rates. We determine discount rates at each year end for all of our plans using high-quality AA rated corporate bond yields with terms matching the plans' specific cash flows.

Additional information regarding our accounting for pension and other employee future benefits is included in Note 22.

*Impairment of Securities*

We have investments in securities issued or guaranteed by Canadian, U.S. and other government agencies, corporate debt and equity securities, mortgage-backed securities and collateralized obligations, which are classified as either available-for-sale securities, held-to-maturity securities or other securities. We review held-to-maturity, available-for-sale and other securities at each quarter-end reporting period to identify and evaluate investments that show indications of possible impairment.

For held-to-maturity, available-for-sale and other securities, impairment losses are recognized if there is objective evidence of impairment as a result of an event that reduces the estimated future cash flows from the security and the impact can be reliably estimated. Objective evidence of impairment includes default or delinquency by a debtor, restructuring of an amount due to us on terms that we would not otherwise consider, indications that a debtor or issuer will enter bankruptcy, or the disappearance of an active market for a security. In addition, for equity securities, a significant or prolonged decline in the fair value of a security below its cost is objective evidence of impairment.

We do not record impairment write-downs on debt securities when impairment is due to changes in market interest rates if future contractual cash flows associated with the debt security are still expected to be recovered.

Additional information regarding our accounting for held-to-maturity, available-for-sale and other securities, and the determination of fair value is included in Notes 3 and 17.

*Income Taxes and Deferred Tax Assets*

The provision for income taxes is calculated based on the expected tax treatment of transactions recorded in our Consolidated Statements of Income or Changes in Equity. In determining the provision for income taxes, we interpret tax legislation, case law and administrative positions in numerous jurisdictions and, based on our judgment, record our estimate of the amount required to settle tax obligations. We also make assumptions about the expected timing of the reversal of deferred tax assets and liabilities. If our interpretations differ from those of taxing authorities or if the timing of reversals is not as expected, our provision for income taxes could increase or decrease in future periods. The amount of any such increase or decrease cannot be reasonably estimated.

Deferred tax assets are recognized only when it is probable that sufficient taxable profit will be available in future periods against which deductible temporary differences may be utilized. We are required to assess whether it is probable that our deferred income tax assets will be realized prior to expiration and, based on all the available evidence, determine if any portion of our deferred income tax assets should not be recognized. The factors used to assess the probability of realization are our past experience of income and capital gains, our forecast of future net income before taxes, and the remaining expiration period of tax loss carryforwards. Changes in our assessment of these factors could increase or decrease our provision for income taxes in future periods.

Additional information regarding our accounting for income taxes is included in Note 23.

*Goodwill and Intangible Assets*

For the purpose of impairment testing, goodwill is allocated to our groups of cash-generating units ("CGUs"), which represent the lowest level within the bank at which goodwill is monitored for internal management purposes. Impairment testing is performed at least annually, by comparing the carrying values and the recoverable amounts of the CGUs to which goodwill has been allocated to determine whether the recoverable amount of each group is greater than its carrying value. If the carrying value of the group were to exceed its recoverable amount, an impairment calculation would be performed. The recoverable amount of a CGU is the higher of its fair value less costs to sell and the value in use.

Fair value less costs to sell is used to perform the impairment test. In determining fair value less costs to sell, we employ a discounted cash flow model consistent with those used when we acquire businesses. This model is dependent on assumptions related to revenue growth, discount rates, synergies achieved on acquisition and the availability of comparable acquisition data. Changes in any of these assumptions would affect the determination of fair value for each of the business units in a different manner. Management must exercise judgment and make assumptions in determining fair value less costs to sell, and differences in judgment and assumptions could affect the determination of fair value and any resulting impairment write-down.

Intangible assets with a definite-life are amortized to income on either a straight-line or an accelerated basis over a period not exceeding 15 years, depending on the nature of the asset. We test definite-life intangible assets for impairment when circumstances indicate the carrying value may not be recoverable. Indefinite-life intangible assets are tested annually for impairment. If any intangible assets are determined to be impaired, we write them down to their recoverable amount, the higher of value in use and fair value less costs to sell, when this is less than the carrying value.

Additional information regarding goodwill and intangible assets is included in Note 11.

*Purchased Loans*

Purchased loans are initially measured at fair value and are identified as either purchased performing loans or purchased credit impaired loans ("PCI loans") at the time of acquisition. The determination of fair value involves estimating the expected cash flows to be received and determining the discount rate to be applied to the cash flows from the purchased loan portfolio. In determining the discount rate, we consider various factors, including our cost to raise funds in the current market, the risk premium associated with the loans and the cost to service the portfolios. PCI loans are those where the timely collection of principal and interest was no longer reasonably assured as at the date of acquisition. We regularly evaluate what we expect to collect on PCI loans. Changes in expected cash flows could result in the recognition of impairment or a recovery through the provision for credit losses. Estimating the timing and amount of cash flows requires significant management judgment regarding key assumptions, including the probability of default, severity of loss, timing of payment receipts and valuation of collateral. All of these factors are inherently subjective and can result in significant changes in cash flow estimates over the term of a loan.

*Insurance-Related Liabilities*
Insurance claims and policy benefit liabilities represent current claims and estimates of future insurance policy benefit liabilities. Liabilities for life insurance contracts are determined using the Canadian Asset Liability Method, which incorporates best-estimate assumptions for mortality, morbidity, policy lapses, surrenders, future investment yields, policy dividends, administration costs and margins for adverse deviation. These assumptions are reviewed at least annually and updated to reflect actual experience and market conditions. The most significant impact on the valuation of a liability would result from a change in the assumption for future investment yields.

Additional information regarding insurance-related liabilities is included in Note 14.

*Provisions*
The bank and its subsidiaries are involved in various legal actions in the ordinary course of business.

Provisions are recorded at the best estimate of the amounts required to settle any obligations related to these legal actions as at the balance sheet date, taking into account the risks and uncertainties associated with the obligation. Factors considered in making the assessment include: a case-by-case assessment of specific facts and circumstances, our past experience and the opinions of legal experts. Management and external experts are involved in estimating any provisions. The actual costs of resolving these claims may be substantially higher or lower than the amounts of the provisions. Additional information regarding provisions is included in Note 25.

*Transfer of Financial Assets and Consolidation of Structured Entities*
We sell Canadian mortgage loans to third-party Canadian securitization programs, including the Canada Mortgage Bond program, and directly to third-party investors under the National Housing Act Mortgage-Backed Securities program. We assess whether substantially all of the risks and rewards of the loans have been transferred to determine if they qualify for derecognition. Since we continue to be exposed to substantially all of the repayment, interest rate and/or credit risk associated with the securitized loans, they do not qualify for derecognition. We continue to recognize the loans and the related cash proceeds as secured financings in our Consolidated Balance Sheet. We use securitization vehicles to securitize our Canadian credit card loans, Canadian real estate lines of credit and Canadian auto loans in order to obtain alternate sources of funding. The structure of these vehicles limits the activities they can undertake and the types of assets they can hold, and the vehicles have limited decision-making authority. The vehicles issue term asset-backed securities to fund their activities. We control and consolidate these vehicles, as we have the key decision-making powers necessary to obtain the majority of the benefits of their activities.

For most of our subsidiaries, control is determined based on holding the majority of the voting rights. For certain investments in limited partnerships, we exercise judgment in determining whether we control an entity. Based on an assessment of our interests and rights, we have determined that we do not control certain entities, even though we may have an ownership interest greater than 50%. This may be the case when we are not the general partner in an arrangement and the general partner's rights most significantly affect the returns of the entity. Additionally, we have determined that we control certain entities despite having an ownership interest less than 50%. This may be the case when we are the general partner in an arrangement and the general partner's rights most significantly affect the returns of the entity.

Transferred assets are discussed in greater detail in Note 6 and structured entities are discussed in greater detail in Note 7.

## Future Changes in IFRS

*Financial Instruments*
In July 2014, the IASB issued IFRS 9 *Financial Instruments* ("IFRS 9"), which addresses impairment, classification and measurement, and hedge accounting. At the direction of our regulator, OSFI, IFRS 9 is effective for our fiscal year beginning November 1, 2017. Additional guidance relating to the adoption of IFRS 9 has been provided by OSFI in its *Guideline – IFRS 9 Financial Instruments and Disclosures* ("OSFI Guideline").

Based on October 31, 2017 data and current implementation status, we estimate the adoption of IFRS 9 will lead to an increase in shareholders' equity of approximately $100 million before tax ($65 million after tax) driven by the impairment requirements of IFRS 9. We continue to refine and monitor certain aspects of our impairment process which may change the actual impact on adoption.

*Impairment*
IFRS 9 introduces a new expected credit loss ("ECL") impairment model for all financial assets and certain off-balance sheet loan commitments and guarantees. The new ECL model will result in an allowance for credit losses being recorded on financial assets regardless of whether there has been an actual loss event. This differs from the current approach where the allowance recorded on performing loans is designed to capture only losses that have been incurred whether or not they have been specifically identified. The most significant impact will be on the loan portfolio.

The expected credit loss model requires the recognition of credit losses based on 12 months of expected losses for performing loans and the recognition of lifetime expected losses on loans that have experienced a significant increase in credit risk since origination. The determination of a significant increase in credit risk takes into account many different factors and will vary by product and risk segment. The main factors considered in making this determination are relative changes in probability-weighted probability of default since origination and certain criteria such as 30-day past due and watch-list status. The assessment of a significant increase in credit risk will require experienced credit judgment.

Impaired loans require recognition of lifetime losses and are expected to be similar to our current specific allowance.

IFRS 9 requires consideration of past events, current market conditions and reasonable and supportable information about future economic conditions, in determining whether there has been a significant increase in credit risk, and in calculating the amount of expected losses.

*Classification and Measurement*
The new standard requires that we classify debt instruments based on our business model for managing the asset and the contractual cash flow characteristics of the asset. The business model test determines the classification based on the business purpose for holding the asset. Generally, debt instruments will be measured at fair value through profit or loss unless certain conditions are met that permit fair value through other comprehensive income ("FVOCI") or amortized cost. Debt instruments that have contractual cash flows representing only payments of principal and interest will be eligible for classification as FVOCI or amortized cost. Gains and losses recorded in other comprehensive income for debt instruments will be recognized in profit or loss on disposal.

In fiscal 2015, the bank early adopted the provisions relating to the recognition of changes in own credit risk for financial liabilities designated at fair value through profit or loss, as permitted by IFRS 9. Additional information regarding changes in own credit risk is included in Notes 13 and 14.

*Hedge Accounting*

IFRS 9 introduces a new hedge accounting model that expands the scope of hedged items and risks eligible for hedge accounting and aligns hedge accounting more closely with risk management. The new model no longer specifies quantitative measures for effectiveness testing and does not permit hedge de-designation. IFRS 9 includes a policy choice that allows us to continue to apply the existing hedge accounting rules. The bank will not adopt the hedge accounting provisions of IFRS 9; however, as required by the standard, we will adopt the new hedge accounting disclosures.

*Leases*

In January 2016, the IASB issued IFRS 16 *Leases* ("IFRS 16"), which provides guidance for leases whereby lessees will recognize a liability for the present value of future lease liabilities and record a corresponding asset on the balance sheet for most leases. There are minimal changes to lessor accounting. IFRS 16 is effective for our fiscal year beginning November 1, 2019. Early adoption is permitted, provided IFRS 15 *Revenue from Contracts with Customers* has been adopted. In order to meet the requirements of IFRS 16, we have established an enterprise-wide project and are currently assessing the impact of the standard on our future financial results.

*Statement of Cash Flows*

In January 2016, the IASB issued amendments to IAS 7 *Statement of Cash Flows* ("IAS 7"), which will require specific disclosures for movements in liabilities arising from financing activities on the statement of cash flows. We do not expect the amendments to have a significant impact on our consolidated financial statements. These amendments will be effective for our fiscal year beginning November 1, 2017.

*Revenue*

In May 2014, the IASB issued IFRS 15 *Revenue from Contracts with Customers* ("IFRS 15"), which replaces the existing standards for revenue recognition. The new standard establishes a framework for the recognition and measurement of revenues generated from contracts with customers, providing a principles-based approach for revenue recognition, and introducing the concept of recognizing revenue for performance obligations as they are satisfied. Revenues outside of the scope of IFRS 15 include interest and dividend income, trading revenues, securities gains/losses, insurance revenues and lease income. The standard also requires additional disclosures about the nature, amount, timing and uncertainty of revenues and cash flows arising from transactions with our customers.

In April 2016, the IASB issued clarifications to IFRS 15, which provide additional clarity on revenue recognition related to identifying performance obligations, application guidance on principal versus agent and licences of intellectual property.

In order to meet the requirements of IFRS 15, we have established an enterprise-wide project and are currently evaluating the impact of adoption. As the majority of our revenue streams are outside the scope of the new standard, we do not expect a significant impact on our future financial results from the adoption of the new standard.

IFRS 15 is effective for our fiscal year beginning November 1, 2018. On transition, we can either restate prior periods as if we had always applied IFRS 15 or alternatively, we can recognize the cumulative effect of any changes resulting from our adoption of IFRS 15 in opening retained earnings with no comparison for prior years. We are assessing our transition approach as part of our project.

*Share-based Payment*

In June 2016, the IASB issued amendments to IFRS 2 *Share-based Payment* ("IFRS 2") in relation to the classification and measurement of share-based payment transactions. We do not expect the amendments to have a significant impact on our consolidated financial statements. The amendments are effective for our fiscal year beginning November 1, 2018.

*Insurance Contracts*

In May 2017, the IASB issued IFRS 17 *Insurance Contracts* ("IFRS 17"), which provides a comprehensive approach for all types of insurance contracts and will replace the existing IFRS 4 *Insurance Contracts*. We will be adopting IFRS 17 effective for our fiscal year beginning November 1, 2021. We are currently assessing the impact of the standard on our future financial results.

# Note 2: Cash and Interest Bearing Deposits with Banks

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| Cash and deposits with banks (1) | **30,002** | 29,460 |
| Cheques and other items in transit, net | **2,597** | 2,193 |
| Total cash and cash equivalents | **32,599** | 31,653 |

(1) Includes deposits with the Bank of Canada, the U.S. Federal Reserve and other central banks.

## Cheques and Other Items in Transit, Net

Cheques and other items in transit are recorded at cost and represent the net position of the uncleared cheques and other items in transit between us and other banks.

## Cash Restrictions

Some of our foreign operations are required to maintain reserves or minimum balances with central banks in their respective countries of operation, totalling $1,435 million as at October 31, 2017 ($1,958 million in 2016).

## Interest Bearing Deposits with Banks

Deposits with banks are recorded at amortized cost and include acceptances we have purchased that were issued by other banks. Interest income earned on these deposits is recorded on an accrual basis.

# Note 3: Securities

Securities are divided into four types, each with a different purpose and accounting treatment. The types of securities we hold are as follows:

**Trading securities** are securities that we purchase for resale over a short period of time. We classify trading securities and securities designated under the fair value option at fair value through profit or loss ("FVTPL"). We record the transaction costs, gains and losses realized on disposal and unrealized gains and losses due to changes in fair value in our Consolidated Statement of Income in trading revenues.

*Securities Designated at FVTPL*
Securities designated at FVTPL are financial instruments that are accounted for at fair value, with changes in fair value recorded in income provided they meet certain criteria. Securities designated at FVTPL must have reliably measurable fair values and satisfy one of the following criteria: (1) the designation eliminates or significantly reduces the inconsistent treatment that would otherwise arise from measuring the gains and losses on a different basis; (2) the securities are part of a group of financial instruments that is managed and evaluated on a fair value basis; or (3) the securities are hybrid financial instruments with embedded derivatives that would significantly modify their cash flow. Securities must be designated on initial recognition, and the designation is irrevocable.

We designate certain securities held by our insurance subsidiaries that support our insurance liabilities at FVTPL, since the actuarial calculation of insurance liabilities is based on the fair value of the investments supporting them. This designation aligns the accounting result with the way the portfolio is managed on a fair value basis. The change in fair value of the securities is recorded in non-interest revenue, insurance revenue, and the change in fair value of the liabilities is recorded in insurance claims, commissions and changes in policy benefit liabilities. The fair value of these investments as at October 31, 2017 of $8,465 million ($7,887 million as at October 31, 2016) is recorded in securities, trading, in our Consolidated Balance Sheet. The impact of recording these investments at fair value through profit or loss was an increase in non-interest revenue, insurance revenue, of $39 million for the year ended October 31, 2017 (increase of $430 million in 2016 and $8 million in 2015).

We designate certain investments held in our merchant banking business at FVTPL, which aligns the accounting result with the way the portfolio is managed. The fair value of these investments as at October 31, 2017 of $333 million ($320 million in 2016) is recorded in securities, other, in our Consolidated Balance Sheet. The impact of recording these investments at fair value through profit or loss was a decrease in non-interest revenue, securities gains, other than trading, of $9 million for the year ended October 31, 2017 (decrease of $40 million in 2016 and $34 million in 2015).

**Available-for-sale securities** consist of debt and equity securities that may be sold in response to or in anticipation of changes in interest rates and resulting prepayment risk, changes in credit risk, changes in foreign currency risk, changes in funding sources or terms, or in order to meet liquidity needs.

Available-for-sale securities are initially recorded at fair value plus transaction costs. They are subsequently measured at fair value, with unrealized gains and losses recorded in unrealized gains (losses) on available-for-sale securities in our Consolidated Statement of Comprehensive Income until the security is sold. Gains and losses on disposal and impairment losses (recoveries) are recorded in our Consolidated Statement of Income in non-interest revenue, securities gains, other than trading. Interest income earned and dividends received on available-for-sale securities are recorded in our Consolidated Statement of Income in interest, dividend and fee income, securities.

Investments held by our insurance subsidiaries are classified as available-for-sale securities, except for those investments that support the policy benefit liabilities on our insurance contracts, which are designated at fair value through profit or loss, as discussed above. Interest and other fee income on the insurance available-for-sale securities is recognized when earned in our Consolidated Statement of Income in non-interest revenue, insurance revenue.

**Held-to-maturity securities** are debt securities that we have the intention and ability to hold to maturity and that do not meet the definition of a loan. These securities are initially recorded at fair value plus transaction costs and subsequently measured at amortized cost using the effective interest method. Impairment losses are recorded in our Consolidated Statement of Income in securities gains (losses), other than trading. Interest income earned and amortization of premiums or discounts on these debt securities are recorded in our Consolidated Statement of Income in interest, dividend and fee income, securities.

**Other securities** are investments in companies where we exert significant influence over operating, investing and financing decisions (generally companies in which we own between 20% and 50% of the voting shares). We account for these other securities using the equity method of accounting. Other securities also include certain securities held by our merchant banking business.

We account for all of our securities transactions using settlement date accounting in our Consolidated Balance Sheet. Changes in fair value between the trade date and settlement date are recorded in net income, except for those related to available-for-sale securities, which are recorded in other comprehensive income.

## Impairment Review

For available-for-sale, held-to-maturity and other securities, impairment losses are recognized if there is objective evidence of impairment as a result of an event that reduces the estimated future cash flows from the security.

For equity securities, a significant or prolonged decline in the fair value of a security below its cost is considered to be objective evidence of impairment.

The impairment loss on available-for-sale securities is the difference between the security's amortized cost and its current fair value, less any previously recognized impairment losses. If there is objective evidence of impairment, a write-down is transferred from our Consolidated Statement of Comprehensive Income, unrealized gains (losses) on available-for-sale securities, to our Consolidated Statement of Income in securities gains, other than trading.

The impairment loss on held-to-maturity securities is the difference between a security's carrying amount and the present value of its estimated future cash flows discounted at the original effective interest rate. If there is objective evidence of impairment, a write-down is recorded in our Consolidated Statement of Income in securities gains, other than trading.

For available-for-sale debt securities, a previous impairment loss is reversed through net income if an event occurs after the impairment was recognized that can be objectively attributed to an increase in fair value, to a maximum of the original impairment charge. For available-for-sale equity securities, previous impairment losses are not reversed through net income, and any subsequent increases in fair value are recorded in other comprehensive income. Reversals of impairment losses on held-to-maturity securities are recorded to a maximum of the amortized cost of the investment before the original impairment charge.

As at October 31, 2017, we had 1,775 available-for-sale securities (1,699 in 2016) with unrealized losses totalling $480 million (unrealized losses of $135 million in 2016). Unrealized losses on these instruments, excluding corporate equities, resulted from changes in interest rates and not from deterioration in the creditworthiness of the issuers. We expect full recovery of these available-for-sale securities and have determined that there is no significant impairment. The table on page 152 details unrealized gains and losses as at October 31, 2017 and 2016.

We did not own any securities issued by a single non-government entity where the book value, as at October 31, 2017 or 2016, was greater than 10% of our shareholders' equity.

## Fair Value Measurement

For traded securities, quoted market value is considered to be fair value. Quoted market value is based on bid prices. For securities where market quotes are not available, we use estimation techniques to determine fair value. A discussion of fair value measurement is included in Note 17.

| (Canadian $ in millions, except as noted) | Term to maturity | | | | | 2017 | 2016 |
|---|---|---|---|---|---|---|---|
| | Within 1 year | 1 to 3 years | 3 to 5 years | 5 to 10 years | Over 10 years | Total | Total |
| **Trading Securities** | | | | | | | |
| Issued or guaranteed by: | | | | | | | |
| Canadian federal government | 4,862 | 1,527 | 2,021 | 1,313 | 1,104 | 10,827 | 12,952 |
| Canadian provincial and municipal governments | 812 | 1,343 | 714 | 1,991 | 2,467 | 7,327 | 7,422 |
| U.S. federal government | 1,332 | 1,758 | 2,000 | 1,906 | 2,477 | 9,473 | 6,148 |
| U.S. states, municipalities and agencies | 642 | 222 | 86 | 100 | 1,081 | 2,131 | 1,124 |
| Other governments | 85 | 438 | 266 | 34 | – | 823 | 602 |
| Mortgage-backed securities and collateralized mortgage obligations | 147 | 571 | 203 | 8 | 2 | 931 | 1,062 |
| Corporate debt | 1,298 | 1,375 | 795 | 1,281 | 7,014 | 11,763 | 9,513 |
| Loans | – | 28 | 7 | 118 | – | 153 | 139 |
| Corporate equity | – | – | – | – | 55,641 | 55,641 | 45,496 |
| Total trading securities | 9,178 | 7,262 | 6,092 | 6,751 | 69,786 | 99,069 | 84,458 |
| **Available-for-Sale Securities** | | | | | | | |
| Issued or guaranteed by: | | | | | | | |
| Canadian federal government | | | | | | | |
| Amortized cost | 5,585 | 1,764 | 1,266 | 597 | – | 9,212 | 8,109 |
| Fair value | 5,578 | 1,749 | 1,262 | 591 | – | 9,180 | 8,168 |
| Yield (%) | 0.66 | 1.48 | 1.46 | 1.57 | – | 0.99 | 1.29 |
| Canadian provincial and municipal governments | | | | | | | |
| Amortized cost | 1,157 | 265 | 1,293 | 860 | 38 | 3,613 | 6,126 |
| Fair value | 1,156 | 266 | 1,310 | 855 | 40 | 3,627 | 6,232 |
| Yield (%) | 0.85 | 1.45 | 2.24 | 2.32 | 3.27 | 1.77 | 2.17 |
| U.S. federal government | | | | | | | |
| Amortized cost | 15 | – | 3,128 | 11,338 | – | 14,481 | 9,564 |
| Fair value | 17 | – | 3,115 | 11,137 | – | 14,269 | 9,557 |
| Yield (%) | 0.88 | – | 1.81 | 1.80 | – | 1.80 | 1.51 |
| U.S. states, municipalities and agencies | | | | | | | |
| Amortized cost | 370 | 563 | 463 | 1,329 | 1,333 | 4,058 | 4,379 |
| Fair value | 370 | 566 | 467 | 1,357 | 1,336 | 4,096 | 4,450 |
| Yield (%) | 1.63 | 1.78 | 2.26 | 2.40 | 1.71 | 2.00 | 1.80 |
| Other governments | | | | | | | |
| Amortized cost | 1,592 | 1,231 | 725 | 19 | – | 3,567 | 5,214 |
| Fair value | 1,593 | 1,225 | 722 | 18 | – | 3,558 | 5,227 |
| Yield (%) | 1.44 | 1.34 | 1.52 | 2.72 | – | 1.43 | 1.15 |
| Mortgage-backed securities and collateralized mortgage obligations – Canada (1) | | | | | | | |
| Amortized cost | 255 | 1,143 | 1,059 | – | – | 2,457 | 3,473 |
| Fair value | 262 | 1,141 | 1,052 | – | – | 2,455 | 3,507 |
| Yield (%) | 2.05 | 1.83 | 1.56 | – | – | 1.74 | 1.60 |
| Mortgage-backed securities and collateralized mortgage obligations – U.S. | | | | | | | |
| Amortized cost | 1 | 20 | 62 | 658 | 10,161 | 10,902 | 9,591 |
| Fair value | 1 | 19 | 62 | 659 | 10,020 | 10,761 | 9,615 |
| Yield (%) | 1.83 | 3.12 | 2.25 | 2.31 | 1.97 | 1.99 | 1.66 |
| Corporate debt | | | | | | | |
| Amortized cost | 995 | 2,082 | 737 | 607 | 93 | 4,514 | 7,219 |
| Fair value | 997 | 2,080 | 734 | 619 | 95 | 4,525 | 7,292 |
| Yield (%) | 0.75 | 2.08 | 2.48 | 3.08 | 3.64 | 2.02 | 1.76 |
| Corporate equity | | | | | | | |
| Amortized cost | – | – | – | – | 1,499 | 1,499 | 1,529 |
| Fair value | – | – | – | – | 1,604 | 1,604 | 1,615 |
| Yield (%) | – | – | – | – | 2.37 | 2.37 | 2.07 |
| Total cost or amortized cost | 9,970 | 7,068 | 8,733 | 15,408 | 13,124 | 54,303 | 55,204 |
| Total fair value | 9,974 | 7,046 | 8,724 | 15,236 | 13,095 | 54,075 | 55,663 |
| Yield (%) | 0.89 | 1.72 | 1.85 | 1.95 | 2.00 | 1.72 | 1.62 |
| **Held-to-Maturity Securities** | | | | | | | |
| Issued or guaranteed by: | | | | | | | |
| Canadian federal government | | | | | | | |
| Amortized cost | 1,855 | – | – | – | – | 1,855 | 2,005 |
| Fair value | 1,857 | – | – | – | – | 1,857 | 2,014 |
| Canadian provincial and municipal governments | | | | | | | |
| Amortized cost | 735 | 510 | – | 322 | – | 1,567 | 2,047 |
| Fair value | 737 | 512 | – | 341 | – | 1,590 | 2,085 |
| Mortgage-backed securities and collateralized mortgage obligations (1) | | | | | | | |
| Amortized cost | 191 | 485 | 364 | 999 | 3,633 | 5,672 | 4,913 |
| Fair value | 191 | 486 | 366 | 997 | 3,609 | 5,649 | 4,974 |
| Total cost or amortized cost | 2,781 | 995 | 364 | 1,321 | 3,633 | 9,094 | 8,965 |
| Total fair value | 2,785 | 998 | 366 | 1,338 | 3,609 | 9,096 | 9,073 |
| **Other Securities** | | | | | | | |
| Carrying value | 7 | 21 | 13 | 38 | 881 | 960 | 899 |
| Fair value | 7 | 21 | 13 | 38 | 3,161 | 3,240 | 3,098 |
| Total carrying value or amortized cost of securities | 21,936 | 15,346 | 15,202 | 23,518 | 87,424 | 163,426 | 149,526 |
| Total value of securities | 21,940 | 15,324 | 15,193 | 23,346 | 87,395 | 163,198 | 149,985 |
| **Total by Currency** (in Canadian $ equivalent) | | | | | | | |
| Canadian dollar | 16,959 | 8,546 | 7,222 | 6,235 | 41,261 | 80,223 | 86,352 |
| U.S. dollar | 3,948 | 6,662 | 7,916 | 17,087 | 44,384 | 79,997 | 60,813 |
| Other currencies | 1,033 | 116 | 55 | 24 | 1,750 | 2,978 | 2,820 |
| Total securities | 21,940 | 15,324 | 15,193 | 23,346 | 87,395 | 163,198 | 149,985 |

(1) These amounts are supported by insured mortgages or issued by U.S. agencies and government-sponsored enterprises.

Yields in the table above are calculated using the cost of the security and the contractual interest rate associated with each security, adjusted for any amortization of premiums and discounts. Tax effects are not taken into consideration. The term to maturity included in the table above is based on the contractual maturity date of the security. Actual maturities could differ, as issuers may have the right to call or prepay obligations. Equity securities with no maturity date are included in the over 10 years category.

Certain comparative figures have been reclassified to conform with the current year's presentation.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### Unrealized Gains and Losses on Available-for-Sale Securities

| (Canadian $ in millions) | 2017 | | | | 2016 | | | |
|---|---|---|---|---|---|---|---|---|
| | **Amortized cost** | **Gross unrealized gains** | **Gross unrealized losses** | **Fair value** | Amortized cost | Gross unrealized gains | Gross unrealized losses | Fair value |
| Issued or guaranteed by: | | | | | | | | |
| Canadian federal government | **9,212** | **6** | **38** | **9,180** | 8,109 | 62 | 3 | 8,168 |
| Canadian provincial and municipal governments | **3,613** | **29** | **15** | **3,627** | 6,126 | 110 | 4 | 6,232 |
| U.S. federal government | **14,481** | **12** | **224** | **14,269** | 9,564 | 47 | 54 | 9,557 |
| U.S. states, municipalities and agencies | **4,058** | **43** | **5** | **4,096** | 4,379 | 77 | 6 | 4,450 |
| Other governments | **3,567** | **3** | **12** | **3,558** | 5,214 | 17 | 4 | 5,227 |
| Mortgage-backed securities and collateralized mortgage obligations – Canada (1) | **2,457** | **9** | **11** | **2,455** | 3,473 | 37 | 3 | 3,507 |
| Mortgage-backed securities and collateralized mortgage obligations – U.S. | **10,902** | **6** | **147** | **10,761** | 9,591 | 50 | 26 | 9,615 |
| Corporate debt | **4,514** | **23** | **12** | **4,525** | 7,219 | 78 | 5 | 7,292 |
| Corporate equity | **1,499** | **121** | **16** | **1,604** | 1,529 | 116 | 30 | 1,615 |
| Total | **54,303** | **252** | **480** | **54,075** | 55,204 | 594 | 135 | 55,663 |

(1) These amounts are supported by insured mortgages.

Income from securities, excluding net realized and unrealized gains on trading securities, has been included in our consolidated financial statements as follows:

| (Canadian $ in millions) | **2017** | 2016 | 2015 |
|---|---|---|---|
| **Reported in Consolidated Statement of Income:** | | | |
| **Interest, Dividend and Fee Income** (1) | | | |
| Trading securities | **977** | 923 | 1,016 |
| Available-for-sale securities | **806** | 623 | 504 |
| Held-to-maturity securities | **150** | 143 | 167 |
| Other securities | **12** | 15 | 18 |
| | **1,945** | 1,704 | 1,705 |
| **Non-Interest Revenue** | | | |
| Available-for-sale securities | | | |
| Gross realized gains | **228** | 59 | 116 |
| Gross realized (losses) | **(99)** | (16) | (18) |
| Unrealized gain on investments reclassified from available-for-sale to equity | **–** | 7 | – |
| Other securities, net realized and unrealized gains | **49** | 51 | 85 |
| Impairment write-downs | **(7)** | (17) | (12) |
| Securities gains, other than trading (1) | **171** | 84 | 171 |

(1) The following amounts of income related to our insurance operations were included in non-interest revenue, insurance revenue, in our Consolidated Statement of Income: Interest, dividend and fee income of $325 million for the year ended October 31, 2017 ($309 million in 2016 and $282 million in 2015); and securities gains, other than trading, of $nil for the year ended October 31, 2017 ($nil in 2016 and $1 million in 2015).

Unrealized gains and losses on trading securities are included in trading-related revenue in Note 17.

## Note 4: Loans and Allowance for Credit Losses

Loans are initially measured at fair value plus directly attributable costs, and are subsequently measured at amortized cost using the effective interest method. The effective interest method allocates interest income over the expected term of the loan by applying the effective interest rate to the carrying amount of the loan. The effective interest rate is defined as the rate that exactly discounts estimated future cash receipts through the expected term of the loan to the net carrying amount of the loan. Under the effective interest method, the amount recognized in interest, dividend and fee income, loans, varies over the term of the loan based on the principal outstanding. The treatment of interest income for impaired loans is described below.

### Securities Borrowed or Purchased Under Resale Agreements

Securities borrowed or purchased under resale agreements represent the amounts we will receive as a result of our commitment to return or resell securities that we have borrowed or purchased, back to the original lender or seller, on a specified date at a specified price. We account for these instruments as if they were loans.

### Lending Fees

The accounting treatment for lending fees varies depending on the transaction. Some loan origination, restructuring and renegotiation fees are recorded as interest income over the term of the loan, while other lending fees are taken into income at the time of loan origination. Commitment fees are recorded as interest income over the term of the loan, unless we believe the loan commitment will not be used. In the latter case, commitment fees are recorded as lending fees over the commitment period. Loan syndication fees are included in lending fees at the time the syndication is completed, unless the yield on any loans we retain is less than that of other comparable lenders involved in the financing. In the latter case, an appropriate portion of the syndication fee is recorded as interest income over the term of the loan.

## Impaired Loans

We classify a loan as impaired when one or more loss events have occurred, such as bankruptcy, default or delinquency. Generally, consumer loans in both Canada and the U.S. are classified as impaired when payment is contractually 90 days past due, or one year past due for residential mortgages if guaranteed by the Government of Canada. Credit card loans are immediately written off when principal or interest payments are 180 days past due, and are not reported as impaired. In Canada, consumer instalment loans, other personal loans and some small business loans are normally written off when they are one year past due. In the U.S., all consumer loans are generally written off when they are 180 days past due, except for non-real estate term loans, which are generally written off at 120 days past due. For the purpose of measuring the amount to be written off, the determination of the recoverable amount includes an estimate of future recoveries.

Corporate and commercial loans are classified as impaired when we determine there is no longer reasonable assurance that principal or interest will be collected in their entirety on a timely basis. Generally, we consider corporate and commercial loans to be impaired when payments are 90 days past due. Corporate and commercial loans are written off following a review on an individual loan basis that confirms all recovery attempts have been exhausted.

A loan will be reclassified to performing status when we determine that there is reasonable assurance of full and timely repayment of interest and principal in accordance with the terms and conditions of the loan, and that none of the criteria for classification of the loan as impaired continue to apply.

Our average gross impaired loans were $2,248 million for the year ended October 31, 2017 ($2,198 million in 2016). Our average impaired loans, net of the specific allowance, were $1,838 million for the year ended October 31, 2017 ($1,771 million in 2016).

Once a loan is identified as impaired, we continue to recognize interest income based on the original effective interest rate of the loan. In the periods following the recognition of impairment, adjustments to the allowance for these loans reflecting the time value of money are recognized and presented as interest income. Interest income on impaired loans of $75 million was recognized for the year ended October 31, 2017 ($74 million in 2016 and $91 million in 2015).

During the year ended October 31, 2017, we recorded a net gain of $28 million before tax ($5 million in 2016 and $72 million in 2015) on the sale of impaired and written-off loans.

## Allowance for Credit Losses (“ACL”)

The allowance for credit losses recorded in our Consolidated Balance Sheet is maintained at a level that we consider adequate to absorb credit-related losses on our loans and other credit instruments. The portion related to other credit instruments is recorded in other liabilities in our Consolidated Balance Sheet and amounted to $163 million as at October 31, 2017 ($189 million in 2016).

The allowance is comprised of a specific allowance and a collective allowance.

*Specific Allowance*

These allowances are recorded for individually identified impaired loans to reduce their carrying value to the expected recoverable amount. We review our loans on an ongoing basis to assess whether any loans should be classified as impaired and whether an allowance or write-off should be recorded (excluding credit card loans, which are classified as impaired and written off when principal or interest payments are 180 days past due, as discussed under Impaired Loans). The review of individually significant problem loans is conducted at least quarterly by the account managers, each of whom assesses the ultimate collectability and estimated recoveries for a specific loan based on all events and conditions that are relevant to the loan. This assessment is then reviewed and approved by an independent credit officer.

**Individually Significant Impaired Loans**

To determine the amount we expect to recover from an individually significant impaired loan, we use the value of the estimated future cash flows discounted at the loan’s original effective interest rate. The determination of estimated future cash flows of a collateralized impaired loan reflects the expected realization of the underlying security, net of expected costs and any amounts legally required to be paid to the borrower. Security can vary by type of loan and may include cash, securities, real properties, accounts receivable, guarantees, inventory or other capital assets.

**Individually Insignificant Impaired Loans**

Residential mortgages, consumer instalment and other personal loans are individually insignificant and may be individually assessed or collectively assessed for losses at the time of impairment, taking into account historical loss experience.

*Collective Allowance*

We maintain a collective allowance in order to cover impairment in the existing portfolio for loans that have not yet been individually identified as impaired. Our approach to establishing and maintaining the collective allowance is based on the requirements of IFRS, considering guidelines issued by OSFI.

The collective allowance methodology incorporates both quantitative and qualitative factors to determine an appropriate level for the collective allowance. For the purpose of calculating the collective allowance, we group loans on the basis of similarities in credit risk characteristics. The loss factors for groups of loans are determined based on a minimum of five years of historical data and a one-year loss emergence period, except for credit cards, where a seven-month loss emergence period is used. The loss factors are back-tested and calibrated on a regular basis to ensure that they continue to reflect our best estimate of losses that have been incurred but not yet identified, on an individual basis, within the pools of loans. Historical loss experience data is also reviewed in the determination of loss factors. Qualitative factors are based on current observable data, such as current macroeconomic and business conditions, portfolio-specific considerations and model risk factors.

## Provision for Credit Losses (“PCL”)

Changes in the value of our loan portfolio due to credit-related losses or recoveries of amounts previously provided for or written off are included in the provision for credit losses in our Consolidated Statement of Income.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Loans and allowance for credit losses by category are as follows:

| (Canadian $ in millions) | Residential mortgages (1) | | | Credit card, consumer instalment and other personal loans | | | Business and government loans | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 |
| Gross loan balances at end of year (2) | **115,258** | 112,277 | 105,918 | **70,015** | 72,781 | 73,578 | **178,232** | 175,597 | 145,076 | **363,505** | 360,655 | 324,572 |
| Impairment allowances (specific ACL), beginning of year | **59** | 69 | 88 | **123** | 113 | 99 | **250** | 210 | 237 | **432** | 392 | 424 |
| Amounts written off | **(27)** | (38) | (83) | **(654)** | (648) | (670) | **(301)** | (361) | (312) | **(982)** | (1,047) | (1,065) |
| Recoveries of amounts written off in previous years | **16** | 16 | 72 | **199** | 173 | 190 | **50** | 154 | 194 | **265** | 343 | 456 |
| Charge to income statement (specific PCL) | **11** | 24 | 11 | **487** | 510 | 497 | **352** | 281 | 104 | **850** | 815 | 612 |
| Foreign exchange and other movements | **(10)** | (12) | (19) | **(18)** | (25) | (3) | **(117)** | (34) | (13) | **(145)** | (71) | (35) |
| Specific ACL, end of year | **49** | 59 | 69 | **137** | 123 | 113 | **234** | 250 | 210 | **420** | 432 | 392 |
| Collective ACL, beginning of year | **71** | 111 | 83 | **596** | 714 | 678 | **1,015** | 835 | 781 | **1,682** | 1,660 | 1,542 |
| Charge to income statement (collective PCL) | **(1)** | (42) | 19 | **(6)** | (120) | 7 | **(69)** | 162 | (26) | **(76)** | – | – |
| Foreign exchange and other movements | **(1)** | 2 | 9 | **(4)** | 2 | 29 | **(25)** | 18 | 80 | **(30)** | 22 | 118 |
| Collective ACL, end of year | **69** | 71 | 111 | **586** | 596 | 714 | **921** | 1,015 | 835 | **1,576** | 1,682 | 1,660 |
| Total ACL | **118** | 130 | 180 | **723** | 719 | 827 | **1,155** | 1,265 | 1,045 | **1,996** | 2,114 | 2,052 |
| Comprised of: Loans | **93** | 104 | 149 | **722** | 719 | 827 | **1,018** | 1,102 | 879 | **1,833** | 1,925 | 1,855 |
| Other credit instruments (3) | **25** | 26 | 31 | **1** | – | – | **137** | 163 | 166 | **163** | 189 | 197 |
| Net loan balances at end of year | **115,165** | 112,173 | 105,769 | **69,293** | 72,062 | 72,751 | **177,214** | 174,495 | 144,197 | **361,672** | 358,730 | 322,717 |

(1) Included in the residential mortgages balance are Canadian government and corporate-insured mortgages of $53,981 million as at October 31, 2017 ($57,922 million in 2016 and $56,579 million in 2015).
(2) Included in loans as at October 31, 2017 are $135,535 million ($139,696 million in 2016 and $117,098 million in 2015) of loans denominated in U.S. dollars and $2,528 million ($2,204 million in 2016 and $1,966 million in 2015) of loans denominated in other foreign currencies.
(3) The total specific and collective allowances related to other credit instruments are included in other liabilities.

Loans and allowance for credit losses by geographic region are as follows:

| (Canadian $ in millions) | Gross amount | | Specific allowance (2) | | Collective allowance (3) | | Net amount | |
|---|---|---|---|---|---|---|---|---|
| | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| By geographic region (1): | | | | | | | | |
| Canada | **235,120** | 228,062 | **212** | 173 | **799** | 833 | **234,109** | 227,056 |
| United States | **115,606** | 121,822 | **161** | 231 | **641** | 687 | **114,804** | 120,904 |
| Other countries | **12,779** | 10,771 | **20** | 1 | **–** | – | **12,759** | 10,770 |
| Total | **363,505** | 360,655 | **393** | 405 | **1,440** | 1,520 | **361,672** | 358,730 |

(1) Geographic region is based upon the country of ultimate risk.
(2) Excludes specific allowance of $27 million for other credit instruments ($27 million in 2016), which is included in other liabilities.
(3) Excludes collective allowance of $136 million for other credit instruments ($162 million in 2016), which is included in other liabilities.

Impaired loans, including the related allowances, are as follows:

| (Canadian $ in millions) | Gross impaired amount | | Specific allowance (3) | | Net of specific allowance | |
|---|---|---|---|---|---|---|
| | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| Residential mortgages | **345** | 352 | **24** | 33 | **321** | 319 |
| Consumer instalment and other personal loans | **556** | 589 | **136** | 123 | **420** | 466 |
| Business and government loans | **1,273** | 1,391 | **233** | 249 | **1,040** | 1,142 |
| Total (1) | **2,174** | 2,332 | **393** | 405 | **1,781** | 1,927 |
| By geographic region (2): | | | | | | |
| Canada | **747** | 736 | **212** | 173 | **535** | 563 |
| United States | **1,377** | 1,594 | **161** | 231 | **1,216** | 1,363 |
| Other countries | **50** | 2 | **20** | 1 | **30** | 1 |
| Total | **2,174** | 2,332 | **393** | 405 | **1,781** | 1,927 |

(1) Excludes purchased credit impaired loans.
(2) Geographic region is based upon the country of ultimate risk.
(3) Excludes specific allowance of $27 million for other credit instruments ($27 million in 2016), which is included in other liabilities.

Fully secured loans with amounts past due between 90 and 180 days that we have not classified as impaired totalled $62 million and $88 million as at October 31, 2017 and 2016, respectively.

Specific provisions for credit losses by geographic region are as follows:

| (Canadian $ in millions) | Residential mortgages | | | Credit card, consumer instalment and other personal loans | | | Business and government loans | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 |
| By geographic region (1): | | | | | | | | | | | | |
| Canada | **11** | 13 | 9 | **399** | 417 | 393 | **93** | 117 | 97 | **503** | 547 | 499 |
| United States | **–** | 11 | 2 | **88** | 93 | 104 | **238** | 164 | 8 | **326** | 268 | 114 |
| Other countries | **–** | – | – | **–** | – | – | **21** | – | (1) | **21** | – | (1) |
| Total | **11** | 24 | 11 | **487** | 510 | 497 | **352** | 281 | 104 | **850** | 815 | 612 |

(1) Geographic region is based upon the country of ultimate risk.

## Loans Past Due Not Impaired

Loans that are past due but not classified as impaired are loans where our customers have failed to make payments when contractually due, but for which we expect the full amount of principal and interest payments to be collected. The following table presents loans that are past due but not classified as impaired as at October 31, 2017 and 2016.

| (Canadian $ in millions) | 1 to 29 days | | 30 to 89 days | | 90 days or more | | Total | |
|---|---|---|---|---|---|---|---|---|
| | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| Residential mortgages (1) | **649** | 668 | **438** | 451 | **19** | 33 | **1,106** | 1,152 |
| Credit card, consumer instalment and other personal loans (2) | **1,480** | 1,736 | **466** | 422 | **94** | 88 | **2,040** | 2,246 |
| Business and government loans | **589** | 673 | **297** | 364 | **72** | 139 | **958** | 1,176 |
| Total | **2,718** | 3,077 | **1,201** | 1,237 | **185** | 260 | **4,104** | 4,574 |

(1) The percentage of loans 90 days or more past due but not impaired that were guaranteed by the Government of Canada is 5% for 2017 and 7% for 2016.
(2) Credit card loans that are past due are not classified as impaired loans and are written off when 180 days past due.

## Foreclosed Assets

Property or other assets that we receive from borrowers to satisfy their loan commitments are classified as either held for use or held for sale according to management's intention and are recorded at the lower of carrying amount or fair value less costs to sell. Fair value is determined based on market prices where available. Otherwise, fair value is determined using methods such as analysis of discounted cash flows or market prices for similar assets.

During the year ended October 31, 2017, we foreclosed on impaired loans and received $62 million of real estate properties that we classified as held for sale ($118 million in 2016).

As at October 31, 2017, real estate properties held for sale totalled $55 million ($76 million in 2016). These properties are disposed of when considered appropriate. During the year ended October 31, 2017, we recorded an impairment loss of $10 million on real estate properties classified as held for sale ($18 million in 2016 and $22 million in 2015).

## Renegotiated Loans

From time to time we modify the contractual terms of a loan due to the poor financial condition of the borrower. We assess renegotiated loans for impairment consistent with our existing policies for impairment. When renegotiation leads to significant concessions being granted, and the concessions are for economic or legal reasons related to the borrower's financial difficulty that we would not otherwise consider, the loan is classified as impaired. We consider one or a combination of the following to be significant concessions: (1) a reduction of the stated interest rate, (2) an extension of the maturity date or dates at a stated interest rate lower than the current market rate for a new loan with similar terms, or (3) forgiveness of principal or accrued interest.

Renegotiated loans are permitted to remain in performing status if the modifications are not considered to be significant, or are returned to performing status when none of the criteria for classification as impaired continue to apply.

The carrying value of our renegotiated loans was $1,064 million as at October 31, 2017 ($988 million in 2016). Renegotiated loans of $509 million were classified as performing during the year ended October 31, 2017 ($540 million in 2016). Renegotiated loans of $36 million were written off in the year ended October 31, 2017 ($58 million in 2016).

## Purchased Loans

We record all loans that we purchase at fair value on the day that we acquire the loans. The fair value of the acquired loan portfolio includes an estimate of the interest rate premium or discount on the loans, calculated as the difference between the contractual rate of interest on the loans and prevailing interest rates (the "interest rate mark"). Also included in fair value is an estimate of expected credit losses (the "credit mark") as of the acquisition date. The credit mark consists of two components: an estimate of the amount of losses that exist in the acquired loan portfolio on the acquisition date but that haven't been specifically identified on that date (the "incurred credit mark") and an amount that represents future expected losses (the "future credit mark"). Because we record the loans at fair value, no allowance for credit losses is recorded in our Consolidated Balance Sheet on the day we acquire the loans. Fair value is determined by estimating the principal and interest cash flows expected to be collected on the loans and discounting those cash flows at a market rate of interest. We estimate cash flows expected to be collected based on specific loan reviews for commercial loans. For retail loans, we use models that incorporate management's best estimate of current key assumptions, such as default rates, loss severity and the timing of prepayments, as well as collateral.

Acquired loans are classified into the following categories: those for which on the acquisition date we expect to continue to receive timely principal and interest payments (the "purchased performing loans") and those for which on the acquisition date the timely collection of interest and principal was no longer reasonably assured (the "purchased credit impaired loans" or "PCI loans"). Because PCI loans are recorded at fair value at acquisition based on the amount expected to be collected, none of the PCI loans are considered to be impaired at acquisition.

Subsequent to the acquisition date, we account for each type of loan as follows:

*Purchased Performing Loans*

For performing loans with fixed terms, the future credit mark is fully amortized into net interest income over the expected life of the loan using the effective interest method. The impact on net interest income for the year ended October 31, 2017 was $9 million ($15 million in 2016 and $26 million in 2015). The incurred credit losses are remeasured at each reporting period, with any increase recorded as an increase in the collective allowance and the provision for credit losses. Decreases in incurred credit losses are recorded as a decrease in the collective allowance and the provision for credit losses until the accumulated collective allowance related to these loans is exhausted. Any additional decrease is recorded in net interest income.

The impact of the remeasurement of incurred credit losses for performing loans with fixed terms for the year ended October 31, 2017 was $39 million in the provision for credit losses and $18 million in net interest income ($50 million provision and $31 million, respectively, in 2016 and $1 million recovery and $nil, respectively, in 2015).

For performing loans with revolving terms, the incurred and future credit marks are amortized into net interest income on a straight-line basis over the contractual terms of the loans. The impact on net interest income of such amortization for the year ended October 31, 2017 was $4 million ($5 million in 2016 and $15 million in 2015).

As performing loans are repaid, the related unamortized credit mark remaining is recorded as net interest income during the period in which the payments are received. The impact on net interest income of such repayments for the year ended October 31, 2017 was $39 million ($41 million in 2016 and $62 million in 2015).

For all performing loans, the interest rate premium is amortized into net interest income over the expected life of the loan using the effective interest rate method. The impact to net interest income of amortization and repayments for the year ended October 31, 2017 was an expense of $40 million ($53 million in 2016 and $51 million in 2015).

Actual specific provisions for credit losses related to these performing loans are recorded as they arise in a manner that is consistent with our policy for loans we originate. The total specific provision for credit losses for purchased performing loans for the year ended October 31, 2017 was $72 million ($32 million in 2016 and $5 million in 2015).

As at October 31, 2017, the amount of purchased performing loans remaining on the balance sheet was $5,973 million ($9,415 million in 2016). As at October 31, 2017, the credit mark remaining on performing term loans and revolving loans was $151 million and $45 million, respectively ($226 million and $57 million in 2016). Of the total credit mark for performing loans of $196 million, $110 million represents the credit mark that will be amortized over the remaining life of the portfolio. The remaining balance of $86 million represents the incurred credit mark and will be remeasured each reporting period.

*Purchased Credit Impaired Loans*

Subsequent to the acquisition date, we regularly re-evaluate the cash flows we expect to collect on the PCI loans. Increases in expected cash flows result in a recovery in the specific provision for credit losses and either a reduction in any previously recorded allowance for credit losses or, if no allowance exists, an increase in the current carrying value of the PCI loans. Decreases in expected cash flows will result in a charge to the specific provision for credit losses and an increase in the allowance for credit losses. The impact of these evaluations for the year ended October 31, 2017 was a $1 million recovery in the specific provision for credit losses ($58 million recovery in 2016 and $86 million recovery in 2015).

As at October 31, 2017, the amount of PCI loans remaining on the balance sheet was $187 million ($275 million in 2016). As at October 31, 2017, the remaining credit mark related to PCI loans was $nil ($3 million in 2016).

### FDIC Covered Loans

Certain acquired loans are subject to a loss share agreement with the Federal Deposit Insurance Corporation (“FDIC”). Under this agreement, the FDIC reimburses us for 80% of the net losses we incur on the covered loans.

We recorded net provisions of $2 million for the year ended October 31, 2017 (net recoveries of $25 million in 2016 and net provisions of $36 million in 2015). These amounts are net of the amounts expected to be reimbursed by the FDIC.

## Note 5: Risk Management

We have an enterprise-wide approach to the identification, measurement, monitoring and control of risks faced across our organization. The key risks related to our financial instruments are classified as credit and counterparty, market, and liquidity and funding risk.

### Credit and Counterparty Risk

Credit and counterparty risk is the potential for loss due to the failure of a borrower, endorser, guarantor or counterparty to repay a loan or honour another predetermined financial obligation. Credit risk arises predominantly with respect to loans, over-the-counter and centrally cleared derivatives and other credit instruments. This is the most significant measurable risk that we face.

Our risk management practices and key measures are disclosed in the text and tables presented in a blue-tinted font in the Enterprise-Wide Risk Management section of Management’s Discussion and Analysis on pages 86 to 90 of this report. Additional information on credit risk related to loans and derivatives is disclosed in Notes 4 and 8, respectively.

### Market Risk

Market risk is the potential for adverse changes in the value of our assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity and commodity prices and their implied volatilities, and credit spreads, and includes the risk of credit migration and default in our trading book. We incur market risk in our trading and underwriting activities and in the management of structural market risk in our banking and insurance activities.

Our market risk management practices and key measures are disclosed in the text and tables presented in a blue-tinted font in the Enterprise-Wide Risk Management section of Management’s Discussion and Analysis on pages 94 to 98 of this report.

### Liquidity and Funding Risk

Liquidity and funding risk is the potential for loss if we are unable to meet our financial commitments in a timely manner at reasonable prices as they become due. It is our policy to ensure that sufficient liquid assets and funding capacity are available to meet financial commitments, including liabilities to depositors and suppliers, and lending, investment and pledging commitments, even in times of stress. Managing liquidity and funding risk is essential to maintaining a safe and sound enterprise, depositor confidence and earnings stability.

Our liquidity and funding risk management practices and key measures are disclosed in the text presented in a blue-tinted font in the Enterprise-Wide Risk Management section of Management’s Discussion and Analysis on pages 99 to 103 of this report.

# Note 6: Transfer of Assets

## Loan Securitization

We sell Canadian mortgage loans to third-party Canadian securitization programs, including the Canada Mortgage Bond program, and directly to third-party investors under the National Housing Act Mortgage-Backed Securities program and under our own program. We assess whether substantially all of the risks and rewards of the loans have been transferred to determine if they qualify for derecognition.

Under these programs, we are entitled to the payment over time of the excess of the sum of interest and fees collected from customers, in connection with the loans that were sold, over the yield paid to investors, less credit losses and other costs. Since we continue to be exposed to substantially all of the prepayment, interest rate and/or credit risk associated with the securitized loans, they do not qualify for derecognition. We continue to recognize the loans and the related cash proceeds as secured financing in our Consolidated Balance Sheet. The interest and fees collected, net of the yield paid to investors, is recorded in net interest income using the effective interest method over the term of the securitization. Credit losses associated with the loans are recorded in the provision for credit losses. During the year ended October 31, 2017, we sold $8,707 million of mortgage loans to these programs ($6,803 million in 2016).

The following table presents the carrying amount and fair value of transferred assets that did not qualify for derecognition and the associated liabilities:

| (Canadian $ in millions) | 2017 | | | 2016 | | |
|---|---|---|---|---|---|---|
| | **Carrying amount of assets** | **Fair value of assets** | **Associated liabilities** | Carrying amount of assets | Fair value of assets | Associated liabilities |
| Residential mortgages | **4,797** | | | 5,534 | | |
| Other related assets (1) | **12,091** | | | 11,689 | | |
| Total | **16,888** | **16,847** | **16,621** | 17,223 | 17,318 | 16,880 |

(1) Other related assets represent payments received on account of loans pledged under securitization programs that have not yet been applied against the associated liabilities. The payments received are held on behalf of the investors in the securitization vehicles until principal payments are required to be made on the associated liabilities. In order to compare all assets supporting the associated liabilities, this amount is added to the carrying value of the securitized assets in the table above.

## Securities Lent or Sold Under Repurchase Agreements

Securities lent or sold under repurchase agreements represent short-term funding transactions in which we sell securities that we own and simultaneously commit to repurchase the same securities at a specified price on a specified date in the future. We retain substantially all of the risks and rewards associated with the securities and we continue to recognize them in our Consolidated Balance Sheet, with the obligation to repurchase these securities recorded as secured borrowing transactions at the amount owing. The interest expense related to these liabilities is recorded on an accrual basis. Additional information on securities lent or sold under repurchase agreements is provided in Note 14.

# Note 7: Structured Entities

We enter into certain transactions in the ordinary course of business which involve the establishment of structured entities ("SEs") to facilitate or secure customer transactions and to obtain alternate sources of funding. We are required to consolidate a SE if we control the entity. We control a SE when we have power over the SE, exposure to variable returns as a result of our involvement, and the ability to exercise power to affect the amount of our returns.

In assessing whether we control a SE, we consider the entire arrangement to determine the purpose and design of the SE, the nature of any rights held through contractual arrangements and whether we are acting as a principal or agent.

We perform a re-assessment of consolidation if facts and circumstances indicate that there have been changes to one or more of the elements of control over the SE. See Note 1 for more information on our basis of consolidation.

## Consolidated Structured Entities

*Bank Securitization Vehicles*

We use securitization vehicles to securitize our Canadian credit card loans, Canadian real estate lines of credit and Canadian auto loans in order to obtain alternate sources of funding. The structure of these vehicles limits the activities they can undertake and the types of assets they can hold, and the vehicles have limited decision-making authority. The vehicles issue term asset-backed securities to fund their activities. We control and consolidate these vehicles, as we have the key decision-making powers necessary to obtain the majority of the benefits of their activities.

The following table presents the carrying amount and fair value of transferred assets that did not qualify for derecognition and the associated liabilities issued by our bank securitization vehicles:

| (Canadian $ in millions) | 2017 | | | 2016 | | |
|---|---|---|---|---|---|---|
| | **Carrying amount of assets** | **Fair value of assets** | **Associated liabilities** | Carrying amount of assets | Fair value of assets | Associated liabilities |
| Credit card receivables | **7,292** | **7,292** | **4,115** | 7,210 | 7,210 | 4,324 |
| Consumer instalment and other personal (1) | **5,699** | **5,695** | **2,295** | 5,564 | 5,566 | 797 |
| Total | **12,991** | **12,987** | **6,410** | 12,774 | 12,776 | 5,121 |

(1) Includes Canadian real estate lines of credit and Canadian auto loans.

*U.S. Customer Securitization Vehicle*

We sponsor a customer securitization vehicle (also referred to as a bank-sponsored multi-seller conduit) that provides our customers with alternate sources of funding through the securitization of their assets. This vehicle provides clients with access to financing in the asset-backed commercial paper ("ABCP") markets by allowing them to either sell or transfer a direct or indirect interest in their assets to the vehicle, which then issues ABCP to

investors to fund the purchases. We do not sell assets to the customer securitization vehicle. We earn fees for providing services related to the securitizations, including liquidity, distribution and financial arrangement fees for supporting the ongoing operations of the vehicle. We have determined that we control and therefore consolidate this vehicle, as we are exposed to its variable returns and we have the key decision-making powers necessary to affect the amount of those returns in our capacity as liquidity provider and servicing agent.

We provide committed liquidity support facilities to this vehicle which may require that we provide additional financing to the vehicle in the event that certain events occur. The total committed undrawn amount under these facilities at October 31, 2017 was $6,765 million ($6,314 million at October 31, 2016).

*Capital and Funding Vehicles*

Capital and funding vehicles are created to issue notes or capital trust securities or to guarantee payments due to bondholders on bonds issued by us. These vehicles may purchase notes issued by us, or we may sell assets to the vehicles in exchange for promissory notes.

We may also use capital vehicles to transfer our credit exposure on certain corporate loan assets. We purchase credit protection against eligible credit events from these vehicles which they fund through the issuance of credit-linked notes. Loan assets are not sold or assigned to the vehicles and remain on our Consolidated Balance Sheet. As at October 31, 2017, $318 million of credit-linked notes issued by these vehicles were included in deposits in our Consolidated Balance Sheet ($nil at October 31, 2016).

For those vehicles that purchase assets from us or are designed to pass on our credit risk, we have determined that based on the rights of the arrangements or through our equity interest we have significant exposure to the variable returns of the vehicles, and we control and therefore consolidate these vehicles. During 2016, all of the capital trust securities issued by one of these vehicles were redeemed. Additional information related to capital trust securities is provided in Note 16.

*Credit Protection Vehicle*

We sponsored a credit protection vehicle which provided credit protection to investors on investments in corporate debt portfolios through credit default swaps. We entered into credit default swaps with swap counterparties and offsetting swaps with the vehicle. We controlled and consolidated the vehicle. In September 2016, the vehicle redeemed all of its outstanding medium-term notes and the credit default swaps matured. There is no remaining activity in this vehicle.

## Unconsolidated Structured Entities

The table below presents amounts related to our interests in unconsolidated SEs:

| (Canadian $ in millions) | 2017 | | | 2016 | | |
|---|---|---|---|---|---|---|
| | **Capital and funding vehicles** | **Canadian customer securitization vehicles** (1) | **Structured finance vehicles** | Capital and funding vehicles | Canadian customer securitization vehicles (1) | Structured finance vehicles |
| **Interests recorded on the balance sheet** | | | | | | |
| Cash and cash equivalents | **8** | **50** | **–** | 11 | 53 | – |
| Trading securities | **–** | **6** | **209** | – | 14 | 1,056 |
| Available-for-sale securities | **2** | **725** | **–** | 2 | 643 | – |
| Loans | **7** | **–** | **–** | – | – | – |
| Other | **–** | **6** | **–** | 12 | 6 | – |
| | **17** | **787** | **209** | 25 | 716 | 1,056 |
| Deposits | **460** | **50** | **146** | 1,265 | 53 | 879 |
| Derivatives | **–** | **–** | **63** | – | – | 135 |
| Other | **16** | **–** | **–** | 21 | – | – |
| | **476** | **50** | **209** | 1,286 | 53 | 1,014 |
| **Exposure to loss** (2) | **57** | **6,425** | **209** | 57 | 6,796 | 1,056 |
| **Total assets of the entities** | **476** | **4,592** | **209** | 1,285 | 5,131 | 1,056 |

(1) Securities held that are issued by our Canadian customer securitization vehicles are comprised of asset-backed commercial paper and are classified as trading securities and available-for-sale securities. All assets held by these vehicles relate to assets in Canada.

(2) Exposure to loss represents securities held, undrawn liquidity facilities, total committed amounts of the BMO funded vehicle and derivative assets.

*Capital and Funding Vehicles*

Certain of our capital and funding vehicles purchase notes issued by us as their underlying assets. In these situations, we are not exposed to significant default or credit risk. Our remaining exposure to variable returns is less than that of the note holders, who are exposed to our default and credit risk. We are not required to consolidate these vehicles.

*Canadian Customer Securitization Vehicles*

We sponsor customer securitization vehicles (also referred to as bank-sponsored multi-seller conduits) that provide our customers with alternate sources of funding through the securitization of their assets. These vehicles provide clients with access to financing either directly from BMO or in the ABCP markets by allowing them either to sell or transfer a direct or indirect interest in their assets to the vehicles, which then issue ABCP to investors or BMO to fund the purchases. We do not sell assets to the customer securitization vehicles. We earn fees for providing services related to the securitizations, including liquidity, distribution and financial arrangement fees for supporting the ongoing operations of the vehicles. We have determined that we do not control these entities, as their key relevant activity, the servicing of program assets, does not reside with us.

We provide liquidity facilities to the vehicles that issue ABCP to investors which may require that we provide additional financing to the vehicles in the event that certain events occur. The total committed and undrawn amount under these liquidity facilities and any undrawn amounts of the BMO funded vehicle at October 31, 2017 was $5,688 million ($6,134 million at October 31, 2016).

*Structured Finance Vehicles*
We facilitate development of investment products by third parties, including mutual funds, unit investment trusts and other investment funds that are sold to retail investors. We enter into derivative contracts with these third parties to provide investors with their desired exposure, and we hedge our exposure related to these derivative contracts by investing in other funds through SEs. We are not required to consolidate these vehicles.

*Compensation Trusts*
We sponsor various share ownership arrangements, certain of which are administered through trusts. Generally these arrangements permit employees to purchase bank common shares.

For our largest plan, employees can direct a portion of their gross salary toward the purchase of our common shares and we match 50% of employees' contributions up to 6% of their individual gross salary to a maximum of $100,000. Our matching contributions are paid into trusts, which purchase our common shares on the open market for distribution to employees once those employees are entitled to the shares under the terms of the plan. We are not required to consolidate our compensation trusts. These trusts are not included in the table above, as we have no interest in the trusts.

Total assets held under our share ownership arrangements amounted to $1,805 million as at October 31, 2017 ($1,616 million in 2016).

*BMO Managed Funds*
We have established a number of funds that we also manage. We assess whether or not we control these funds based on the economic interest we have in the funds, including investments in the funds and management fees earned from the funds, and any investors' rights to remove us as investment manager. Based on our assessment, we have determined that we do not control these funds. Our total interest in unconsolidated BMO managed funds was $774 million at October 31, 2017 ($798 million in 2016), which is included in securities in our Consolidated Balance Sheet.

*Non-BMO Managed Funds*
We purchase and hold units of non-BMO managed funds for investment and other purposes. We are considered to have an interest in these funds through our holding of units, and because we may act as counterparty in certain derivative contracts or other interests. These activities do not constitute control, and as a result our interests in these funds are not consolidated. Our total interest in non-BMO managed funds was $1,426 million at October 31, 2017 ($2,525 million in 2016), which is included in securities in our Consolidated Balance Sheet.

### Other Structured Entities
We may be deemed to be the sponsor of a SE if we are involved in the design, legal set-up or marketing of the SE. We may also be deemed to be the sponsor of a SE if market participants would reasonably associate the entity with us. We do not have an interest in certain SEs that we have sponsored.

## Note 8: Derivative Instruments

Derivative instruments are financial contracts that derive their value from underlying changes in interest rates, foreign exchange rates or other financial or commodity prices or indices.

Derivative instruments are either regulated exchange-traded contracts or negotiated over-the-counter contracts. We use these instruments for trading purposes, as well as to manage our exposures, mainly to foreign currency and interest rate fluctuations, as part of our asset/liability management program.

### Types of Derivatives
*Swaps*
Swaps are contractual agreements between two parties to exchange a series of cash flows. The various swap agreements that we enter into are as follows:

- Interest rate swaps – counterparties generally exchange fixed and floating rate interest payments based on the notional value in a single currency.
- Cross-currency swaps – fixed rate interest payments and principal amounts are exchanged in different currencies.
- Cross-currency interest rate swaps – fixed and/or floating rate interest payments and principal amounts are exchanged in different currencies.
- Commodity swaps – counterparties generally exchange fixed and floating rate payments based on a notional value of a single commodity.
- Equity swaps – counterparties exchange the return on an equity security or a group of equity securities for a return based on a fixed or floating interest rate or the return on another equity security or group of equity securities.
- Credit default swaps – one counterparty pays the other a fee in exchange for that other counterparty agreeing to make a payment if a credit event occurs, such as bankruptcy or failure to pay.
- Total return swaps – one counterparty agrees to pay or receive from the other cash amounts based on changes in the value of a reference asset or group of assets, including any returns such as interest earned on these assets, in exchange for amounts that are based on prevailing market funding rates.

*Forwards and Futures*
Forwards and futures are contractual agreements to either buy or sell a specified amount of a currency, commodity, interest-rate-sensitive financial instrument or security at a specified price and date in the future.

Forwards are customized contracts transacted in the over-the-counter market. Futures are transacted in standardized amounts on regulated exchanges and are subject to daily cash margining.

*Options*
Options are contractual agreements that convey to the purchaser the right but not the obligation to either buy or sell a specified amount of a currency, commodity, interest-rate-sensitive financial instrument or security at a fixed future date or at any time within a fixed future period.

For options written by us, we receive a premium from the purchaser for accepting market risk.

For options purchased by us, we pay a premium for the right to exercise the option. Since we have no obligation to exercise the option, our primary exposure to risk is the potential credit risk if the writer of an over-the-counter contract fails to meet the terms of the contract.

Caps, collars and floors are specialized types of written and purchased options. They are contractual agreements in which the writer agrees to pay the purchaser, based on a specified notional amount, the difference between the market rate and the prescribed rate of the cap, collar or floor. The writer receives a premium for selling this instrument.

A swaption is an option that conveys to the purchaser the right but not the obligation to enter into an underlying swap.

A future option is an option contract in which the underlying instrument is a single futures contract.

The main risks associated with these derivative instruments are related to exposure to movements in interest rates, foreign exchange rates, credit quality, value of the underlying financial instrument or commodity, as applicable, and the possible inability of counterparties to meet the terms of the contracts.

## Risks Hedged

*Interest Rate Risk*

We manage interest rate risk through bonds, interest rate futures, interest rate swaps and options, which are linked to and adjust the interest rate sensitivity of a specific asset, liability, forecasted transaction or firm commitment, or a specific pool of transactions with similar risk characteristics.

*Foreign Currency Risk*

We manage foreign currency risk through currency futures, foreign currency options, cross-currency swaps, spot foreign exchange and forward contracts.

## Trading Derivatives

Trading derivatives include derivatives entered into with customers to accommodate their risk management needs, market-making to facilitate customer-driven demand for derivatives, derivatives transacted on a limited basis to generate trading income from our principal trading positions and certain derivatives that are executed as part of our risk management strategy that do not qualify as hedges for accounting purposes (“economic hedges”).

We structure and market derivative products to enable customers to transfer, modify or reduce current or expected risks.

Principal trading activities include market-making and positioning activities. Market-making involves quoting bid and offer prices to other market participants with the intention of generating revenues based on spread and volume. Positioning activities involve managing market risk positions with the expectation of profiting from favourable movements in prices, rates or indices.

Trading derivatives are recorded at fair value. Realized and unrealized gains and losses are recorded in trading revenues in our Consolidated Statement of Income. Unrealized gains on trading derivatives are recorded as derivative instrument assets and unrealized losses are recorded as derivative instrument liabilities in our Consolidated Balance Sheet.

We may also economically hedge a portion of our U.S. dollar earnings through forward foreign exchange contracts and/or options to minimize fluctuations in our consolidated net income due to the translation of our U.S. dollar earnings. These contracts are recorded at fair value, with changes in fair value recorded in non-interest revenue, trading revenues, in our Consolidated Statement of Income.

## Hedging Derivatives

In accordance with our risk management strategy, we enter into various derivative contracts to hedge our interest rate and foreign currency exposures. To the extent these derivative instruments qualify for hedge accounting requirements, we designate them in accounting hedge relationships.

In order for a derivative instrument to qualify as an accounting hedge, the hedging relationship must be designated and formally documented at its inception, detailing the particular risk management objective and strategy for the hedge and the specific asset, liability or cash flow being hedged, as well as how its effectiveness is being assessed. Changes in the fair value of the derivative must be highly effective in offsetting changes either in the fair value or changes in the amount of future cash flows of the hedged item.

Hedge effectiveness is evaluated at the inception of the hedging relationship and on an ongoing basis, retrospectively and prospectively, primarily using quantitative statistical measures of correlation. Any ineffectiveness in the hedging relationship is recognized as it arises in non-interest revenue, other, in our Consolidated Statement of Income.

*Cash Flow Hedges*

Cash flow hedges modify exposure to variability in cash flows for variable interest rate bearing instruments, foreign currency denominated assets and liabilities and certain cash-settled share-based payment grants subject to equity price risk. Variable interest rate bearing instruments include floating rate loans and deposits. Our cash flow hedges have a maximum remaining term to maturity of 18 years.

We record interest that we pay or receive on these cash flow hedge derivatives as an adjustment to net interest income in our Consolidated Statement of Income over the life of the hedge.

To the extent that changes in the fair value of the derivative offset changes in the fair value of the hedged item, they are recorded in other comprehensive income. The excess of the change in fair value of the derivative that does not offset changes in the fair value of the hedged item is recorded directly in non-interest revenue, other, in our Consolidated Statement of Income.

For cash flow hedges that are discontinued before the end of the original hedge term, the cumulative unrealized gain or loss recorded in other comprehensive income is amortized to our Consolidated Statement of Income in net interest income for interest rate swaps and in employee compensation for total return swaps as the hedged item is recorded in earnings. If the hedged item is sold or settled, the entire unrealized gain or loss is recognized immediately in net interest income in our Consolidated Statement of Income.

The amount of unrealized gains that we expect to reclassify to our Consolidated Statement of Income over the next 12 months is $84 million ($62 million after tax). This will adjust the interest income and interest expense recorded on assets and liabilities and employee compensation expense that were hedged.

The following table presents the impact of cash flow hedges on our financial results:

(Canadian $ in millions)

| Contract type | Fair value gains (losses) recorded in other comprehensive income | Pre-tax gains (losses) recorded in income: Fair value change recorded in non-interest revenue – other | Pre-tax gains (losses) recorded in income: Reclassification of gains on designated hedges from other comprehensive income to net income |
|---|---|---|---|
| **2017** | | | |
| Interest rate | **(1,158)** | **(7)** | **124** |
| Foreign exchange (1) | **(100)** | **–** | **na** |
| Share-based payment awards | **97** | **–** | **64** |
| Total | **(1,161)** | **(7)** | **188** |
| 2016 | | | |
| Interest rate | 39 | (4) | 127 |
| Foreign exchange (1) | (124) | (2) | na |
| Share-based payment awards | 63 | – | 18 |
| Total | (22) | (6) | 145 |
| 2015 | | | |
| Interest rate | 697 | 2 | 119 |
| Foreign exchange (1) | 33 | 1 | na |
| Share-based payment awards | (14) | – | (8) |
| Total | 716 | 3 | 111 |

(1) Amortization of spot forward differential on foreign exchange contracts of $270 million loss for the year ended October 31, 2017 ($161 million loss in 2016 and $40 million loss in 2015) was transferred from other comprehensive income to interest expense in our Consolidated Statement of Income.
na – not applicable

*Fair Value Hedges*
Fair value hedges modify exposure to changes in a fixed rate instrument's fair value caused by changes in interest rates. These hedges economically convert fixed rate assets and liabilities to floating rate. Our fair value hedges include hedges of fixed rate securities, loans, deposits, subordinated debt and other liabilities.

We record interest receivable or payable on these derivatives as an adjustment to net interest income in our Consolidated Statement of Income over the life of the hedge.

For fair value hedges, the hedging derivative is recorded at fair value and any fixed rate assets and liabilities that are part of a hedging relationship are adjusted for the changes in value of the risk being hedged. To the extent that a change in the fair value of the derivative does not offset changes in the fair value of the hedged item, the net amount is recorded directly in non-interest revenue, other, in our Consolidated Statement of Income.

For fair value hedges that are discontinued, we cease adjusting the hedged item to fair value. The cumulative fair value adjustment of the hedged item is then amortized to net interest income over its remaining term to maturity. If the hedged item is sold or settled, the cumulative fair value adjustment is included in the determination of the gain or loss on sale or settlement.

The following table presents the impact of fair value hedges on our financial results.

(Canadian $ in millions)

| Contract type | | Amount of gain (loss) on hedging derivatives (1) | Pre-tax gains (losses) recorded in income: Fair value hedge adjustment (2) | Pre-tax gains (losses) recorded in income: Hedge ineffectiveness recorded in non-interest revenue – other |
|---|---|---|---|---|
| Interest rate contracts – | **2017** | **(200)** | **193** | **(7)** |
| | 2016 | (77) | 72 | (5) |
| | 2015 | 225 | (219) | 6 |

(1) Unrealized gains (losses) on hedging derivatives are recorded in Other assets, derivative instruments or Other liabilities, derivative instruments, in the Consolidated Balance Sheet.
(2) Unrealized gains (losses) on hedged items are recorded in Securities, available-for-sale, Subordinated debt, Deposits and Other liabilities.

*Net Investment Hedges*
Net investment hedges mitigate our exposure to foreign currency exchange rate fluctuations related to our net investment in foreign operations. Deposit liabilities denominated in foreign currencies are designated as hedges for a portion of this exposure. The foreign currency translation of our net investment in foreign operations and the corresponding hedging instrument is recorded in unrealized gains (losses) on translation of net foreign operations in other comprehensive income. To the extent that the hedging instrument is not effective, amounts are included in the Consolidated Statement of Income in foreign exchange, other than trading. There was no hedge ineffectiveness associated with net investment hedges for the years ended October 31, 2017, 2016 and 2015. We use foreign currency deposits with a term to maturity of zero to six months as hedging instruments in net investment hedges, and the fair value of such deposits was $5,629 million as at October 31, 2017 ($4,795 million in 2016).

## Embedded Derivatives

From time to time, we purchase or issue financial instruments containing embedded derivatives. The embedded derivative is separated from the host contract and carried at fair value if the economic characteristics of the derivative are not closely related to those of the host contract, the terms of the embedded derivative are the same as those of a stand-alone derivative, and the combined contract is not held for trading or designated at fair value. To the extent that we cannot reliably identify and measure the embedded derivative, the entire contract is carried at fair value, with changes in fair value reflected in income. Embedded derivatives in certain of our equity linked notes are accounted for separately from the host instrument.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## Contingent Features

Certain over-the-counter derivative instruments contain provisions that link the amount of collateral we are required to post or pay to our credit ratings (as determined by the major credit rating agencies). If our credit ratings were to be downgraded, certain counterparties to these derivative instruments could demand immediate and ongoing collateralization on derivative liability positions or request immediate payment. The aggregate fair value of all derivative instruments with collateral posting requirements that were in a liability position on October 31, 2017 was $6,006 million ($7,495 million in 2016), for which we have posted collateral of $4,223 million ($7,529 million in 2016). If our credit rating had been downgraded to A or A- on October 31, 2017 (per Standard & Poor's Ratings Services), we would have been required to post collateral or meet payment demands of an additional $100 million or $484 million, respectively ($841 million or $984 million, respectively, in 2016).

## Fair Value

Fair value represents point-in-time estimates that may change in subsequent reporting periods due to market conditions or other factors. A discussion of the fair value measurement of derivatives is included in Note 17.

Fair values of our derivative instruments are as follows:

| (Canadian $ in millions) | 2017 | | | 2016 | | |
|---|---|---|---|---|---|---|
| | **Gross assets** | **Gross liabilities** | **Net** | Gross assets | Gross liabilities | Net |
| **Trading** | | | | | | |
| **Interest Rate Contracts** | | | | | | |
| Swaps | **8,390** | **(7,027)** | **1,363** | 16,678 | (15,047) | 1,631 |
| Forward rate agreements | **41** | **–** | **41** | 61 | (2) | 59 |
| Futures | **–** | **–** | **–** | 1 | – | 1 |
| Purchased options | **444** | **–** | **444** | 555 | – | 555 |
| Written options | **–** | **(329)** | **(329)** | – | (552) | (552) |
| **Foreign Exchange Contracts** | | | | | | |
| Cross-currency swaps | **2,687** | **(1,752)** | **935** | 3,962 | (3,026) | 936 |
| Cross-currency interest rate swaps | **8,103** | **(9,051)** | **(948)** | 9,052 | (10,996) | (1,944) |
| Forward foreign exchange contracts | **4,954** | **(3,178)** | **1,776** | 4,905 | (2,468) | 2,437 |
| Purchased options | **267** | **–** | **267** | 411 | – | 411 |
| Written options | **–** | **(270)** | **(270)** | – | (450) | (450) |
| **Commodity Contracts** | | | | | | |
| Swaps | **726** | **(717)** | **9** | 723 | (647) | 76 |
| Purchased options | **352** | **–** | **352** | 496 | – | 496 |
| Written options | **–** | **(357)** | **(357)** | – | (524) | (524) |
| **Equity Contracts** | **1,388** | **(3,386)** | **(1,998)** | 901 | (2,388) | (1,487) |
| **Credit Default Swaps** | | | | | | |
| Purchased | **–** | **(54)** | **(54)** | 15 | (31) | (16) |
| Written | **7** | **(1)** | **6** | 8 | (1) | 7 |
| Total fair value – trading derivatives | **27,359** | **(26,122)** | **1,237** | 37,768 | (36,132) | 1,636 |
| **Hedging** | | | | | | |
| **Interest Rate Contracts** | | | | | | |
| Cash flow hedges – swaps | **78** | **(558)** | **(480)** | 442 | (100) | 342 |
| Fair value hedges – swaps | **274** | **(402)** | **(128)** | 327 | (453) | (126) |
| Total swaps | **352** | **(960)** | **(608)** | 769 | (553) | 216 |
| **Foreign Exchange Contracts** | | | | | | |
| Cash flow hedges | **1,202** | **(722)** | **480** | 646 | (1,539) | (893) |
| Total foreign exchange contracts | **1,202** | **(722)** | **480** | 646 | (1,539) | (893) |
| **Equity Contracts** | | | | | | |
| Cash flow hedges | **38** | **–** | **38** | – | (3) | (3) |
| Total equity contracts | **38** | **–** | **38** | – | (3) | (3) |
| Total fair value – hedging derivatives (1) | **1,592** | **(1,682)** | **(90)** | 1,415 | (2,095) | (680) |
| Total fair value – trading and hedging derivatives | **28,951** | **(27,804)** | **1,147** | 39,183 | (38,227) | 956 |
| Less: impact of master netting agreements | **(19,909)** | **19,909** | **–** | (27,538) | 27,538 | – |
| Total | **9,042** | **(7,895)** | **1,147** | 11,645 | (10,689) | 956 |

(1) The fair values of hedging derivatives wholly or partially offset the changes in fair values of the related on-balance sheet financial instruments or future cash flows.

Certain comparative figures have been reclassified to conform with the current year's presentation.

Assets are shown net of liabilities to customers where we have a legally enforceable right to offset amounts and we intend to settle contracts on a net basis.

## Notional Amounts

The notional amounts of our derivatives represent the amount to which a rate or price is applied in order to calculate the amount of cash that must be exchanged under the contract. Notional amounts do not represent assets or liabilities and therefore are not recorded in our Consolidated Balance Sheet.

| (Canadian $ in millions) | 2017 | | | | 2016 | | | |
|---|---|---|---|---|---|---|---|---|
| | | Hedging | | | | Hedging | | |
| | Trading | Cash flow | Fair value | Total | Trading | Cash flow | Fair value | Total |
| **Interest Rate Contracts** | | | | | | | | |
| Over-the-counter | | | | | | | | |
| Swaps | **3,073,490** | **61,730** | **67,145** | **3,202,365** | 2,596,259 | 60,793 | 69,649 | 2,726,701 |
| Forward rate agreements | **195,142** | **–** | **–** | **195,142** | 430,507 | – | – | 430,507 |
| Purchased options | **29,107** | **–** | **–** | **29,107** | 29,508 | – | – | 29,508 |
| Written options | **37,247** | **–** | **–** | **37,247** | 43,921 | – | – | 43,921 |
| | **3,334,986** | **61,730** | **67,145** | **3,463,861** | 3,100,195 | 60,793 | 69,649 | 3,230,637 |
| Exchange-traded | | | | | | | | |
| Futures | **89,053** | **–** | **–** | **89,053** | 133,864 | – | – | 133,864 |
| Purchased options | **10,407** | **–** | **–** | **10,407** | 30,849 | – | – | 30,849 |
| Written options | **9,284** | **–** | **–** | **9,284** | 30,821 | – | – | 30,821 |
| | **108,744** | **–** | **–** | **108,744** | 195,534 | – | – | 195,534 |
| Total interest rate contracts | **3,443,730** | **61,730** | **67,145** | **3,572,605** | 3,295,729 | 60,793 | 69,649 | 3,426,171 |
| **Foreign Exchange Contracts** | | | | | | | | |
| Over-the-counter | | | | | | | | |
| Cross-currency swaps | **50,534** | **35,052** | **–** | **85,586** | 58,488 | 30,866 | – | 89,354 |
| Cross-currency interest rate swaps | **430,808** | **3,402** | **–** | **434,210** | 382,525 | 141 | – | 382,666 |
| Forward foreign exchange contracts | **392,924** | **9,784** | **–** | **402,708** | 397,272 | 11,917 | – | 409,189 |
| Purchased options | **23,812** | **–** | **–** | **23,812** | 29,876 | – | – | 29,876 |
| Written options | **29,101** | **–** | **–** | **29,101** | 30,405 | – | – | 30,405 |
| | **927,179** | **48,238** | **–** | **975,417** | 898,566 | 42,924 | – | 941,490 |
| Exchange-traded | | | | | | | | |
| Futures | **794** | **–** | **–** | **794** | 356 | – | – | 356 |
| Purchased options | **6,001** | **–** | **–** | **6,001** | 2,846 | – | – | 2,846 |
| Written options | **1,249** | **–** | **–** | **1,249** | 1,441 | – | – | 1,441 |
| | **8,044** | **–** | **–** | **8,044** | 4,643 | – | – | 4,643 |
| Total foreign exchange contracts | **935,223** | **48,238** | **–** | **983,461** | 903,209 | 42,924 | – | 946,133 |
| **Commodity Contracts** | | | | | | | | |
| Over-the-counter | | | | | | | | |
| Swaps | **18,713** | **–** | **–** | **18,713** | 13,603 | – | – | 13,603 |
| Purchased options | **7,080** | **–** | **–** | **7,080** | 6,828 | – | – | 6,828 |
| Written options | **4,905** | **–** | **–** | **4,905** | 4,672 | – | – | 4,672 |
| | **30,698** | **–** | **–** | **30,698** | 25,103 | – | – | 25,103 |
| Exchange-traded | | | | | | | | |
| Futures | **28,139** | **–** | **–** | **28,139** | 24,232 | – | – | 24,232 |
| Purchased options | **5,031** | **–** | **–** | **5,031** | 6,048 | – | – | 6,048 |
| Written options | **6,896** | **–** | **–** | **6,896** | 8,159 | – | – | 8,159 |
| | **40,066** | **–** | **–** | **40,066** | 38,439 | – | – | 38,439 |
| Total commodity contracts | **70,764** | **–** | **–** | **70,764** | 63,542 | – | – | 63,542 |
| **Equity Contracts** | | | | | | | | |
| Over-the-counter | **63,184** | **344** | **–** | **63,528** | 57,994 | 319 | – | 58,313 |
| Exchange-traded | **14,253** | **–** | **–** | **14,253** | 7,835 | – | – | 7,835 |
| Total equity contracts | **77,437** | **344** | **–** | **77,781** | 65,829 | 319 | – | 66,148 |
| **Credit Default Swaps** | | | | | | | | |
| Over-the-counter purchased | **2,658** | **–** | **–** | **2,658** | 3,033 | – | – | 3,033 |
| Over-the-counter written | **448** | **–** | **–** | **448** | 981 | – | – | 981 |
| Total credit default swaps | **3,106** | **–** | **–** | **3,106** | 4,014 | – | – | 4,014 |
| Total | **4,530,260** | **110,312** | **67,145** | **4,707,717** | 4,332,323 | 104,036 | 69,649 | 4,506,008 |

Certain comparative figures have been reclassified to conform with the current year's presentation.

## Derivative-Related Market Risk

Derivative instruments are subject to market risk. Market risk arises from the potential for a negative impact on the balance sheet and/or statement of income due to adverse changes in the value of derivative instruments as a result of changes in certain market variables. These variables include interest rates, foreign exchange rates, equity and commodity prices and their implied volatilities, as well as credit spreads, credit migration and default. We strive to limit market risk by employing comprehensive governance and management processes for all market risk-taking activities.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## Derivative-Related Credit Risk

Over-the-counter derivative instruments are subject to credit risk arising from the possibility that counterparties may default on their obligations. The credit risk associated with a derivative is normally a small fraction of the notional amount of the derivative instrument. Derivative contracts generally expose us to potential credit loss if changes in market rates affect a counterparty's position unfavourably and the counterparty defaults on payment. The credit risk is represented by the positive fair value of the derivative instrument. We strive to limit credit risk by dealing with counterparties that we believe are creditworthy, and we manage our credit risk for derivatives using the same credit risk process that is applied to loans and other credit assets.

We also pursue opportunities to reduce our exposure to credit losses on derivative instruments, including through collateral and by entering into master netting agreements with counterparties. The credit risk associated with favourable contracts is mitigated by legally enforceable master netting agreements to the extent that unfavourable contracts with the same counterparty must be settled concurrently with favourable contracts.

Exchange-traded derivatives have limited potential for credit exposure, as they are settled net daily with each exchange.

Terms used in the credit risk table below are as follows:

**Replacement cost** represents the cost of replacing all contracts that have a positive fair value, determined using current market rates. It represents in effect the unrealized gains on our derivative instruments. Replacement costs disclosed below represent the net of the asset and liability to a specific counterparty where we have a legally enforceable right to offset the amount owed to us with the amount owed by us and we intend either to settle on a net basis or to realize the asset and settle the liability simultaneously.

**Credit risk equivalent** represents the total replacement cost plus an amount representing the potential future credit exposure, as outlined in OSFI's Capital Adequacy Guideline.

**Risk-weighted assets** represent the credit risk equivalent, weighted on the basis of the creditworthiness of the counterparty, and considering collateral, netting and other credit risk mitigants, as prescribed by OSFI.

| (Canadian $ in millions) | 2017 | | | 2016 | | |
|---|---|---|---|---|---|---|
| | **Replacement cost** | **Credit risk equivalent** | **Risk-weighted assets** | Replacement cost | Credit risk equivalent | Risk-weighted assets |
| **Interest Rate Contracts** | | | | | | |
| Swaps | **8,742** | **11,603** | **–** | 17,447 | 20,506 | – |
| Forward rate agreements | **41** | **42** | **–** | 61 | 61 | – |
| Purchased options | **440** | **381** | **–** | 551 | 589 | – |
| Total interest rate contracts | **9,223** | **12,026** | **1,537** | 18,059 | 21,156 | 1,345 |
| **Foreign Exchange Contracts** | | | | | | |
| Cross-currency swaps | **3,727** | **8,345** | **–** | 4,351 | 8,959 | – |
| Cross-currency interest rate swaps | **8,157** | **17,210** | **–** | 9,054 | 17,386 | – |
| Forward foreign exchange contracts | **5,062** | **8,389** | **–** | 5,160 | 8,806 | – |
| Purchased options | **250** | **420** | **–** | 380 | 586 | – |
| Total foreign exchange contracts | **17,196** | **34,364** | **2,701** | 18,945 | 35,737 | 2,444 |
| **Commodity Contracts** | | | | | | |
| Swaps | **726** | **2,971** | **–** | 723 | 2,389 | – |
| Purchased options | **120** | **1,034** | **–** | 91 | 1,135 | – |
| Total commodity contracts | **846** | **4,005** | **971** | 814 | 3,524 | 670 |
| **Equity Contracts** | **1,322** | **4,750** | **461** | 713 | 4,180 | 347 |
| **Credit Default Swaps** | **7** | **46** | **27** | 23 | 92 | 13 |
| Total derivatives | **28,594** | **55,191** | **5,697** | 38,554 | 64,689 | 4,819 |
| Less: impact of master netting agreements | **(19,909)** | **(33,025)** | **–** | (27,538) | (42,248) | – |
| Total | **8,685** | **22,166** | **5,697** | 11,016 | 22,441 | 4,819 |

The total derivatives and the impact of master netting agreements for replacement cost do not include exchange-traded derivatives with a fair value of $357 million as at October 31, 2017 ($629 million in 2016).

Transactions are conducted with counterparties in various geographic locations and industry sectors. Set out below is the replacement cost of contracts with customers located in the following countries, based on country of ultimate risk:

| (Canadian $ in millions, except as noted) | Before master netting agreements | | | | After master netting agreements | | | |
|---|---|---|---|---|---|---|---|---|
| | **2017** | | 2016 | | **2017** | | 2016 | |
| Canada | **15,447** | **54** | 20,472 | 53 | **5,045** | **58** | 6,196 | 56 |
| United States | **7,149** | **25** | 8,335 | 22 | **1,940** | **22** | 2,666 | 24 |
| United Kingdom | **1,079** | **4** | 3,274 | 8 | **182** | **2** | 600 | 6 |
| Other countries (1) | **4,919** | **17** | 6,473 | 17 | **1,518** | **18** | 1,554 | 14 |
| Total | **28,594** | **100%** | 38,554 | 100% | **8,685** | **100%** | 11,016 | 100% |

(1) No other country represented 15% or more of our replacement cost in 2017 or 2016.

Transactions are conducted with various counterparties. Set out below is the replacement cost of contracts (before the impact of master netting agreements) with customers in the following industries:

| As at October 31, 2017 (Canadian $ in millions) | Interest rate contracts | Foreign exchange contracts | Commodity contracts | Equity contracts | Credit default swaps | Total |
|---|---|---|---|---|---|---|
| Financial institutions | **6,063** | **13,898** | **227** | **1,141** | **7** | **21,336** |
| Governments | **1,895** | **1,202** | **66** | **–** | **–** | **3,163** |
| Natural resources | **–** | **22** | **74** | **–** | **–** | **96** |
| Energy | **155** | **479** | **226** | **–** | **–** | **860** |
| Other | **1,110** | **1,595** | **253** | **181** | **–** | **3,139** |
| Total | **9,223** | **17,196** | **846** | **1,322** | **7** | **28,594** |

| As at October 31, 2016 (Canadian $ in millions) | Interest rate contracts | Foreign exchange contracts | Commodity contracts | Equity contracts | Credit default swaps | Total |
|---|---|---|---|---|---|---|
| Financial institutions | 12,453 | 13,319 | 235 | 631 | 23 | 26,661 |
| Governments | 3,306 | 3,038 | 51 | – | – | 6,395 |
| Natural resources | 2 | 25 | 70 | – | – | 97 |
| Energy | 261 | 690 | 128 | – | – | 1,079 |
| Other | 2,037 | 1,873 | 330 | 82 | – | 4,322 |
| Total | 18,059 | 18,945 | 814 | 713 | 23 | 38,554 |

### Term to Maturity

Our derivative contracts have varying maturity dates. The remaining contractual terms to maturity for the notional amounts of our derivative contracts are set out below:

| (Canadian $ in millions) | Term to maturity | | | | | 2017 | 2016 |
|---|---|---|---|---|---|---|---|
| | Within 1 year | 1 to 3 years | 3 to 5 years | 5 to 10 years | Over 10 years | Total notional amounts | Total notional amounts |
| **Interest Rate Contracts** | | | | | | | |
| Swaps | **1,033,126** | **583,698** | **1,055,300** | **491,160** | **39,081** | **3,202,365** | 2,726,701 |
| Forward rate agreements, futures and options | **310,472** | **44,979** | **8,110** | **6,544** | **135** | **370,240** | 699,470 |
| Total interest rate contracts | **1,343,598** | **628,677** | **1,063,410** | **497,704** | **39,216** | **3,572,605** | 3,426,171 |
| **Foreign Exchange Contracts** | | | | | | | |
| Cross-currency swaps | **5,098** | **34,290** | **23,893** | **20,096** | **2,209** | **85,586** | 89,354 |
| Cross-currency interest rate swaps | **118,739** | **146,025** | **83,859** | **71,488** | **14,099** | **434,210** | 382,666 |
| Forward foreign exchange contracts, futures and options | **454,697** | **7,649** | **1,069** | **190** | **60** | **463,665** | 474,113 |
| Total foreign exchange contracts | **578,534** | **187,964** | **108,821** | **91,774** | **16,368** | **983,461** | 946,133 |
| **Commodity Contracts** | | | | | | | |
| Swaps | **3,925** | **9,121** | **4,952** | **686** | **29** | **18,713** | 13,603 |
| Futures and options | **22,087** | **25,723** | **3,482** | **759** | **–** | **52,051** | 49,939 |
| Total commodity contracts | **26,012** | **34,844** | **8,434** | **1,445** | **29** | **70,764** | 63,542 |
| **Equity Contracts** | **66,579** | **6,307** | **2,638** | **785** | **1,472** | **77,781** | 66,148 |
| **Credit Contracts** | **567** | **871** | **1,040** | **351** | **277** | **3,106** | 4,014 |
| Total notional amount | **2,015,290** | **858,663** | **1,184,343** | **592,059** | **57,362** | **4,707,717** | 4,506,008 |

## Note 9: Premises and Equipment

We record all premises and equipment at cost less accumulated amortization, and less any accumulated impairment, except land, which is recorded at cost. Buildings, computer equipment and operating system software, other equipment and leasehold improvements are amortized on a straight-line basis over their estimated useful lives. When the major components of a building have different useful lives, they are accounted for separately and amortized over each component's estimated useful life. The maximum estimated useful lives we use to amortize our assets are as follows:

| | |
|---|---|
| Buildings | 10 to 40 years |
| Computer equipment and operating system software | 5 years |
| Other equipment | 10 years |
| Leasehold improvements | Lease term to a maximum of 10 years |

Amortization methods, useful lives and the residual values of premises and equipment are reviewed annually for any change in circumstances and are adjusted if appropriate. At each reporting period, we review whether there are any indications that premises and equipment need to be tested for impairment. If there is an indication that an asset may be impaired, we test for impairment by comparing the asset's carrying value to its recoverable amount. The recoverable amount is calculated as the higher of the value in use and the fair value less costs to sell. Value in use is the present value of the future cash flows expected to be derived from the asset. An impairment charge is recorded when the recoverable amount is less than the carrying value. There were no significant write-downs of premises and equipment due to impairment during the years ended October 31, 2017 and 2016. Gains and losses on disposal are included in non-interest expense, premises and equipment, in our Consolidated Statement of Income.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Net rent expense for premises and equipment reported in non-interest expense, premises and equipment, in our Consolidated Statement of Income for the years ended October 31, 2017, 2016 and 2015 was $501 million, $502 million and $476 million, respectively.

| (Canadian $ in millions) | 2017 | | | | | | 2016 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Land** | **Buildings** | **Computer equipment** | **Other equipment** | **Leasehold improvements** | **Total** | Land | Buildings | Computer equipment | Other equipment | Leasehold improvements | Total |
| **Cost** | | | | | | | | | | | | |
| Balance at beginning of year | **207** | **1,784** | **1,844** | **902** | **1,347** | **6,084** | 280 | 1,908 | 1,631 | 901 | 1,285 | 6,005 |
| Additions | **–** | **72** | **156** | **69** | **105** | **402** | 1 | 87 | 228 | 77 | 66 | 459 |
| Disposals (1) | **(28)** | **(95)** | **(13)** | **(13)** | **(10)** | **(159)** | (80) | (236) | (26) | (81) | (22) | (445) |
| Foreign exchange and other | **(5)** | **(35)** | **7** | **(45)** | **(13)** | **(91)** | 6 | 25 | 11 | 5 | 18 | 65 |
| Balance at end of year | **174** | **1,726** | **1,994** | **913** | **1,429** | **6,236** | 207 | 1,784 | 1,844 | 902 | 1,347 | 6,084 |
| **Accumulated Depreciation and Impairment** | | | | | | | | | | | | |
| Balance at beginning of year | **–** | **1,055** | **1,306** | **649** | **927** | **3,937** | – | 1,076 | 1,146 | 651 | 847 | 3,720 |
| Disposals (1) | **–** | **(32)** | **(11)** | **(8)** | **(8)** | **(59)** | – | (121) | (19) | (67) | (18) | (225) |
| Amortization | **–** | **63** | **185** | **49** | **94** | **391** | – | 66 | 172 | 54 | 92 | 384 |
| Foreign exchange and other | **–** | **(23)** | **(15)** | **(16)** | **(12)** | **(66)** | – | 34 | 7 | 11 | 6 | 58 |
| Balance at end of year | **–** | **1,063** | **1,465** | **674** | **1,001** | **4,203** | – | 1,055 | 1,306 | 649 | 927 | 3,937 |
| Net carrying value | **174** | **663** | **529** | **239** | **428** | **2,033** | 207 | 729 | 538 | 253 | 420 | 2,147 |

(1) Includes fully depreciated assets written off.

# Note 10: Acquisitions

The cost of an acquisition is measured at the fair value of the consideration transferred, including contingent consideration. Acquisition-related costs are recognized as an expense in the period in which they are incurred. The identifiable assets acquired and liabilities assumed and contingent consideration are measured at their fair values at the date of acquisition. Goodwill is measured as the excess of the aggregate of the consideration transferred over the net of the fair value of identifiable assets acquired and liabilities assumed. The results of operations of acquired businesses are included in our consolidated financial statements beginning on the date of acquisition.

## Greene Holcomb Fisher ("GHF")

On August 1, 2016, we completed the acquisition of the business of Greene Holcomb Fisher for cash consideration of US$53 million (CAD$69 million). The acquisition complements our existing capital markets activity in the U.S. by increasing the number of experienced mergers and acquisitions professionals and our presence in the marketplace. The acquisition was accounted for as a business combination, and the acquired business and corresponding goodwill are included in our BMO Capital Markets reporting segment.

As part of this acquisition, we acquired intangible assets of $4 million and goodwill of $65 million. The intangible assets are being amortized over a maximum of three years on a straight-line basis. Goodwill of $65 million related to this acquisition is deductible for tax purposes.

## GE Capital Transportation Finance Business ("BMO TF")

On December 1, 2015, we completed the acquisition of the net assets of the GE Capital Transportation Finance business for cash consideration of US$9.0 billion (CAD$12.1 billion).

The acquisition is consistent with our commercial banking activities in both Canada and the U.S. and has expanded our commercial customer base. The acquisition was accounted for as a business combination, and the acquired business and corresponding goodwill are included in our U.S. Personal and Commercial Banking and Canadian Personal and Commercial Banking reporting segments.

As part of this acquisition, we primarily acquired loans, assets subject to operating leases, and goodwill. We recorded a credit mark of $100 million and an interest rate premium of $41 million on the acquired loan portfolio. Additionally, we recorded a fair value adjustment of $72 million to reduce the value of assets subject to operating leases. A dealer and customer relationship intangible asset is being amortized over a 15-year period on an accelerated basis, and a technology intangible asset is being amortized over five years on a straight-line basis. Goodwill of $410 million related to this acquisition is deductible for tax purposes.

BMO TF contributed approximately 14% to revenue and expenses of U.S. Personal and Commercial Banking in 2017 (14% in 2016).

The fair values of the assets acquired and liabilities assumed at the date of acquisition are as follows:

| (Canadian $ in millions) | BMO TF | GHF |
|---|---|---|
| Loans | 10,793 | – |
| Goodwill | 410 | 65 |
| Intangible assets | 63 | 4 |
| Other assets | 1,087 | – |
| Total assets | 12,353 | 69 |
| Other liabilities | 275 | – |
| Purchase price | 12,078 | 69 |

The purchase price allocations for BMO TF and GHF have been completed.

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# Note 11: Goodwill and Intangible Assets

## Goodwill

When we complete an acquisition, we allocate the purchase price paid to the assets acquired, including identifiable intangible assets, and the liabilities assumed. Any portion of the consideration transferred that is in excess of the fair value of those net assets is considered to be goodwill. Goodwill is not amortized and is instead tested for impairment annually.

In performing the impairment test, we utilize the fair value less costs to sell for each group of CGUs based on discounted cash flow projections. Cash flows were projected for the first 10 years based on actual operating results, expected future business performance and past experience. Beyond 10 years, cash flows were assumed to grow at perpetual annual rates of up to 3% (3% in 2016). The discount rates we applied in determining the recoverable amounts in 2017 ranged from 8.3% to 12.2% (6.0% to 12.7% in 2016), and were based on our estimate of the cost of capital for each CGU. The cost of capital for each CGU was estimated using the Capital Asset Pricing Model, based on the historical betas of publicly traded peer companies that are comparable to the CGU.

There were no write-downs of goodwill due to impairment during the years ended October 31, 2017 and 2016.

The key assumptions described above may change as market and economic conditions change. However, we estimate that reasonably possible changes in these assumptions are not expected to cause recoverable amounts of our CGUs to decline below their carrying amounts.

A continuity of our goodwill by group of CGUs for the years ended October 31, 2017 and 2016 is as follows:

| (Canadian $ in millions) | Personal and Commercial Banking | | | Wealth Management | | | BMO Capital Markets | Total |
|---|---|---|---|---|---|---|---|---|
| | Canadian P&C | U.S. P&C | Total | Traditional Wealth Management | Insurance | Total | | |
| Balance – October 31, 2015 | 68 | 3,393 | 3,461 | 2,374 | 2 | 2,376 | 232 | 6,069 |
| Acquisitions (disposals) during the year | 29 | 379 | 408 | (11) | – | (11) | 65 | 462 |
| Other (1) | – | 89 | 89 | (246) | – | (246) | 7 | (150) |
| Balance – October 31, 2016 | 97 | 3,861 | 3,958 | 2,117 | 2 | 2,119 | 304 | 6,381 |
| Acquisitions (disposals) during the year | **–** | **–** | **–** | **(4)** | **–** | **(4)** | **–** | **(4)** |
| Other (1) | **–** | **(142)** | **(142)** | **24** | **–** | **24** | **(15)** | **(133)** |
| Balance – October 31, 2017 | **97** (2) | **3,719** (3) | **3,816** | **2,137** (4) | **2** (5) | **2,139** | **289** (6) | **6,244** |

(1) Other changes in goodwill included the effects of translating goodwill denominated in foreign currencies into Canadian dollars and purchase accounting adjustments related to prior-year purchases.
(2) Relates primarily to bcpbank Canada, Diners Club, Aver Media LP and GE Transportation Finance.
(3) Relates primarily to First National Bank & Trust, Ozaukee Bank, Merchants and Manufacturers Bancorporation, Inc., Diners Club, AMCORE, M&I and GE Transportation Finance.
(4) Relates to BMO Nesbitt Burns Inc., Guardian Group of Funds Ltd., Pyrford International plc, LGM Investments Limited, M&I, Harris, myCFO, Inc., Stoker Ostler Wealth Advisors, Inc., CTC Consulting LLC, AWMB and F&C Asset Management plc.
(5) Relates to AIG.
(6) Relates to Gerard Klauer Mattison, BMO Nesbitt Burns Inc., Paloma Securities L.L.C., M&I and Greene Holcomb Fisher.

## Intangible Assets

Intangible assets related to our acquisitions are initially recorded at their fair value at the acquisition date and subsequently at cost less accumulated amortization. Software is recorded at cost less accumulated amortization. Amortization expense is recorded in amortization of intangible assets in our Consolidated Statement of Income. The following table presents the changes in the balance of these intangible assets:

| (Canadian $ in millions) | Customer relationships | Core deposits | Branch distribution networks | Purchased software – amortizing | Developed software – amortizing | Software under development | Other | Total |
|---|---|---|---|---|---|---|---|---|
| Cost as at October 31, 2015 | 683 | 944 | 190 | 562 | 2,320 | 369 | 421 | 5,489 |
| Additions/disposals | – | – | – | 3 | 284 | 100 | – | 387 |
| Acquisitions | 59 | – | – | – | – | – | 8 | 67 |
| Foreign exchange and other | (38) | 24 | 4 | 203 | (183) | 7 | (64) | (47) |
| Cost as at October 31, 2016 | 704 | 968 | 194 | 768 | 2,421 | 476 | 365 | 5,896 |
| Additions/disposals | **(33)** | **–** | **–** | **22** | **524** | **(67)** | **–** | **446** |
| Foreign exchange and other | **(17)** | **(37)** | **(7)** | **(4)** | **(35)** | **(11)** | **11** | **(100)** |
| Cost as at October 31, 2017 | **654** | **931** | **187** | **786** | **2,910** | **398** | **376** | **6,242** |

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table presents the accumulated amortization of our intangible assets:

| (Canadian $ in millions) | Customer relationships | Core deposits | Branch distribution networks | Purchased software – amortizing | Developed software – amortizing | Software under development | Other | Total |
|---|---|---|---|---|---|---|---|---|
| Accumulated amortization at October 31, 2015 | 338 | 655 | 190 | 505 | 1,540 | – | 53 | 3,281 |
| Amortization | 79 | 63 | – | 32 | 251 | – | 19 | 444 |
| Foreign exchange and other | (19) | 17 | 4 | 138 | (137) | – | (10) | (7) |
| Accumulated amortization at October 31, 2016 | 398 | 735 | 194 | 675 | 1,654 | – | 62 | 3,718 |
| Amortization | **68** | **56** | **–** | **31** | **305** | **–** | **25** | **485** |
| Disposals | **(22)** | **–** | **–** | **–** | **(11)** | **–** | **–** | **(33)** |
| Foreign exchange and other | **(13)** | **(29)** | **(7)** | **(1)** | **(35)** | **–** | **(2)** | **(87)** |
| Accumulated amortization at October 31, 2017 | **431** | **762** | **187** | **705** | **1,913** | **–** | **85** | **4,083** |
| Carrying value at October 31, 2017 | **223** | **169** | **–** | **81** | **997** | **398** | **291** | **2,159** |
| Carrying value at October 31, 2016 | 306 | 233 | – | 93 | 767 | 476 | 303 | 2,178 |

Intangible assets are amortized to income over the period during which we believe the assets will benefit us, on either a straight-line or an accelerated basis, over a period not to exceed 15 years. We have $169 million as at October 31, 2017 ($162 million as at October 31, 2016) in intangible assets with indefinite lives that relate primarily to fund management contracts.

The useful lives of intangible assets are reviewed annually for any changes in circumstances. We test definite-life intangible assets for impairment when events or changes in circumstances indicate that their carrying value may not be recoverable. Indefinite-life intangible assets are tested annually for impairment. If any intangible assets are determined to be impaired, we write them down to their recoverable amount, the higher of value in use and fair value less costs to sell, when this is less than the carrying value.

There were write-downs of intangible assets of $5 million during the year ended October 31, 2017 ($nil in 2016).

# Note 12: Other Assets

## Customers' Liability under Acceptances

Acceptances represent a form of negotiable short-term debt that is issued by our customers, which we guarantee for a fee. The fees earned are recorded in lending fees in our Consolidated Statement of Income over the term of the acceptance. The amount potentially due under the acceptances is recorded in other liabilities on our Consolidated Balance Sheet. We record the bank's equivalent claim against our customers in the event of a call on these commitments in other assets on our Consolidated Balance Sheet.

## Other

The components of other within other assets are as follows:

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| Accounts receivable, prepaid expenses and other items | **8,018** | 7,862 |
| Accrued interest receivable | **1,079** | 971 |
| Due from clients, dealers and brokers | **156** | 199 |
| Insurance-related assets | **644** | 405 |
| Pension asset (Note 22) | **508** | 118 |
| Total | **10,405** | 9,555 |

# Note 13: Deposits

| | Payable on demand | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| (Canadian $ in millions) | Interest bearing | | Non-interest bearing | | Payable after notice | | Payable on a fixed date | | Total | |
| | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 | **2017** | 2016 |
| Deposits by: | | | | | | | | | | |
| Banks (1) | **818** | 450 | **1,864** | 1,415 | **3,488** | 3,448 | **24,937** | 28,958 | **31,107** | 34,271 |
| Businesses and governments | **20,621** | 17,578 | **33,968** | 35,378 | **62,584** | 60,331 | **166,897** | 162,927 | **284,070** | 276,214 |
| Individuals | **3,278** | 3,307 | **20,044** | 17,594 | **89,859** | 87,627 | **55,130** | 54,359 | **168,311** | 162,887 |
| Total (2) (3) | **24,717** | 21,335 | **55,876** | 54,387 | **155,931** | 151,406 | **246,964** | 246,244 | **483,488** | 473,372 |
| Booked in: | | | | | | | | | | |
| Canada | **21,557** | 18,937 | **44,380** | 40,037 | **82,905** | 77,800 | **145,648** | 152,894 | **294,490** | 289,668 |
| United States | **2,259** | 1,540 | **11,496** | 14,229 | **71,708** | 73,155 | **75,517** | 65,850 | **160,980** | 154,774 |
| Other countries | **901** | 858 | **–** | 121 | **1,318** | 451 | **25,799** | 27,500 | **28,018** | 28,930 |
| Total | **24,717** | 21,335 | **55,876** | 54,387 | **155,931** | 151,406 | **246,964** | 246,244 | **483,488** | 473,372 |

(1) Includes regulated and central banks.

(2) Includes structured notes designated at fair value through profit or loss.

(3) As at October 31, 2017 and 2016, total deposits payable on a fixed date included $30,419 million and $36,261 million, respectively, of federal funds purchased, commercial paper issued and other deposit liabilities. Included in deposits as at October 31, 2017 and 2016 are $239,279 million and $233,005 million, respectively, of deposits denominated in U.S. dollars, and $27,914 million and $24,097 million, respectively, of deposits denominated in other foreign currencies.

Deposits payable on demand are comprised primarily of our customers' chequing accounts, some of which we pay interest on. Our customers need not notify us prior to withdrawing money from their chequing accounts.

Deposits payable after notice are comprised primarily of our customers' savings accounts, on which we pay interest. Deposits payable on a fixed date are comprised of:

- Various investment instruments purchased by our customers to earn interest over a fixed period, such as term deposits and guaranteed investment certificates. The terms of these deposits can vary from one day to 10 years.
- Federal funds purchased, which are overnight borrowings of other banks' excess reserve funds at the United States Federal Reserve Bank. As at October 31, 2017, we had borrowed $707 million of federal funds ($906 million in 2016).
- Commercial paper, which totalled $8,430 million as at October 31, 2017 ($9,461 million in 2016).
- Covered bonds, which totalled $23,108 million as at October 31, 2017 ($19,705 million in 2016).

The following table presents the maturity schedule for our deposits payable on a fixed date:

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| Within 1 year | **145,039** | 155,548 |
| 1 to 2 years | **25,620** | 24,683 |
| 2 to 3 years | **23,323** | 20,637 |
| 3 to 4 years | **19,345** | 11,659 |
| 4 to 5 years | **15,850** | 18,005 |
| Over 5 years | **17,787** | 15,712 |
| Total (1) | **246,964** | 246,244 |

(1) Includes $221,954 million of deposits, each greater than one hundred thousand dollars, of which $130,197 million were booked in Canada, $65,963 million were booked in the United States and $25,794 million were booked in other countries ($221,957 million, $136,382 million, $58,077 million and $27,498 million, respectively, in 2016). Of the $130,197 million of deposits booked in Canada, $41,418 million mature in less than three months, $7,922 million mature in three to six months, $10,574 million mature in six to twelve months and $70,283 million mature after 12 months ($136,382 million, $54,904 million, $5,020 million, $13,737 million and $62,721 million, respectively, in 2016). We have unencumbered liquid assets of $213,757 million to support these and other deposit liabilities ($197,722 million in 2016).

Most of our structured note liabilities have been designated at fair value through profit or loss and are accounted for at fair value, which aligns the accounting result with the way the portfolio is managed. The change in fair value of these structured notes was recorded as a decrease of $72 million in non-interest revenue, trading revenues, and a decrease of $169 million before tax was recorded in other comprehensive income related to changes in our own credit spread for the year ended October 31, 2017 (a decrease of $73 million recorded in non-interest revenue, trading revenues, and a decrease of $201 million related to changes in our own credit spread in 2016). The impact of changes in our own credit spread is measured based on movements in our own credit spread year over year.

The cumulative change in fair value related to changes in our own credit spread that has been recognized since the notes were designated at fair value to October 31, 2017 was an unrealized loss of approximately $303 million (unrealized loss of approximately $134 million in 2016), of which $227 million of this unrealized loss has been recorded in other comprehensive income ($58 million in 2016).

The fair value and notional amount due at contractual maturity of these notes as at October 31, 2017 were $13,674 million and $13,563 million, respectively ($11,604 million and $11,768 million, respectively, in 2016).

# Note 14: Other Liabilities

## Acceptances

Acceptances represent a form of negotiable short-term debt that is issued by our customers, which we guarantee for a fee. The fees earned are recorded in lending fees in our Consolidated Statement of Income over the term of the acceptance. The amount potentially due under acceptances is recorded in other liabilities on our Consolidated Balance Sheet. We record the bank's equivalent claim against our customers in the event of a call on these commitments in other assets on our Consolidated Balance Sheet.

## Securities Lending and Borrowing

Securities lending and borrowing transactions are generally collateralized by securities or cash. Cash advanced or received as collateral is recorded in other assets or other liabilities, respectively. Interest earned on cash collateral is recorded in interest, dividend and fee income in our Consolidated Statement of Income, and interest expense on cash collateral is recorded in interest expense, other liabilities, in our Consolidated Statement of Income. The transfer of the securities to counterparties is only reflected in our Consolidated Balance Sheet if the risks and rewards of ownership have also been transferred. Securities borrowed are not recognized in our Consolidated Balance Sheet unless they are then sold to third parties, in which case the obligation to return the securities is recorded in Securities sold but not yet purchased at fair value, with any gains or losses recorded in non-interest revenue, trading revenues.

## Securities Sold but not yet Purchased

Securities sold but not yet purchased represent our obligations to deliver securities that we did not own at the time of sale. These obligations are recorded at their fair value. Adjustments to the fair value as at the balance sheet date and gains and losses on the settlement of these obligations are recorded in trading revenues in our Consolidated Statement of Income.

## Securities Lent or Sold Under Repurchase Agreements

Securities lent or sold under repurchase agreements represent short-term funding transactions in which we sell securities that we own and simultaneously commit to repurchase the same securities at a specified price on a specified date in the future. The obligation to repurchase these securities is recorded at the amount owing. The interest expense related to these liabilities is recorded on an accrual basis in interest expense, other liabilities, in our Consolidated Statement of Income.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## Securitization and Structured Entities' Liabilities

Securitization and structured entities' liabilities include notes issued by our consolidated bank securitization vehicles and liabilities associated with the securitization of our Canadian mortgage loans as part of the Canada Mortgage Bond program, the National Housing Act Mortgage-Backed Securities program and our own program. Additional information on our securitization program and associated liabilities is provided in Notes 6 and 7. These liabilities are initially measured at fair value plus any directly attributable costs and are subsequently measured at amortized cost. The interest expense related to these liabilities is recorded in interest expense, other liabilities, in our Consolidated Statement of Income.

## Other

The components of other within other liabilities are as follows:

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| Accounts payable, accrued expenses and other items | **10,071** | 10,030 |
| Accrued interest payable | **1,037** | 1,037 |
| Liabilities of subsidiaries, other than deposits | **6,931** | 7,250 |
| Insurance-related liabilities | **8,959** | 7,909 |
| Pension liability (Note 22) | **364** | 455 |
| Other employee future benefits liability (Note 22) | **1,303** | 1,343 |
| Total | **28,665** | 28,024 |

Certain comparative figures have been reclassified to conform with the current year's presentation.

We designate the obligation related to certain investment contracts in our insurance business at fair value through profit or loss, which eliminates a measurement inconsistency that would otherwise arise from measuring the investment contract liabilities and offsetting changes in the fair value of the investments supporting them on a different basis. The fair value of these investment contract liabilities as at October 31, 2017 of $749 million ($682 million as at October 31, 2016) is recorded in other liabilities in our Consolidated Balance Sheet. The change in fair value of these investment contract liabilities resulted in a decrease of $41 million in insurance claims, commissions and changes in policy benefit liabilities for the year ended October 31, 2017 (increase of $55 million in 2016 and $24 million in 2015). For the year ended October 31, 2017, a loss of $32 million was recorded in other comprehensive income related to changes in our credit spread (loss of $7 million in 2016 and a gain of $20 million in 2015). The impact of changes in our own credit spread is measured based on movements in our own credit spread year over year. Changes in the fair value of investments backing these investment contract liabilities are recorded in non-interest revenue, insurance revenue.

## Insurance-Related Liabilities

We are engaged in insurance businesses related to life and health insurance, annuities and reinsurance.

Insurance claims and policy benefit liabilities represent current claims and estimates of future insurance policy benefit liabilities. Liabilities for life insurance contracts are determined using the Canadian Asset Liability Method, which incorporates best-estimate assumptions for mortality, morbidity, policy lapses, surrenders, future investment yields, policy dividends, administration costs and margins for adverse deviation. These assumptions are reviewed at least annually and updated to reflect actual experience and market conditions.

A reconciliation of the change in insurance-related liabilities is as follows:

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| Insurance-related liabilities, beginning of year | **7,909** | 7,060 |
| Increase (decrease) in life insurance policy benefit liabilities from: | | |
| New business | **545** | 348 |
| In-force policies | **66** | 300 |
| Changes in actuarial assumptions and methodology | **(52)** | 41 |
| Foreign currency | **(1)** | (1) |
| Net increase in life insurance policy benefit liabilities | **558** | 688 |
| Change in other insurance-related liabilities | **492** | 161 |
| Insurance-related liabilities, end of year | **8,959** | 7,909 |

## Reinsurance

In the ordinary course of business, our insurance subsidiaries reinsure risks to other insurance and reinsurance companies in order to provide greater diversification, limit loss exposure to large risks, and provide additional capacity for future growth. These ceding reinsurance arrangements do not relieve our insurance subsidiaries of their direct obligation to the insured parties. We evaluate the financial condition of the reinsurers and monitor their credit ratings to minimize our exposure to losses from reinsurer insolvency.

Reinsurance premiums ceded are recorded net against direct premium income and are included in non-interest revenue, insurance revenue, in our Consolidated Statement of Income for the years ended October 31, 2017, 2016 and 2015, as shown in the table below:

| (Canadian $ in millions) | **2017** | 2016 | 2015 |
|---|---|---|---|
| Direct premium income | **1,750** | 1,561 | 2,027 |
| Ceded premiums | **(157)** | (271) | (466) |
| | **1,593** | 1,290 | 1,561 |

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## Note 15: Subordinated Debt

Subordinated debt represents our direct unsecured obligations, in the form of notes and debentures, to our debt holders and forms part of our regulatory capital. Subordinated debt is recorded at amortized cost using the effective interest rate method. Where appropriate, we enter into fair value hedges to hedge the risks caused by changes in interest rates (see Note 8). The rights of the holders of our notes and debentures are subordinate to the claims of depositors and certain other creditors. We require approval from OSFI before we can redeem any part of our subordinated debt.

The term to maturity and repayments of our subordinated debt required over the next two years and thereafter are as follows:

| (Canadian $ in millions, except as noted) | Face value | Maturity date | Interest rate (%) | Redeemable at our option beginning in | **2017 Total** | 2016 Total |
|---|---|---|---|---|---|---|
| Debentures Series 16 | 100 | February 2017 | 10.00 | February 2012 (1) | **–** | 100 |
| Debentures Series 20 | 150 | December 2025 to 2040 | 8.25 | Not redeemable | **150** | 150 |
| Series F Medium-Term Notes First Tranche | 900 | March 2023 | 6.17 | March 2018 (2) | **900** | 900 |
| Series H Medium-Term Notes First Tranche (7) | 1,000 | September 2024 | 3.12 | September 2019 (3) | **1,000** | 1,000 |
| Series H Medium-Term Notes Second Tranche (7) | 1,000 | December 2025 | 3.34 | December 2020 (4) | **1,000** | 1,000 |
| Series I Medium-Term Notes First Tranche (7) | 1,250 | June 2026 | 3.32 | June 2021 (5) | **1,250** | 1,250 |
| Series I Medium-Term Notes Second Tranche (7) | 850 | June 2027 | 2.57 | June 2022 (6) | **850** | – |
| Total (8) | | | | | **5,150** | 4,400 |

(1) All $100 million Subordinated Debentures, Series 16 matured on February 20, 2017.
(2) Redeemable at the greater of par and the Canada Yield Price prior to March 28, 2018, and redeemable at par together with accrued and unpaid interest to, but excluding, their redemption date commencing March 28, 2018.
(3) Redeemable at par together with accrued and unpaid interest to, but excluding, their redemption date commencing September 19, 2019.
(4) Redeemable at the greater of par and the Canada Yield Price prior to December 8, 2020, and redeemable at par together with accrued and unpaid interest to, but excluding, their redemption date commencing December 8, 2020.
(5) Redeemable at the greater of par and the Canada Yield Price prior to June 1, 2021, and redeemable at par together with accrued and unpaid interest to, but excluding, their redemption date commencing June 1, 2021.
(6) Redeemable at the greater of par and the Canada Yield Price prior to June 1, 2022, and redeemable at par together with accrued and unpaid interest to, but excluding, their redemption date commencing June 1, 2022.
(7) These notes include a non-viability contingent capital provision, which is necessary for notes issued after a certain date to qualify as regulatory capital under Basel III. As such, the notes are convertible into a variable number of our common shares if OSFI announces that the bank is, or is about to become, non-viable or if a federal or provincial government in Canada publicly announces that the bank has accepted or agreed to accept a capital injection, or equivalent support, to avoid non-viability.
(8) Certain amounts of subordinated debt were issued at a premium or discount and include fair value hedge adjustments, which together decreased their carrying value as at October 31, 2017 by $121 million (increased by $39 million in 2016); see Note 8 for further details. Subordinated debt that we repurchase is excluded from the carrying value.

All $700 million Series D Medium-Term Notes, First Tranche were redeemed on April 21, 2016 for 100% of the principal amount plus accrued and unpaid interest to, but excluding, the redemption date. All $1,500 million Series G Medium-Term Notes, First Tranche were redeemed on July 8, 2016 for 100% of the principal amount plus accrued and unpaid interest to, but excluding, the redemption date.

Please refer to the offering circular related to each of the above issues for further details on Canada Yield Price calculations and the definition of CDOR.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

# Note 16: Equity

## Share Capital

(Canadian $ in millions, except as noted)

| | 2017 | | | 2016 | | |
|---|---|---|---|---|---|---|
| | Number of shares | Amount | Dividends declared per share | Number of shares | Amount | Dividends declared per share |
| **Preferred Shares – Classified as Equity** | | | | | | |
| Class B – Series 14 (1) | – | – | 0.66 | 10,000,000 | 250 | 1.31 |
| Class B – Series 15 (2) | – | – | 0.73 | 10,000,000 | 250 | 1.45 |
| Class B – Series 16 | 6,267,391 | 157 | 0.85 | 6,267,391 | 157 | 0.85 |
| Class B – Series 17 | 5,732,609 | 143 | 0.55 | 5,732,609 | 143 | 0.53 |
| Class B – Series 25 | 9,425,607 | 236 | 0.45 | 9,425,607 | 236 | 0.84 |
| Class B – Series 26 | 2,174,393 | 54 | 0.43 | 2,174,393 | 54 | 0.10 |
| Class B – Series 27 | 20,000,000 | 500 | 1.00 | 20,000,000 | 500 | 1.00 |
| Class B – Series 29 | 16,000,000 | 400 | 0.98 | 16,000,000 | 400 | 0.98 |
| Class B – Series 31 | 12,000,000 | 300 | 0.95 | 12,000,000 | 300 | 0.95 |
| Class B – Series 33 | 8,000,000 | 200 | 0.95 | 8,000,000 | 200 | 0.95 |
| Class B – Series 35 | 6,000,000 | 150 | 1.25 | 6,000,000 | 150 | 1.25 |
| Class B – Series 36 | 600,000 | 600 | 58.50 | 600,000 | 600 | 65.03 |
| Class B – Series 38 (3) | 24,000,000 | 600 | 1.33 | 24,000,000 | 600 | – |
| Class B – Series 40 (4) | 20,000,000 | 500 | 0.80 | – | – | – |
| Class B – Series 42 (5) | 16,000,000 | 400 | 0.45 | – | – | – |
| | | 4,240 | | | 3,840 | |
| **Common Shares** | | | | | | |
| Balance at beginning of year | 645,761,333 | 12,539 | | 642,583,341 | 12,313 | |
| Issued under the Shareholder Dividend Reinvestment and Share Purchase Plan | 4,821,184 | 448 | | 1,074,601 | 90 | |
| Issued/cancelled under the Stock Option Plan and other stock-based compensation plans (Note 21) | 2,233,801 | 146 | | 2,103,391 | 136 | |
| Repurchased for cancellation | (5,000,000) | (101) | | – | – | |
| **Balance at End of Year** | 647,816,318 | 13,032 | 3.56 | 645,761,333 | 12,539 | 3.40 |
| **Share Capital** | | 17,272 | | | 16,379 | |

(1) On May 25, 2017, we redeemed all 10 million Non-Cumulative Perpetual Class B Preferred Shares, Series 14, at a price of $25.00 cash per share plus all declared and unpaid dividends. Dividends declared for the year ended October 31, 2017 were $0.66 per share and 10 million shares were outstanding at the time of the dividend declaration.
(2) On May 25, 2017, we redeemed all 10 million Non-Cumulative Perpetual Class B Preferred Shares, Series 15, at a price of $25.00 cash per share plus all declared and unpaid dividends. Dividends declared for the year ended October 31, 2017 were $0.73 per share and 10 million shares were outstanding at the time of the dividend declaration.
(3) On October 21, 2016, we issued 24 million Non-Cumulative 5-Year Rate Reset Class B Preferred Shares, Series 38, at a price of $25.00 cash per share for gross proceeds of $600 million.
(4) On March 9, 2017, we issued 20 million Non-Cumulative 5-Year Rate Reset Class B Preferred Shares, Series 40, at a price of $25.00 cash per share for gross proceeds of $500 million.
(5) On June 29, 2017, we issued 16 million Non-Cumulative 5-Year Rate Reset Class B Preferred Shares, Series 42, at a price of $25.00 cash per share for gross proceeds of $400 million.

## Preferred Share Rights and Privileges

(Canadian $, except as noted)

| | Redemption amount | Quarterly non-cumulative dividend (1) | Reset premium | Date redeemable / convertible | Convertible to |
|---|---|---|---|---|---|
| Class B – Series 16 | 25.00 | $ 0.211875 (2) | 1.65% | August 25, 2018 (3)(4) | Class B – Series 17 (8) |
| Class B – Series 17 | 25.00 | Floating (7) | 1.65% | August 25, 2018 (3)(5) | Class B – Series 16 (8) |
| Class B – Series 25 | 25.00 | $ 0.112813 (2) | 1.15% | August 25, 2021 (3)(4) | Class B – Series 26 (8) |
| Class B – Series 26 | 25.00 | Floating (7) | 1.15% | August 25, 2021 (3)(5) | Class B – Series 25 (8) |
| Class B – Series 27 | 25.00 | $ 0.2500 (2) | 2.33% | May 25, 2019 (3)(4) | Class B – Series 28 (8) |
| Class B – Series 29 | 25.00 | $ 0.24375 (2) | 2.24% | August 25, 2019 (3)(4) | Class B – Series 30 (8) |
| Class B – Series 31 | 25.00 | $ 0.2375 (2) | 2.22% | November 25, 2019 (3)(4) | Class B – Series 32 (8) |
| Class B – Series 33 | 25.00 | $ 0.2375 (2) | 2.71% | August 25, 2020 (3)(4) | Class B – Series 34 (8) |
| Class B – Series 35 | 25.00 | $ 0.3125 | Does not reset | August 25, 2020 (6) | Not convertible |
| Class B – Series 36 | 1,000.00 | $ 14.6250 (2) | 4.97% | November 25, 2020 (3)(4) | Class B – Series 37 (8) |
| Class B – Series 38 | 25.00 | $ 0.303125 (2) | 4.06% | February 25, 2022 (3)(4) | Class B – Series 39 (8) |
| Class B – Series 40 | 25.00 | $ 0.28125 (2) | 3.33% | May 25, 2022 (3)(4) | Class B – Series 41 (8) |
| Class B – Series 42 | 25.00 | $ 0.2750 (2) | 3.17% | August 25, 2022 (3)(4) | Class B – Series 43 (8) |

(1) Non-cumulative dividends are payable quarterly as and when declared by the Board of Directors.
(2) The dividend rate will reset on the date redeemable and every five years thereafter at a rate equal to the 5-year Government of Canada bond yield plus the reset premium noted. If converted to a floating rate series, the rate will be set as and when declared at the 3-month Government of Canada treasury bill yield plus the reset premium noted.
(3) Redeemable on the date noted and every five years thereafter.
(4) Convertible on the date noted and every five years thereafter if not redeemed. If converted, Series 17, 26, 28, 30, 32, 34, 37, 39, 41 and 43 are floating rate preferred shares.
(5) Convertible on the date noted and every five years thereafter if not redeemed. If converted, Series 16 and 25 are fixed rate preferred shares.
(6) Series 35 is subject to a redemption premium if redeemed prior to August 25, 2024.
(7) Floating rate will be set as and when declared at the 3-month Government of Canada treasury bill yield plus a reset premium.
(8) If converted, the holders have the option to convert back to the original preferred shares on subsequent redemption dates.

## Authorized Share Capital

We classify financial instruments that we issue as financial liabilities, equity instruments or compound instruments. Financial instruments that will be settled by a variable number of our common shares upon conversion by the holders are classified as liabilities on our Consolidated Balance Sheet. Dividends and interest payments on financial liabilities are classified as interest expense in our Consolidated Statement of Income. Financial instruments are classified as equity instruments when there is no contractual obligation to transfer cash or other financial assets. Further, issued instruments that are not mandatorily redeemable or that are not convertible into a variable number of our common shares at the holder's option, are classified as equity and presented in share capital. Dividend payments on equity instruments are recognized as a reduction in equity.

*Common Shares*

We are authorized by our shareholders to issue an unlimited number of our common shares without par value, for unlimited consideration. Our common shares are not redeemable or convertible. Dividends are declared by our Board of Directors at their discretion. Historically, the Board of Directors has declared dividends on a quarterly basis and the amount can vary from quarter to quarter.

*Preferred Shares*

We are authorized by our shareholders to issue an unlimited number of Class A Preferred Shares and Class B Preferred Shares without par value, in series, for unlimited consideration. Class B Preferred Shares may be issued in a foreign currency.

*Treasury Shares*

When we purchase our common shares as part of our trading business, we record the cost of those shares as a reduction in shareholders' equity. If those shares are resold at a price higher than their cost, the premium is recorded as an increase in contributed surplus. If those shares are resold at a price below their cost, the discount is recorded as a reduction first to contributed surplus and then to retained earnings for any amount in excess of total contributed surplus related to treasury shares.

## Non-Viability Contingent Capital

Class B – Series 27, Class B – Series 29, Class B – Series 31, Class B – Series 33, Class B – Series 35, Class B – Series 36, Class B – Series 38, Class B – Series 40 and Class B – Series 42 preferred share issues include a non-viability contingent capital provision, which is necessary for the shares to qualify as regulatory capital under Basel III. As such, the shares are convertible into a variable number of our common shares if OSFI announces that the bank is, or is about to become, non-viable or if a federal or provincial government in Canada publicly announces that the bank has accepted or agreed to accept a capital injection, or equivalent support, to avoid non-viability.

## Normal Course Issuer Bid

We renewed our normal course issuer bid ("NCIB"), effective May 1, 2017 for one year. Under this NCIB, we may repurchase up to 15 million of our common shares for cancellation. In June 2017, the Toronto Stock Exchange approved amendments to the NCIB that allow us to repurchase common shares under the NCIB by way of private agreement or under a specific share repurchase program. The timing and amount of purchases under the NCIB are subject to management discretion based on factors such as market conditions and capital levels. The bank will consult with OSFI before making purchases under the NCIB.

During the year ended October 31, 2017, we repurchased 5 million of our common shares at an average cost of $87.88 per share, all under the current NCIB.

Our previous NCIB, which allowed us to repurchase for cancellation up to 15 million of our common shares, expired on January 31, 2017. We did not make any purchases under the previous NCIB.

## Share Redemption and Dividend Restrictions

OSFI must approve any plan to redeem any of our preferred share issues for cash.

We are prohibited from declaring dividends on our preferred or common shares when we would be, as a result of paying such a dividend, in contravention of the capital adequacy, liquidity or any other regulatory directive issued under the *Bank Act (Canada)*. In addition, common share dividends cannot be paid unless all dividends declared and payable on our preferred shares have been paid or sufficient funds have been set aside to do so.

In addition, we have agreed that if BMO Capital Trust II (the "Trust"), an unconsolidated structured entity, fails to pay any required distribution on its capital trust securities, we will not declare dividends of any kind on any of our preferred or common shares for a period of time following the Trust's failure to pay the required distribution (as defined in the applicable prospectuses) unless the Trust first pays such distribution to the holders of its capital trust securities.

Currently, these limitations do not restrict the payment of dividends on common or preferred shares.

## Shareholder Dividend Reinvestment and Share Purchase Plan

We offer a Dividend Reinvestment and Share Purchase Plan ("DRIP") for our shareholders. Participation in the plan is optional. Under the terms of the DRIP, cash dividends on common shares are reinvested to purchase additional common shares. Shareholders also have the opportunity to make optional cash payments to acquire additional common shares.

For the dividends paid in the first two quarters of 2017, common shares to supply the DRIP were issued from treasury with a two percent discount. For the dividends paid in the third quarter of 2017, common shares to supply the DRIP were issued from treasury without a discount. For the dividends paid in the fourth quarter, common shares to supply the DRIP were purchased on the open market.

For the dividends paid in the first two quarters of 2016, common shares to supply the DRIP were purchased on the open market. For the dividends paid in the last two quarters of 2016, common shares to supply the DRIP were issued from treasury without a discount.

During the year ended October 31, 2017, we issued a total of 4,821,184 common shares from treasury (1,074,601 in 2016) and purchased 504,873 common shares in the open market (1,279,488 in 2016) for delivery to shareholders under the DRIP.

### Potential Share Issuances

As at October 31, 2017, we had reserved 39,947,147 common shares (44,768,331 in 2016) for potential issuance in respect of the DRIP. We have also reserved 7,525,296 common shares (9,805,299 in 2016) for the potential exercise of stock options, as further described in Note 21.

### Non-Controlling Interest

During the year ended October 31, 2016, our subsidiary, BMO Capital Trust, redeemed all remaining BMO Capital Trust Securities for an aggregate redemption amount of $450 million, plus accrued and unpaid distributions. These securities were recorded in non-controlling interest in the prior period and had formed part of our Tier 1 regulatory capital. Non-controlling interest in other consolidated entities was $nil at October 31, 2017 ($24 million in 2016).

## Note 17: Fair Value of Financial Instruments and Trading-Related Revenue

We record trading assets and liabilities, derivatives, available-for-sale securities and securities sold but not yet purchased at fair value, and other non-trading assets and liabilities at amortized cost less allowances or write-downs for impairment. The fair values presented in this note are based upon the amounts estimated for individual assets and liabilities and do not include an estimate of the fair value of any of the legal entities or underlying operations that comprise our business.

Fair value represents the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between willing market participants at the measurement date. The fair value amounts disclosed represent point-in-time estimates that may change in subsequent reporting periods due to changes in market conditions or other factors. Some financial instruments are not typically exchangeable or exchanged and therefore it is difficult to determine their fair value. Where there is no quoted market price, we determine fair value using management's best estimates based on a range of valuation techniques and assumptions; since these involve uncertainties, the fair values may not be realized in an actual sale or immediate settlement of the asset or liability.

### Governance Over the Determination of Fair Value

Senior executive oversight of our valuation processes is provided through various valuation and risk committees. In order to ensure that all financial instruments carried at fair value are reasonably measured for risk management and financial reporting purposes, we have established governance structures and controls, such as model validation and approval, independent price verification ("IPV") and profit or loss attribution analysis ("PAA"), consistent with industry practice. These controls are applied independently of the relevant operating groups.

We establish and regularly update valuation methodologies for each financial instrument that is required to be measured at fair value. The application of valuation models for products or portfolios is subject to independent approval to ensure only validated models are used. The impact of known limitations of models and data inputs is also monitored on an ongoing basis. IPV is a process that regularly and independently verifies the accuracy and appropriateness of market prices or model inputs used in the valuation of financial instruments. This process assesses fair values using a variety of different approaches to verify and validate the valuations. PAA is a daily process used by management to identify and explain changes in fair value positions across all operating lines of business within BMO Capital Markets. This process works in concert with other processes to ensure that the fair values being reported are reasonable and appropriate.

### Securities

For traded securities, quoted market value is considered to be fair value. Quoted market value is based on bid or ask prices, depending on which is the most appropriate to measure fair value. Securities for which no active market exists are valued using all reasonably available market information. Our fair value methodologies are described below.

*Government Securities*
The fair value of government issued or guaranteed debt securities in active markets is determined by reference to recent transaction prices, broker quotes or third-party vendor prices. The fair value of securities that are not traded in an active market is modelled using implied yields derived from the prices of similar actively traded government securities and observable spreads. Market inputs to the model include coupon, maturity and duration.

*Mortgage-Backed Securities and Collateralized Mortgage Obligations*
The fair value of mortgage-backed securities and collateralized mortgage obligations is determined using independent prices obtained from third-party vendor prices, broker quotes and relevant market indices, as applicable. If such prices are not available, fair value is determined using cash flow models that make maximum use of observable market inputs or benchmark prices for similar instruments. Valuation assumptions for mortgage-backed securities and collateralized mortgage obligations include discount rates, expected prepayments, credit spreads and recoveries.

*Corporate Debt Securities*
The fair value of corporate debt securities is determined using prices observed in the most recent transactions. When observable price quotations are not available, fair value is determined based on discounted cash flow models using discounting curves and spreads obtained from independent dealers, brokers and multi-contributor pricing sources.

*Corporate Equity Securities*
The fair value of equity securities is based on quoted prices in active markets, where available. Where quoted prices in active markets are not readily available, fair value is determined using either quoted market prices for similar securities or using valuation techniques, which include discounted cash flow analysis and multiples of earnings.

*Privately Issued Securities*
Privately issued debt and equity securities are valued using prices observed in recent market transactions, where available. Otherwise, fair value is derived from valuation models using a market or income approach. These models consider various factors, including projected cash flows, earnings, revenue and other third-party evidence, as available. The fair value of limited partnership investments is based upon net asset values published by third-party fund managers.

Prices from brokers and multi-contributor pricing sources are corroborated as part of our independent review process, which may include using valuation techniques or obtaining consensus or composite prices from other pricing services. We validate the estimates of fair value by independently obtaining multiple quotes for external market prices and input values. We review the approach taken by third-party vendors to ensure that the vendor employs a valuation model which maximizes the use of observable inputs such as benchmark yields, bid-ask spreads, underlying collateral, weighted-average terms to maturity and prepayment rate assumptions. Fair value estimates from internal valuation techniques are verified, where possible, by reference to prices obtained from third-party vendors.

### Loans

In determining the fair value of our fixed rate performing loans, we discount the remaining contractual cash flows, adjusted for estimated prepayment, at market interest rates currently offered for loans with similar terms and risks. For floating rate performing loans, changes in interest rates have minimal impact on the fair value since interest rates are repriced or reset frequently. On that basis, fair value is assumed to be equal to carrying value.

The value of our loan balances determined using this approach is further adjusted by a credit mark that represents an estimate of the expected credit losses in our loan portfolio.

### Derivative Instruments

A number of valuation techniques are employed to estimate fair value, including discounted cash flow analysis, the Black-Scholes model, Monte Carlo simulation and other accepted market models. These independently validated models incorporate current market data for interest rates, currency exchange rates, equity and commodity prices and indices, credit spreads, recovery rates, corresponding market volatility levels, spot prices, correlation levels and other market-based pricing factors. Option implied volatilities, an input into many valuation models, are either obtained directly from market sources or calculated from market prices. Multi-contributor pricing sources are used wherever possible.

In determining the fair value of complex and customized derivatives, we consider all reasonably available information, including dealer and broker quotations, multi-contributor pricing sources and any relevant observable market inputs. Our model calculates fair value based on inputs specific to the type of contract, which may include stock prices, correlation for multiple assets, interest rates, foreign exchange rates, yield curves and volatilities.

We calculate a credit valuation adjustment (“CVA”) to recognize the risk that any given derivative counterparty may not ultimately be able to fulfill its obligations. The CVA is derived from market-observed credit spreads or proxy credit spreads and our assessment of the net counterparty credit risk exposure, taking into account credit mitigants such as collateral, master netting agreements and novation to central counterparties. We also calculate a funding valuation adjustment (“FVA”) to recognize the implicit funding costs associated with over-the-counter derivative positions. The FVA is determined by reference to market funding spreads.

### Deposits

In determining the fair value of our deposits, we incorporate the following assumptions:

- For fixed rate, fixed maturity deposits, we discount the remaining contractual cash flows for these deposits, adjusted for expected redemptions, at market interest rates currently offered for deposits with similar terms and risks.
- For fixed rate deposits with no defined maturities, we consider fair value to equal carrying value, based on carrying value being equivalent to the amount payable on the reporting date.
- For floating rate deposits, changes in interest rates have minimal impact on fair value since deposits reprice to market frequently. On that basis, fair value is assumed to equal carrying value.

A portion of our structured note liabilities that have coupons or repayment terms linked to the performance of interest rates, foreign currencies, commodities or equity securities have been designated at fair value through profit or loss. The fair value of these structured notes is estimated using internally validated valuation models and incorporates observable market prices for identical or comparable securities, as well as other inputs such as interest rate yield curves, option volatilities and foreign exchange rates, where appropriate. Where observable prices or inputs are not available, management judgment is required to determine the fair value by assessing other relevant sources of information, such as historical data and proxy information from similar transactions.

### Securities Sold But Not Yet Purchased

The fair value of these obligations is based on the fair value of the underlying securities, which can be equity or debt securities. As these obligations are fully collateralized, the method used to determine fair value would be the same as that used for the relevant underlying equity or debt securities.

### Securitization and Structured Entities’ Liabilities

The determination of the fair value of securitization and structured entities’ liabilities is based on quoted market prices or quoted market prices for similar financial instruments, where available. Where quoted prices are not available, fair value is determined using valuation techniques, such as discounted cash flows, that maximize the use of observable inputs.

### Subordinated Debt

The fair value of our subordinated debt is determined by referring to current market prices for the same or similar instruments.

### Financial Instruments with a Carrying Value Approximating Fair Value

*Short-term Financial Instruments*

The carrying value of certain financial assets and liabilities, such as interest bearing deposits with banks, securities borrowed or purchased under resale agreements, customers’ liability under acceptances, certain other assets, acceptances, securities lent or sold under repurchase agreements and certain other liabilities, is a reasonable estimate of fair value due to their short-term nature or because they are frequently repriced to current market rates.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

*Other Financial Instruments*

Carrying value is assumed to be a reasonable estimate of fair value for our cash and cash equivalents and certain other securities.

For longer-term financial instruments recorded within other liabilities, fair value is determined as the present value of contractual cash flows using discount rates at which liabilities with similar remaining maturities could be issued as at the balance sheet date.

Certain assets, including premises and equipment, goodwill and intangible assets, as well as shareholders' equity, are not considered financial instruments and therefore no fair value has been determined for these items.

## Fair Value Hierarchy

We use a fair value hierarchy to categorize financial instruments according to the inputs we use in valuation techniques to measure fair value.

## Fair Value of Financial Instruments Not Carried at Fair Value on the Balance Sheet

Set out in the following tables are the amounts that would be reported if all financial assets and liabilities not currently carried at fair value were reported at their fair values.

| (Canadian $ in millions) | | | | | 2017 |
|---|---|---|---|---|---|
| | **Carrying value** | **Fair value** | **Valued using quoted market prices** | **Valued using models (with observable inputs)** | **Valued using models (without observable inputs)** |
| **Securities** | | | | | |
| Held to maturity | **9,094** | **9,096** | **2,522** | **6,574** | **–** |
| Other (1) | **627** | **2,907** | **–** | **–** | **2,907** |
| | **9,721** | **12,003** | **2,522** | **6,574** | **2,907** |
| **Loans** | | | | | |
| Residential mortgages | **115,258** | **114,313** | **–** | **–** | **114,313** |
| Consumer instalment and other personal | **61,944** | **61,031** | **–** | **–** | **61,031** |
| Credit cards | **8,071** | **7,828** | **–** | **–** | **7,828** |
| Businesses and governments | **178,232** | **175,927** | **–** | **–** | **175,927** |
| | **363,505** | **359,099** | **–** | **–** | **359,099** |
| **Deposits** (2) | **469,814** | **470,137** | **–** | **470,137** | **–** |
| **Securitization and structured entities' liabilities** | **23,054** | **23,148** | **–** | **23,148** | **–** |
| **Other liabilities** (3) | **–** | **–** | **–** | **–** | **–** |
| **Subordinated debt** | **5,029** | **5,255** | **–** | **5,255** | **–** |

This table excludes financial instruments with a carrying value approximating fair value, such as cash and cash equivalents, interest bearing deposits with banks, securities borrowed or purchased under resale agreements, customers' liability under acceptances, certain other assets, acceptances, securities lent or sold under repurchase agreements and certain other liabilities.

(1) Excluded from other securities is $333 million of securities related to our merchant banking business that are carried at fair value on the balance sheet.
(2) Excludes $13,674 million of structured note liabilities designated at fair value through profit or loss and accounted for at fair value.
(3) Other liabilities includes certain other liabilities of subsidiaries, other than deposits. Excludes $28,665 million of other liabilities for which carrying value approximates fair value or are designated at fair value through profit or loss.

| (Canadian $ in millions) | | | | | 2016 |
|---|---|---|---|---|---|
| | Carrying value | Fair value | Valued using quoted market prices | Valued using models (with observable inputs) | Valued using models (without observable inputs) |
| **Securities** | | | | | |
| Held to maturity | 8,965 | 9,073 | 864 | 8,209 | – |
| Other (1) | 579 | 2,778 | – | – | 2,778 |
| | 9,544 | 11,851 | 864 | 8,209 | 2,778 |
| **Loans** | | | | | |
| Residential mortgages | 112,277 | 112,400 | – | – | 112,400 |
| Consumer instalment and other personal | 64,680 | 64,043 | – | – | 64,043 |
| Credit cards | 8,101 | 7,862 | – | – | 7,862 |
| Businesses and governments | 175,597 | 173,601 | – | – | 173,601 |
| | 360,655 | 357,906 | – | – | 357,906 |
| **Deposits** (2) | 461,768 | 462,732 | – | 462,732 | – |
| **Securitization and structured entities' liabilities** | 22,377 | 22,506 | – | 22,506 | – |
| **Other liabilities** (3) | 703 | 1,104 | – | 1,104 | – |
| **Subordinated debt** | 4,439 | 4,580 | – | 4,580 | – |

This table excludes financial instruments with a carrying value approximating fair value, such as cash and cash equivalents, interest bearing deposits with banks, securities borrowed or purchased under resale agreements, customers' liability under acceptances, certain other assets, acceptances, securities lent or sold under repurchase agreements and certain other liabilities.

(1) Excluded from other securities is $320 million of securities related to our merchant banking business that are carried at fair value on the balance sheet.
(2) Excludes $11,604 million of structured note liabilities designated at fair value through profit or loss and accounted for at fair value.
(3) Other liabilities includes certain other liabilities of subsidiaries, other than deposits. Excludes $27,321 million of other liabilities for which carrying value approximates fair value or are designated at fair value through profit or loss.

Certain comparative figures have been reclassified to conform with the current year's presentation.

## Valuation Techniques and Significant Inputs

We determine the fair value of publicly traded fixed maturity debt and equity securities using quoted prices in active markets (Level 1) when these are available. When quoted prices in active markets are not available, we determine the fair value of financial instruments using models such as discounted cash flows, with observable market data for inputs, such as yield and prepayment rates or broker quotes and other third-party vendor quotes (Level 2). Fair value may also be determined using models where significant market inputs are not observable due to inactive markets or minimal market activity (Level 3). We maximize the use of observable market inputs to the extent possible.

Our Level 2 trading securities are primarily valued using discounted cash flow models with observable spreads or broker quotes. The fair value of Level 2 available-for-sale securities is determined using discounted cash flow models with observable spreads or third-party vendor quotes. Level 2 structured note liabilities are valued using models with observable market information. Level 2 derivative assets and liabilities are valued using industry-standard models and observable market information.

The extent of our use of actively quoted market prices (Level 1), internal models using observable market information as inputs (Level 2) and internal models without observable market information as inputs (Level 3) in the valuation of securities, fair value liabilities, derivative assets and derivative liabilities was as follows:

| (Canadian $ in millions) | 2017 | | | | 2016 | | | |
|---|---|---|---|---|---|---|---|---|
| | **Valued using quoted market prices** | **Valued using models (with observable inputs)** | **Valued using models (without observable inputs)** | **Total** | Valued using quoted market prices | Valued using models (with observable inputs) | Valued using models (without observable inputs) | Total |
| **Trading Securities** | | | | | | | | |
| Issued or guaranteed by: | | | | | | | | |
| Canadian federal government | **8,712** | **2,115** | **–** | **10,827** | 10,998 | 1,954 | – | 12,952 |
| Canadian provincial and municipal governments | **3,177** | **4,150** | **–** | **7,327** | 3,404 | 4,018 | – | 7,422 |
| U.S. federal government | **9,417** | **56** | **–** | **9,473** | 6,012 | 136 | – | 6,148 |
| U.S. states, municipalities and agencies | **189** | **1,942** | **–** | **2,131** | – | 1,124 | – | 1,124 |
| Other governments | **630** | **193** | **–** | **823** | 316 | 286 | – | 602 |
| Mortgage-backed securities and collateralized mortgage obligations | **–** | **931** | **–** | **931** | – | 1,062 | – | 1,062 |
| Corporate debt | **1,485** | **10,278** | **–** | **11,763** | 565 | 8,857 | 91 | 9,513 |
| Loans | **3** | **150** | **–** | **153** | – | 139 | – | 139 |
| Corporate equity | **55,640** | **1** | **–** | **55,641** | 44,459 | 1,037 | – | 45,496 |
| | **79,253** | **19,816** | **–** | **99,069** | 65,754 | 18,613 | 91 | 84,458 |
| **Available-for-Sale Securities** | | | | | | | | |
| Issued or guaranteed by: | | | | | | | | |
| Canadian federal government | **8,283** | **897** | **–** | **9,180** | 6,286 | 1,882 | – | 8,168 |
| Canadian provincial and municipal governments | **920** | **2,707** | **–** | **3,627** | 3,995 | 2,237 | – | 6,232 |
| U.S. federal government | **14,269** | **–** | **–** | **14,269** | 9,557 | – | – | 9,557 |
| U.S. states, municipalities and agencies | **18** | **4,077** | **1** | **4,096** | – | 4,449 | 1 | 4,450 |
| Other governments | **2,290** | **1,268** | **–** | **3,558** | 3,083 | 2,144 | – | 5,227 |
| Mortgage-backed securities and collateralized mortgage obligations | **–** | **13,216** | **–** | **13,216** | – | 13,122 | – | 13,122 |
| Corporate debt | **1,551** | **2,972** | **2** | **4,525** | 4,974 | 2,314 | 4 | 7,292 |
| Corporate equity | **37** | **126** | **1,441** | **1,604** | 33 | 126 | 1,456 | 1,615 |
| | **27,368** | **25,263** | **1,444** | **54,075** | 27,928 | 26,274 | 1,461 | 55,663 |
| **Other Securities** | **–** | **–** | **333** | **333** | – | – | 320 | 320 |
| **Fair Value Liabilities** | | | | | | | | |
| Securities sold but not yet purchased | **22,992** | **2,171** | **–** | **25,163** | 23,552 | 1,554 | – | 25,106 |
| Structured note liabilities and other note liabilities | **–** | **13,674** | **–** | **13,674** | – | 11,613 | – | 11,613 |
| Annuity liabilities | **–** | **749** | **–** | **749** | – | 682 | – | 682 |
| | **22,992** | **16,594** | **–** | **39,586** | 23,552 | 13,849 | – | 37,401 |
| **Derivative Assets** | | | | | | | | |
| Interest rate contracts | **4** | **9,223** | **–** | **9,227** | 5 | 18,059 | – | 18,064 |
| Foreign exchange contracts | **17** | **17,196** | **–** | **17,213** | 31 | 18,945 | – | 18,976 |
| Commodity contracts | **232** | **846** | **–** | **1,078** | 405 | 814 | – | 1,219 |
| Equity contracts | **93** | **1,333** | **–** | **1,426** | 188 | 713 | – | 901 |
| Credit default swaps | **–** | **7** | **–** | **7** | – | 23 | – | 23 |
| | **346** | **28,605** | **–** | **28,951** | 629 | 38,554 | – | 39,183 |
| **Derivative Liabilities** | | | | | | | | |
| Interest rate contracts | **7** | **8,309** | **–** | **8,316** | 16 | 16,138 | – | 16,154 |
| Foreign exchange contracts | **6** | **14,967** | **–** | **14,973** | 17 | 18,462 | – | 18,479 |
| Commodity contracts | **239** | **835** | **–** | **1,074** | 262 | 909 | – | 1,171 |
| Equity contracts | **166** | **3,220** | **–** | **3,386** | 69 | 2,322 | – | 2,391 |
| Credit default swaps | **–** | **55** | **–** | **55** | – | 32 | – | 32 |
| | **418** | **27,386** | **–** | **27,804** | 364 | 37,863 | – | 38,227 |

Certain comparative figures have been reclassified to conform with the current year's presentation.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## Quantitative Information about Level 3 Fair Value Measurements

The table below presents the fair values of our significant Level 3 financial instruments, the valuation techniques used to determine their fair values and the value ranges of significant unobservable inputs used in the valuations. We have not applied any other reasonably possible alternative assumption to the significant Level 3 categories of private equity investments and merchant banking securities, as the net asset values are provided by the investment or fund managers.

| As at October 31, 2017<br>(Canadian $ in millions, except as noted) | Reporting line in fair value hierarchy table | Fair value of assets | Valuation techniques | Significant unobservable inputs | Range of input values (1) Low | Range of input values (1) High |
|---|---|---|---|---|---|---|
| **Securities** | | | | | | |
| Private equity (2) | Corporate equity | **1,441** | Net Asset Value | Net Asset Value | **na** | **na** |
| | | | EV/EBITDA | Multiple | **6x** | **17x** |
| Merchant banking securities | Other | **333** | Net Asset Value | Net Asset Value | **na** | **na** |
| | | | EV/EBITDA | Multiple | **4.8x** | **10.9x** |

(1) The low and high input values represent the actual highest and lowest level of inputs used to value a group of financial instruments in a particular product category. These input ranges do not reflect the level of input uncertainty, but are affected by the specific underlying instruments within the product category. The input ranges will therefore vary from period to period based on the characteristics of the underlying instruments held at each balance sheet date.

(2) Included in private equity is $777 million of Federal Reserve Bank and U.S. Federal Home Loan Bank shares that we hold to meet regulatory requirements. These shares are carried at cost, which is deemed to approximate fair value since these shares are not traded in the market.

na – not applicable

## Significant Unobservable Inputs in Level 3 Instrument Valuations

*Net Asset Value*

Net asset value represents the estimated value of a security based on valuations received from the investment or fund manager. The valuation of certain private equity securities is based on the economic benefit we derive from our investment.

*EV/EBITDA Multiple*

The fair value of private equity and merchant banking investments is derived by calculating an enterprise value ("EV") using the EV/EBITDA multiple and then proceeding through a waterfall of the company's capital structure to determine the value of the assets or securities we hold. The EV/EBITDA multiple is determined using judgment in considering factors such as multiples for comparable listed companies, recent transactions and company-specific factors, as well as liquidity discounts that account for the lack of active trading in these assets and securities.

*Significant Transfers*

Our policy is to record transfers of assets and liabilities between fair value hierarchy levels at their fair values as at the end of each reporting period, consistent with the date of the determination of fair value. Transfers between the various fair value hierarchy levels reflect changes in the availability of quoted market prices or observable market inputs that result from changes in market conditions. The following is a discussion of the significant transfers between Level 1, Level 2 and Level 3 balances for the year ended October 31, 2017.

During the year ended October 31, 2017, $176 million of trading securities and $107 million of available-for-sale securities were transferred from Level 1 to Level 2 due to reduced observability of the inputs used to value these securities. During the year ended October 31, 2017, $156 million of trading securities and $56 million of available-for-sale securities were transferred from Level 2 to Level 1 due to increased availability of quoted prices in active markets.

During the year ended October 31, 2017, $33 million of available-for-sale securities were transferred from Level 3 to Level 1 due to the availability of observable prices used to value these securities.

## Changes in Level 3 Fair Value Measurements

The tables below present a reconciliation of all changes in Level 3 financial instruments during the years ended October 31, 2017 and 2016, including realized and unrealized gains (losses) included in earnings and other comprehensive income.

| For the year ended October 31, 2017 (Canadian $ in millions) | Balance October 31, 2016 | Change in fair value: Included in earnings | Change in fair value: Included in other comprehensive income (2) | Purchases | Sales | Maturities/ Settlement | Transfers into Level 3 | Transfers out of Level 3 | Fair value as at October 31, 2017 | Change in unrealized gains (losses) recorded in income for instruments still held (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Trading Securities** | | | | | | | | | | |
| Issued or guaranteed by: | | | | | | | | | | |
| U.S. states, municipalities and agencies | – | – | – | – | – | – | – | – | – | – |
| Corporate debt | 91 | 1 | 1 | – | – | (93) | – | – | – | – |
| Total trading securities | 91 | 1 | 1 | – | – | (93) | – | – | – | – |
| **Available-for-Sale Securities** | | | | | | | | | | |
| Issued or guaranteed by: | | | | | | | | | | |
| U.S. states, municipalities and agencies | 1 | – | – | – | – | – | – | – | 1 | na |
| Corporate debt | 4 | – | – | – | (1) | (1) | – | – | 2 | na |
| Corporate equity | 1,456 | (40) | (15) | 190 | (117) | – | – | (33) | 1,441 | na |
| Total available-for-sale securities | 1,461 | (40) | (15) | 190 | (118) | (1) | – | (33) | 1,444 | na |
| **Other Securities** | 320 | (9) | (7) | 134 | (102) | (3) | – | – | 333 | (8) |

(1) Changes in unrealized gains or losses on other securities still held on October 31, 2017 are included in earnings for the year.
(2) Foreign exchange translation on trading securities held by foreign subsidiaries is included in other comprehensive income, net foreign operations.
na – not applicable

| For the year ended October 31, 2016 (Canadian $ in millions) | Balance October 31, 2015 | Change in fair value: Included in earnings | Change in fair value: Included in other comprehensive income (2) | Purchases | Sales | Maturities/ Settlement | Transfers into Level 3 | Transfers out of Level 3 | Fair value as at October 31, 2016 | Change in unrealized gains (losses) recorded in income for instruments still held (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Trading Securities** | | | | | | | | | | |
| Issued or guaranteed by: | | | | | | | | | | |
| U.S. states, municipalities and agencies | 98 | – | – | – | – | – | – | (98) | – | – |
| Corporate debt | 243 | 2 | 4 | – | – | (158) | – | – | 91 | 2 |
| Total trading securities | 341 | 2 | 4 | – | – | (158) | – | (98) | 91 | 2 |
| **Available-for-Sale Securities** | | | | | | | | | | |
| Issued or guaranteed by: | | | | | | | | | | |
| U.S. states, municipalities and agencies | 1 | – | – | – | – | – | – | – | 1 | na |
| Corporate debt | 6 | – | – | 9 | (9) | (2) | – | – | 4 | na |
| Corporate equity | 1,251 | (27) | 44 | 283 | (92) | – | – | (3) | 1,456 | na |
| Total available-for-sale securities | 1,258 | (27) | 44 | 292 | (101) | (2) | – | (3) | 1,461 | na |
| **Other Securities** | 365 | (40) | 7 | 42 | (54) | – | – | – | 320 | (38) |
| **Derivative Assets** | | | | | | | | | | |
| Credit default swaps | 1 | – | – | – | – | (1) | – | – | – | – |

(1) Changes in unrealized gains (losses) on trading securities and other securities still held on October 31, 2016 are included in earnings for the year.
(2) Foreign exchange translation on trading securities held by foreign subsidiaries is included in other comprehensive income, net foreign operations.
na – not applicable

## Trading-Related Revenue

Trading assets and liabilities, including derivatives, securities and financial instruments designated at fair value through profit or loss, are measured at fair value, with gains and losses recognized in Trading revenues, Non-Interest Revenue, in the Consolidated Statement of Income. Trading-related revenue includes net interest income and non-interest revenue and excludes underwriting fees and commissions on securities transactions, which are shown separately in the Consolidated Statement of Income. Net interest income arises from interest and dividends related to trading assets and liabilities and is reported net of interest expense associated with funding these assets and liabilities in the following table.

| (Canadian $ in millions) | **2017** | 2016 | 2015 |
|---|---|---|---|
| Interest rates | **480** | 663 | 422 |
| Foreign exchange | **369** | 349 | 364 |
| Equities | **239** | 188 | 171 |
| Commodities | **84** | 66 | 56 |
| Other | **47** | 25 | 6 |
| Total trading revenue | **1,219** | 1,291 | 1,019 |
| Reported as: | | | |
| Net interest income (1) | **(133)** | 99 | 32 |
| Non-interest revenue – trading revenue | **1,352** | 1,192 | 987 |
| Total trading revenue | **1,219** | 1,291 | 1,019 |

(1) Amounts in brackets denote net interest expense.

## Note 18: Offsetting of Financial Assets and Financial Liabilities

Financial assets and financial liabilities are offset and the net amount is reported in our Consolidated Balance Sheet when there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis, or realize the asset and settle the liability simultaneously. The following table presents the amounts that have been offset in our Consolidated Balance Sheet, including securities purchased under resale agreements, securities sold under repurchase agreements and derivative instruments, generally under a market settlement mechanism (e.g. an exchange or clearing house) where simultaneous net settlement can be achieved to eliminate credit and liquidity risk between counterparties. Also presented are amounts not offset in the Consolidated Balance Sheet related to transactions where a master netting agreement or similar arrangement is in place with a right to offset the amounts only in the event of default, insolvency or bankruptcy, or where the offset criteria are otherwise not met.

(Canadian $ in millions) **2017**

| | | | | **Amounts not offset in the balance sheet** | | | |
|---|---|---|---|---|---|---|---|
| | **Gross amounts** | **Amounts offset in the balance sheet** | **Net amounts presented in the balance sheet** | **Impact of master netting agreements** | **Securities received/pledged as collateral** (1) (2) | **Cash collateral** | **Net amount** |
| **Financial Assets** | | | | | | | |
| Securities borrowed or purchased under resale agreements | **80,948** | **5,901** | **75,047** | **9,382** | **65,044** | **–** | **621** |
| Derivative instruments | **45,064** | **16,113** | **28,951** | **19,909** | **933** | **2,903** | **5,206** |
| | **126,012** | **22,014** | **103,998** | **29,291** | **65,977** | **2,903** | **5,827** |
| **Financial Liabilities** | | | | | | | |
| Derivative instruments | **43,917** | **16,113** | **27,804** | **19,909** | **1,263** | **1,642** | **4,990** |
| Securities lent or sold under repurchase agreements | **61,020** | **5,901** | **55,119** | **9,382** | **45,436** | **–** | **301** |
| | **104,937** | **22,014** | **82,923** | **29,291** | **46,699** | **1,642** | **5,291** |

(Canadian $ in millions) 2016

| | | | | Amounts not offset in the balance sheet | | | |
|---|---|---|---|---|---|---|---|
| | Gross amounts | Amounts offset in the balance sheet | Net amounts presented in the balance sheet | Impact of master netting agreements | Securities received/pledged as collateral (1) (2) | Cash collateral | Net amount |
| **Financial Assets** | | | | | | | |
| Securities borrowed or purchased under resale agreements | 69,795 | 3,149 | 66,646 | 7,204 | 58,775 | – | 667 |
| Derivative instruments | 54,726 | 15,543 | 39,183 | 27,538 | 1,610 | 2,740 | 7,295 |
| | 124,521 | 18,692 | 105,829 | 34,742 | 60,385 | 2,740 | 7,962 |
| **Financial Liabilities** | | | | | | | |
| Derivative instruments | 53,770 | 15,543 | 38,227 | 27,538 | 5,677 | 491 | 4,521 |
| Securities lent or sold under repurchase agreements | 43,867 | 3,149 | 40,718 | 7,204 | 33,281 | – | 233 |
| | 97,637 | 18,692 | 78,945 | 34,742 | 38,958 | 491 | 4,754 |

(1) Financial assets received/pledged as collateral are disclosed at fair value and are limited to the net balance sheet exposure (i.e. any over-collateralization is excluded from the table).
(2) Certain amounts of collateral are restricted from being sold or repledged except in the event of default or the occurrence of other predetermined events.

## Note 19: Interest Rate Risk

We earn interest on interest bearing assets and we pay interest on interest bearing liabilities. We also hold derivative instruments, such as interest rate swaps and interest rate options, with values that are sensitive to changes in interest rates. To the extent that we hold assets, liabilities and derivative instruments maturing or repricing at different points in time, we are exposed to interest rate risk.

## Interest Rate Gap Position

The determination of the interest rate sensitivity or gap position by necessity entails numerous assumptions. It is based on the earlier of the repricing date or maturity date of assets, liabilities and derivatives used to manage interest rate risk.

The gap position presented is as at October 31, 2017 and 2016. It represents the position outstanding at the close of the business day and may change significantly in subsequent periods based on customer behaviour and the application of our asset and liability management strategies.

The assumptions for the years ended October 31, 2017 and 2016 were as follows:

*Assets*

Fixed rate, fixed term assets, such as residential mortgage loans and consumer loans, are reported based upon the scheduled repayments and estimated prepayments that reflect expected borrower behaviour.

Trading and underwriting (mark-to-market) assets and interest bearing assets on which the customer interest rate changes with the prime rate or other short-term market rates are reported in the zero to three months category.

Goodwill and intangible and fixed assets are reported as non-interest sensitive. Other fixed rate and non-interest bearing assets with no defined maturity are reported based upon an assumed maturity profile that considers historical and forecasted trends in balances.

*Liabilities*

Fixed rate, fixed term liabilities, such as investment certificates, are reported at scheduled maturity with estimated redemptions that reflect expected depositor behaviour.

Interest bearing deposits on which the customer interest rate changes with the prime rate or other short-term market rates are reported in the zero to three months category.

Fixed rate and non-interest bearing liabilities with no defined maturity are reported based upon an assumed maturity profile that considers historical and forecasted trends in balances.

*Capital*

Common shareholders' equity is reported as non-interest sensitive.

*Yields*

Yields are based upon the effective interest rates for the assets or liabilities on October 31, 2017 and 2016.

## Interest Rate Gap Position

| As at October 31, 2017 (Canadian $ in millions, except as noted) | 0 to 3 months | 4 to 6 months | 7 to 12 months | Total within 1 year | Effective interest rate (%) | 1 to 5 years | Effective interest rate (%) | Over 5 years | Effective interest rate (%) | Non-interest sensitive | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Assets** | | | | | | | | | | | |
| Cash and cash equivalents | **29,450** | **757** | **692** | **30,899** | **0.57** | **2,522** | **0.20** | **26** | **–** | **(848)** | **32,599** |
| Interest bearing deposits with banks | **6,490** | **–** | **–** | **6,490** | **0.84** | **–** | **–** | **–** | **–** | **–** | **6,490** |
| Securities | **102,922** | **3,232** | **4,674** | **110,828** | **1.34** | **22,697** | **2.25** | **28,306** | **2.67** | **1,367** | **163,198** |
| Securities borrowed or purchased under resale agreements | **71,154** | **2,354** | **1,490** | **74,998** | **0.58** | **49** | **0.97** | **–** | **–** | **–** | **75,047** |
| Loans | **207,556** | **17,359** | **30,572** | **255,487** | **2.95** | **101,322** | **3.51** | **4,863** | **3.92** | **–** | **361,672** |
| Other assets | **42,389** | **372** | **1,054** | **43,815** | **na** | **396** | **na** | **(1,265)** | **na** | **27,628** | **70,574** |
| Total assets | **459,961** | **24,074** | **38,482** | **522,517** | | **126,986** | | **31,930** | | **28,147** | **709,580** |
| **Liabilities and Equity** | | | | | | | | | | | |
| Deposits | **249,185** | **28,195** | **39,694** | **317,074** | **0.97** | **134,907** | **0.89** | **31,507** | **0.68** | **–** | **483,488** |
| Securities sold but not yet purchased | **25,097** | **–** | **–** | **25,097** | **1.42** | **54** | **–** | **12** | **–** | **–** | **25,163** |
| Securities lent or sold under repurchase agreements | **54,809** | **290** | **20** | **55,119** | **0.56** | **–** | **–** | **–** | **–** | **–** | **55,119** |
| Other liabilities | **57,351** | **537** | **1,460** | **59,348** | **na** | **11,501** | **na** | **7,897** | **na** | **17,681** | **96,427** |
| Subordinated debt | **(121)** | **900** | **–** | **779** | **7.13** | **4,100** | **3.12** | **150** | **8.25** | **–** | **5,029** |
| Total equity | **(84)** | **–** | **157** | **73** | **na** | **3,789** | **na** | **–** | **na** | **40,492** | **44,354** |
| Total liabilities and shareholders' equity | **386,237** | **29,922** | **41,331** | **457,490** | | **154,351** | | **39,566** | | **58,173** | **709,580** |
| Asset/liability gap position | **73,724** | **(5,848)** | **(2,849)** | **65,027** | | **(27,365)** | | **(7,636)** | | **(30,026)** | **–** |
| Notional amounts of derivatives | **(64,225)** | **1,925** | **(2,121)** | **(64,421)** | | **58,009** | | **6,412** | | **–** | **–** |
| **Total interest rate gap position – 2017** | | | | | | | | | | | |
| Canadian dollar | **(376)** | **(1,772)** | **2,722** | **574** | | **17,839** | | **(1,623)** | | **(16,790)** | **–** |
| Foreign currency | **9,875** | **(2,151)** | **(7,692)** | **32** | | **12,805** | | **399** | | **(13,236)** | **–** |
| **Total gap** | **9,499** | **(3,923)** | **(4,970)** | **606** | | **30,644** | | **(1,224)** | | **(30,026)** | **–** |
| **Total interest rate gap position – 2016** | | | | | | | | | | | |
| Canadian dollar | 3,591 | (1,006) | (1,146) | 1,439 | | 13,056 | | 705 | | (15,200) | – |
| Foreign currency | (335) | 4,653 | (1,431) | 2,887 | | 9,508 | | (829) | | (11,566) | – |
| **Total gap** | 3,256 | 3,647 | (2,577) | 4,326 | | 22,564 | | (124) | | (26,766) | – |

na – not applicable

Certain comparative figures have been reclassified to conform with the current year's presentation.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

# Note 20: Capital Management

Our objective is to maintain a strong capital position in a cost-effective structure that: is appropriate given our target regulatory capital ratios and internal assessment of required economic capital; is consistent with our target credit ratings; underpins our operating groups' business strategies; and supports depositor, investor and regulator confidence, while building long-term shareholder value.

Our approach includes establishing limits, targets and performance measures that are used to manage balance sheet positions, risk levels and capital requirements, as well as issuing and redeeming capital instruments to obtain a cost-effective capital structure.

Regulatory capital requirements and risk-weighted assets for the consolidated entity are determined in accordance with OSFI's Capital Adequacy Requirements Guideline.

Common Equity Tier 1 (CET1) capital is the most permanent form of capital. It is comprised of common shareholders' equity less deductions for goodwill, intangible assets and certain other items. Tier 1 capital is primarily comprised of regulatory common equity, preferred shares and innovative hybrid instruments, net of Tier 1 capital deductions.

Tier 2 capital is primarily comprised of subordinated debentures and the eligible portion of the collective allowance for credit losses, net of certain Tier 2 capital deductions. Total capital includes Tier 1 and Tier 2 capital. Details of the components of our capital position are presented in Notes 11, 12, 15 and 16.

CET1 Capital Ratio, Tier 1 Capital Ratio, Total Capital Ratio and Leverage Ratio are the primary regulatory capital measures.

- The CET1 Capital Ratio is defined as common shareholders' equity, net of capital adjustments, divided by CET1 capital risk-weighted assets.
- The Tier 1 Capital Ratio is defined as Tier 1 capital divided by Tier 1 capital risk-weighted assets.
- The Total Capital Ratio is defined as Total capital divided by Total capital risk-weighted assets.
- The Leverage Ratio is defined as Tier 1 capital divided by the sum of on-balance sheet items and specified off-balance sheet items, net of specified adjustments.

We have met OSFI's stated minimum capital ratio requirements as at October 31, 2017.

## Regulatory Capital Measures and Risk-Weighted Assets

| (Canadian $ in millions, except as noted) | **2017** | 2016 |
|---|---|---|
| Common Equity Tier 1 Capital | **30,633** | 28,159 |
| Tier 1 Capital | **35,108** | 32,236 |
| Total Capital | **40,596** | 37,862 |
| Common Equity Tier 1 Capital Risk-Weighted Assets | **269,466** | 277,562 |
| Tier 1 Capital Risk-Weighted Assets | **269,466** | 277,562 |
| Total Capital Risk-Weighted Assets | **269,466** | 277,562 |
| Common Equity Tier 1 Capital Ratio | **11.4%** | 10.1% |
| Tier 1 Capital Ratio | **13.0%** | 11.6% |
| Total Capital Ratio | **15.1%** | 13.6% |
| Leverage Ratio | **4.4%** | 4.2% |

All 2017 and 2016 balances above are on an "all-in" basis.

# Note 21: Employee Compensation – Share-Based Compensation

## Stock Option Plan

We maintain a Stock Option Plan for designated officers and employees. Options are granted at an exercise price equal to the closing price of our common shares on the day before the grant date. Stock options granted on or after December 2013 vest in equal tranches of 50% on the third and fourth anniversaries of their grant date. Options granted prior to December 2013 vest in tranches over a four-year period starting from their grant date. Each tranche is treated as a separate award with a different vesting period. Certain options can only be exercised once certain performance targets are met. All options expire 10 years from their grant date.

We determine the fair value of stock options on their grant date and record this amount as compensation expense over the period that the stock options vest, with a corresponding increase to contributed surplus. When these stock options are exercised, we issue shares and record the amount of proceeds, together with the amount recorded in contributed surplus, in share capital. The estimated grant date fair value of stock options granted to employees who are eligible to retire is expensed at the date of grant.

The following table summarizes information about our Stock Option Plan:

| (Canadian $, except as noted) | **2017** | | 2016 | | 2015 | |
|---|---|---|---|---|---|---|
| | **Number of stock options** | **Weighted-average exercise price** (1) | Number of stock options | Weighted-average exercise price (1) | Number of stock options | Weighted-average exercise price (1) |
| Outstanding at beginning of year | **9,805,299** | **77.41** | 12,111,153 | 80.19 | 13,337,765 | 79.29 |
| Granted | **723,431** | **96.90** | 754,714 | 77.23 | 641,875 | 78.09 |
| Exercised | **2,233,801** | **57.80** | 2,103,391 | 55.32 | 842,821 | 54.41 |
| Forfeited/cancelled | **13,243** | **66.89** | 104,606 | 71.76 | 71,281 | 64.49 |
| Expired | **756,390** | **195.02** | 852,571 | 179.53 | 954,385 | 151.68 |
| Outstanding at end of year | **7,525,296** | **72.05** | 9,805,299 | 77.41 | 12,111,153 | 80.19 |
| Exercisable at end of year | **4,584,375** | **67.42** | 5,605,485 | 83.34 | 6,959,569 | 91.16 |
| Available for grant | **3,811,157** | | 4,151,676 | | 4,275,858 | |
| Outstanding stock options as a percentage of outstanding shares | **1.16%** | | 1.52% | | 1.88% | |

(1) The weighted-average exercise prices reflect the conversion of foreign currency denominated options at the exchange rate as at October 31, 2017, October 31, 2016 and October 31, 2015, respectively. For foreign currency denominated options exercised or expired during the year, the weighted-average exercise prices are translated using the exchange rates as at the settlement and expiry date respectively.

Certain comparative figures have been reclassified to conform with the current year's presentation.

Employee compensation expense related to this plan for the years ended October 31, 2017, 2016 and 2015 was $8 million, $6 million and $6 million before tax, respectively ($7 million, $6 million and $6 million after tax, respectively).

The intrinsic value of a stock option grant is the difference between the current market price of our common shares and the strike price of the option. The aggregate intrinsic value of stock options outstanding at October 31, 2017, 2016 and 2015 was $232 million, $211 million and $179 million, respectively. The aggregate intrinsic value of stock options exercisable at October 31, 2017, 2016 and 2015 was $174 million, $146 million and $125 million, respectively.

Options outstanding and exercisable at October 31, 2017 and 2016 by range of exercise price were as follows:

| (Canadian $, except as noted) | **2017** | | | | | | 2016 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Options outstanding** | | | **Options exercisable** | | | Options outstanding | | | Options exercisable | | |
| Range of exercise prices | **Number of stock options** | **Weighted-average remaining contractual life (years)** | **Weighted-average exercise price** (2) | **Number of stock options** | **Weighted-average remaining contractual life (years)** | **Weighted-average exercise price** (2) | Number of stock options | Weighted-average remaining contractual life (years) | Weighted-average exercise price (2) | Number of stock options | Weighted-average remaining contractual life (years) | Weighted-average exercise price (2) |
| $30.01 to $40.00 | **158,636** | **1.1** | **34.13** | **158,636** | **1.1** | **34.13** | 302,174 | 2.1 | 34.13 | 302,174 | 2.1 | 34.13 |
| $40.01 to $50.00 | **–** | **–** | **–** | **–** | **–** | **–** | 5,683 | 1.4 | 45.00 | 5,683 | 1.4 | 45.00 |
| $50.01 to $60.00 | **2,345,236** | **3.3** | **55.85** | **2,345,236** | **3.3** | **55.85** | 3,291,810 | 4.3 | 56.05 | 3,291,810 | 4.3 | 56.05 |
| $60.01 to $70.00 | **2,637,146** | **5.1** | **64.25** | **1,753,324** | **5.0** | **62.70** | 4,157,498 | 5.1 | 64.05 | 1,291,352 | 5.2 | 60.36 |
| $70.01 and over (1) | **2,384,278** | **7.2** | **99.13** | **327,179** | **1.0** | **191.74** | 2,048,134 | 6.2 | 145.34 | 714,466 | 1.4 | 271.75 |

(1) Certain options were issued as part of the acquisition of M&I.

(2) The weighted-average exercise prices reflect the conversion of foreign currency denominated options at the exchange rate as at October 31, 2017 and October 31, 2016.

Certain comparative figures have been reclassified to conform with the current year's presentation.

The following table summarizes further information about our Stock Option Plan:

| (Canadian $ in millions, except as noted) | **2017** | 2016 | 2015 |
|---|---|---|---|
| Unrecognized compensation cost for non-vested stock option awards | **5** | 4 | 4 |
| Weighted-average period over which this cost will be recognized (in years) | **2.7** | 2.5 | 2.3 |
| Total intrinsic value of stock options exercised | **90** | 55 | 18 |
| Cash proceeds from stock options exercised | **129** | 116 | 46 |
| Weighted-average share price for stock options exercised (in dollars) | **98.05** | 81.41 | 76.05 |

The fair value of options granted was estimated using a binomial option pricing model. The weighted-average fair value of options granted during the years ended October 31, 2017, 2016 and 2015 was $11.62, $7.60 and $7.45, respectively. To determine the fair value of the stock option tranches on the grant date, the following ranges of values were used for each option pricing assumption:

| | **2017** | 2016 | 2015 |
|---|---|---|---|
| Expected dividend yield | **4.3%** | 5.5% | 4.7% – 4.8% |
| Expected share price volatility | **18.4% – 18.8%** | 19.8% – 20.0% | 16.9% – 17.0% |
| Risk-free rate of return | **1.7% – 1.8%** | 1.3% – 1.4% | 1.9% – 2.0% |
| Expected period until exercise (in years) | **6.5 – 7.0** | 6.5 – 7.0 | 6.5 – 7.0 |

Changes to the input assumptions can result in different fair value estimates.

Expected dividend yield is based on market expectations of future dividends on our common shares. Expected share price volatility is determined based on the market consensus implied volatility for traded options on our common shares. The risk-free rate is based on the yields of a Canadian swap curve with maturities similar to the expected period until exercise of the options. The weighted-average exercise price on the grant date for the years ended October 31, 2017, 2016 and 2015 was $96.90, $77.23 and $78.09, respectively.

## Other Share-Based Compensation

*Share Purchase Plans*

We offer various employee share purchase plans. The largest of these plans provides the employee the option of directing a portion of their gross salary toward the purchase of our common shares. We match 50% of employee contributions up to 6% of their individual gross salary to a maximum of $100,000. Our contributions during the first two years vest after two years of participation in the plan, with subsequent contributions vesting immediately. The shares held in the employee share purchase plan are purchased on the open market and are considered outstanding for purposes of computing earnings per share. The dividends earned on our common shares held by the plan are used to purchase additional common shares on the open market.

We account for our contribution as employee compensation expense when it is contributed to the plan.

Employee compensation expense related to these plans for the years ended October 31, 2017, 2016 and 2015 was $53 million, $51 million and $52 million, respectively. There were 18.3 million, 18.9 million and 19.0 million common shares held in these plans for the years ended October 31, 2017, 2016 and 2015, respectively.

*Mid-Term Incentive Plans*

We offer mid-term incentive plans for executives and certain senior employees. Payment amounts are adjusted to reflect reinvested dividends and changes in the market value of our common shares. Depending on the plan, the recipient receives either a single cash payment at the end of the three-year period of the plan, or cash payments over the three years of the plan. As the awards are cash settled, they are recorded as liabilities. Amounts payable under such awards are recorded as compensation expense over the vesting period. Amounts related to units granted to employees who are eligible to retire are expensed at the time of grant. Subsequent changes in the fair value of the liability are recorded in compensation expense in the period in which they arise.

Mid-term incentive plan units granted during the years ended October 31, 2017, 2016 and 2015 totalled 5.9 million, 6.4 million and 5.8 million, respectively.

Prior to 2015, we entered into agreements with third parties to assume our liabilities related to a portion of units granted for a fixed up-front payment. For units subject to such arrangements, we no longer have any obligation for future cash payments and as a result no liability is recorded related to these awards. All cash payments made under such arrangements are deferred in the Consolidated Balance Sheet as other assets and are recognized on a straight-line basis over the vesting period. Subsequent changes in the market value of our common shares do not affect the amount of compensation expense related to these awards. During the year ended October 31, 2017, all remaining deferred compensation relating to these arrangements was recognized.

Employee compensation expense related to plans where we entered into agreements with third parties for the years ended October 31, 2017, 2016 and 2015 was $(7) million, $26 million and $81 million before tax, respectively ($(5) million, $19 million and $60 million after tax, respectively).

Mid-term incentive plan units for which we did not enter into agreements with third parties for the years ended October 31, 2017, 2016 and 2015 totalled 5.9 million, 6.4 million and 5.8 million units, respectively. The grant date fair value of these awards as at October 31, 2017, 2016 and 2015 was $515 million, $492 million and $475 million, respectively, for which we recorded employee compensation expense of $703 million, $537 million and $303 million before tax, respectively ($516 million, $397 million and $224 million after tax, respectively). Beginning in November 2014, we no longer enter into agreements with third parties; however, we economically hedge the impact of the change in market value of our common shares by entering into total return swaps (equity contracts). Gains (losses) on total return swaps recognized for the years ended October 31, 2017, 2016 and 2015 were $183 million, $111 million and $(27) million, respectively, resulting in net employee compensation expense of $520 million, $426 million and $330 million, respectively.

A total of 17.0 million, 17.0 million and 16.1 million mid-term incentive plan units were outstanding as at October 31, 2017, 2016 and 2015, respectively, and the intrinsic value of those awards which had vested was $1,253 million, $883 million and $497 million, respectively. Cash payments made in relation to these liabilities were $343 million, $131 million and $127 million, respectively.

*Deferred Incentive Plans*

We offer deferred incentive plans for members of our Board of Directors, executives and key employees in BMO Capital Markets and Wealth Management. Under these plans, fees, annual incentive payments and/or commissions can be deferred as share units of our common shares. These share units are either fully vested on the grant date or vest at the end of three years. The value of these share units is adjusted to reflect reinvested dividends and changes in the market value of our common shares.

Deferred incentive plan payments are paid in cash upon the participant's departure from the bank.

Employee compensation expense for these plans is recorded in the year the fees, incentive payments and/or commissions are earned. Changes in the amount of the incentive plan payments as a result of dividends and share price movements are recorded as increases or decreases in employee compensation expense in the period of the change.

Deferred incentive plan units granted during the years ended October 31, 2017, 2016 and 2015 totalled 0.3 million, 0.4 million and 0.3 million, respectively, and the grant date fair value of these units was $32 million, $28 million and $26 million, respectively.

Liabilities related to these plans are recorded in other liabilities in our Consolidated Balance Sheet and totalled $499 million and $414 million as at October 31, 2017 and 2016, respectively. Payments made under these plans for the years ended October 31, 2017, 2016 and 2015 were $32 million, $53 million and $25 million, respectively.

Employee compensation expense related to these plans for the years ended October 31, 2017, 2016 and 2015 was $91 million, $67 million and $(2) million before tax, respectively ($67 million, $50 million and $(1) million after tax, respectively). We have entered into derivative instruments to hedge our exposure related to these plans. Changes in the fair value of these derivatives are recorded as employee compensation expense in the period in which they arise. Gains (losses) on these derivatives for the years ended October 31, 2017, 2016 and 2015 were $78 million, $57 million and $(16) million before tax, respectively. These gains (losses) resulted in net employee compensation expense for the years ended October 31, 2017, 2016 and 2015 of $13 million, $10 million and $14 million before tax, respectively ($10 million, $7 million and $10 million after tax, respectively).

A total of 5.0 million, 4.8 million and 4.9 million deferred incentive plan units were outstanding as at October 31, 2017, 2016 and 2015, respectively.

# Note 22: Employee Compensation – Pension and Other Employee Future Benefits

## Pension and Other Employee Future Benefit Plans

We sponsor a number of arrangements globally, with the largest of such arrangements located in Canada, the United States and the United Kingdom, that provide pension and other employee future benefits to our retired and current employees. The largest of these arrangements, by defined benefit obligation, are the primary defined benefit pension plans for employees in Canada and the United States and the primary other employee future benefit plan for employees in Canada.

Pension arrangements include defined benefit pension plans, as well as supplementary arrangements that provide pension benefits in excess of statutory limits. Generally, under these plans we provide retirement benefits based on an employee's years of service and average annual earnings over a period of time prior to retirement. Our pension and other employee future benefit expenses, recorded in employee compensation expense, mainly comprise the current service cost plus or minus the interest on net defined benefit assets or liabilities. In addition, we provide defined contribution pension plans to employees in some of our subsidiaries. The costs of these plans, recorded in employee compensation expense, are equal to our contributions to the plans.

The defined benefit pension plans for our employees in the United States were closed to new members on April 1, 2016 and closed to future accruals on March 1, 2017. A defined contribution pension plan was made available for employees affected by the closure. As a result of the closure of these plans, we recorded a curtailment gain of $52 million in non-interest expense, employee compensation, in our Consolidated Statement of Income in 2016.

We also provide other employee future benefits, including health and dental care benefits and life insurance, for eligible current and retired employees.

Short-term employee benefits, such as salaries, paid absences, bonuses and other benefits, are accounted for on an accrual basis over the period in which the employees provide the related services.

## Investment Policy

The assets of the defined benefit pension plans are managed in accordance with all applicable laws and regulations. The plans are administered under a defined governance structure, with the oversight resting with the Board of Directors.

The plans are managed under a framework that considers both assets and liabilities in the development of an investment policy and in managing risk. Over the past several years, we have implemented a liability-driven investment strategy for the primary Canadian plan to enhance risk-adjusted returns while reducing the plan's surplus volatility. This strategy has reduced the impact of the plan on our regulatory capital.

The plans invest in asset classes that include equities, fixed income and alternative strategies, under established investment guidelines. Plan assets are diversified across asset classes and by geographic exposure. They are managed by asset management firms that are responsible for the selection of investment securities. Derivative instruments are permitted under policy guidelines and are generally used to hedge foreign currency exposures, manage interest rate exposures or replicate the return of an asset.

## Asset Allocations

The asset allocation ranges and weighted-average actual asset allocations of our primary pension plans, based on the fair market values at October 31, are as follows:

| | | Pension benefit plans | |
|---|---|---|---|
| | **Target Range 2017** | **Actual 2017** | Actual 2016 |
| Equities | **25% – 50%** | **40%** | 42% |
| Fixed income investments | **25% – 55%** | **46%** | 44% |
| Other | **10% – 40%** | **14%** | 14% |

Our pension and other employee future benefit plan assets are measured at fair value on a recurring basis.

## Risk Management

The plans are exposed to various risks, including market risk (interest rate, equity and foreign currency risks), credit risk, operational risk, surplus risk and longevity risk. We follow a number of approaches to monitor and actively manage these risks, including:

- monitoring surplus-at-risk, which measures a plan's risk in an asset-liability framework;
- stress testing and scenario analyses to evaluate the volatility of the plans' financial positions and any potential impact on the bank;
- hedging of currency exposures and interest rate risk within policy limits;
- controls related to asset mix allocations, geographic allocations, portfolio duration, credit quality of debt securities, sector guidelines, issuer/counterparty limits and others; and
- ongoing monitoring of exposures, performance and risk levels.

## Pension and Other Employee Future Benefit Liabilities

Our actuaries perform valuations of our defined benefit obligations for pension and other employee future benefits as at October 31 of each year using the projected unit credit method based on management's assumptions about discount rates, rates of compensation increase, retirement age, mortality and health care cost trend rates.

The discount rates for the primary Canadian and U.S. pension and other employee future benefit plans were selected based on the yields of high-quality AA rated corporate bond yields with terms matching the plans' cash flows.

The fair value of plan assets is deducted from the defined benefit obligation to determine the net defined benefit asset or liability. For defined benefit pension plans that are in a net defined benefit asset position, the recognized asset is limited to the present value of economic benefits available in the form of future refunds from the plan or reductions in future contributions to the plan (the "asset ceiling"). Changes in the asset ceiling are recognized in other comprehensive income. Components of the change in our net defined benefit assets or liabilities and our pension and other employee future benefit expense are as follows:

**Current service cost** represents benefits earned in the current year. The cost is determined with reference to the current workforce and the amount of benefits to which employees will be entitled upon retirement, based on the provisions of our benefit plans.

**Interest on net defined benefit asset or liability** represents the increase in the net defined benefit asset or liability that results from the passage of time and is determined by applying the discount rate to the net defined benefit asset or liability.

**Actuarial gains and losses** may arise in two ways. First, each year our actuaries recalculate the defined benefit obligations and compare them to those estimated as at the previous year end. Any differences that result from changes in demographic and economic assumptions or from plan member experience being different from management's expectations at the previous year end are considered actuarial gains or losses. Second, actuarial gains and losses arise when there are differences between the discount rate and actual returns on plan assets. Actuarial gains and losses are recognized immediately in other comprehensive income as they occur and are not subsequently reclassified to income in future periods.

**Plan amendments** are changes in our defined benefit obligations that result from changes to provisions of the plans. The effects of plan amendments are recognized immediately in income when a plan is amended.

**Settlements** occur when defined benefit obligations for plan participants are settled, usually through lump sum cash payments, and as a result we no longer have any obligation to provide such participants with benefit payments in the future.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## Funding of Pension and Other Employee Future Benefit Plans

We fund our defined benefit pension plans in Canada and the United States in accordance with statutory requirements, and the assets in these plans are used to pay benefits to retirees and other employees. Some groups of employees are also eligible to make voluntary contributions in order to receive enhanced benefits. Our supplementary pension plan in Canada is funded, while in the United States the supplementary pension plan is unfunded.

Our other employee future benefit plans in Canada and the United States are either partially funded or unfunded. Benefit payments related to these plans are paid either through the respective plan or directly by us.

We measure the fair value of plan assets for our plans in Canada and the United States as at October 31. In addition to actuarial valuations for accounting purposes, we are required to prepare valuations for determining our minimum funding requirements for our pension arrangements in accordance with the relevant statutory framework (our "funding valuation"). An annual funding valuation is performed for our plans in Canada and the United States. The most recent funding valuation for our primary Canadian pension plan was performed as at October 31, 2017 and the most recent funding valuation for our primary U.S. pension plan was performed as at January 1, 2017. Benefit payments for fiscal 2018 are estimated to be $508 million.

A summary of plan information for the past three years is as follows:

| (Canadian $ in millions) | Pension benefit plans | | | Other employee future benefit plans | | |
|---|---|---|---|---|---|---|
| | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 |
| Defined benefit obligation | **8,846** | 8,992 | 7,934 | **1,460** | 1,493 | 1,323 |
| Fair value of plan assets | **8,990** | 8,655 | 8,072 | **157** | 150 | 131 |
| Surplus (deficit) and net defined benefit asset (liability) | **144** | (337) | 138 | **(1,303)** | (1,343) | (1,192) |
| Surplus (deficit) is comprised of: | | | | | | |
| Funded or partially funded plans | **339** | (127) | 362 | **28** | 7 | (32) |
| Unfunded plans | **(195)** | (210) | (224) | **(1,331)** | (1,350) | (1,160) |
| Surplus (deficit) and net defined benefit asset (liability) | **144** | (337) | 138 | **(1,303)** | (1,343) | (1,192) |

## Pension and Other Employee Future Benefit Expenses

Pension and other employee future benefit expenses are determined as follows:

| (Canadian $ in millions) | Pension benefit plans | | | Other employee future benefit plans | | |
|---|---|---|---|---|---|---|
| | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 |
| **Annual benefits expense** | | | | | | |
| Current service cost | **254** | 224 | 286 | **32** | 25 | 29 |
| Net interest (income) expense on net defined benefit (asset) liability | **7** | (10) | (5) | **47** | 52 | 50 |
| Gain on settlement | **–** | – | (13) | **–** | – | – |
| Administrative expenses | **5** | 5 | 4 | **–** | – | – |
| Remeasurement of other long-term benefits | **–** | – | – | **(6)** | 6 | 4 |
| Benefits expense | **266** | 219 | 272 | **73** | 83 | 83 |
| Canada and Quebec pension plan expense | **75** | 73 | 73 | **–** | – | – |
| Defined contribution expense | **123** | 96 | 86 | **–** | – | – |
| Total annual pension and other employee future benefit expenses recognized in the Consolidated Statement of Income | **464** | 388 | 431 | **73** | 83 | 83 |

**Weighted-average assumptions used to determine benefit expenses**

| | Pension benefit plans | | | Other employee future benefit plans | | |
|---|---|---|---|---|---|---|
| | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 |
| Discount rate at beginning of year (2)(3) | **3.4%** | 4.2% | 4.1% | **3.6%** | 4.4% | 4.2% |
| Rate of compensation increase | **2.8%** | 2.7% | 2.9% | **2.4%** | 2.4% | 2.6% |
| Assumed overall health care cost trend rate | **na** | na | na | **5.2%** (1) | 5.3% (1) | 5.5% (1) |

(1) Trending to 4.5% in 2031 and remaining at that level thereafter.
(2) The pension benefit current service cost is calculated using a separate discount rate of 3.68% and 4.48% for 2017 and 2016, respectively.
(3) The other employee future benefit plans current service cost is calculated using a separate discount rate of 3.78% and 4.66% for 2017 and 2016, respectively.
na – not applicable

Assumptions regarding future mortality are based on published statistics and mortality tables calibrated to plan experience, when applicable. The current life expectancies underlying the amounts of the defined benefit obligations for our primary plans are as follows:

| (Years) | Canada | | United States | |
|---|---|---|---|---|
| | **2017** | 2016 | **2017** | 2016 |
| **Life expectancy for those currently age 65** | | | | |
| Males | **23.6** | 23.5 | **22.0** | 22.2 |
| Females | **24.0** | 23.9 | **23.4** | 23.8 |
| **Life expectancy at age 65 for those currently age 45** | | | | |
| Males | **24.6** | 24.5 | **23.2** | 23.4 |
| Females | **24.9** | 24.9 | **24.6** | 25.0 |

Changes in the estimated financial positions of our pension benefit plans and other employee future benefit plans are as follows:

| (Canadian $ in millions, except as noted) | Pension benefit plans | | Other employee future benefit plans | |
|---|---|---|---|---|
| | **2017** | 2016 | **2017** | 2016 |
| **Defined benefit obligation** | | | | |
| Defined benefit obligation at beginning of year | **8,992** | 7,934 | **1,493** | 1,323 |
| Current service cost | **254** | 224 | **32** | 25 |
| Interest cost | **300** | 326 | **52** | 57 |
| Benefits paid | **(448)** | (406) | **(45)** | (42) |
| Employee contributions | **15** | 13 | **5** | 4 |
| Actuarial (gains) losses due to: | | | | |
| Changes in demographic assumptions | **(127)** | (34) | **(107)** | (37) |
| Changes in financial assumptions | **(150)** | 1,041 | **(2)** | 164 |
| Plan member experience | **45** | (9) | **39** | (6) |
| Foreign exchange and other | **(35)** | (97) | **(7)** | 5 |
| Defined benefit obligation at end of year | **8,846** | 8,992 | **1,460** | 1,493 |
| Wholly or partially funded defined benefit obligation | **8,651** | 8,782 | **129** | 143 |
| Unfunded defined benefit obligation | **195** | 210 | **1,331** | 1,350 |
| Total defined benefit obligation | **8,846** | 8,992 | **1,460** | 1,493 |
| **Weighted-average assumptions used to determine the defined benefit obligation** | | | | |
| Discount rate at end of year | **3.5%** | 3.4% | **3.6%** | 3.6% |
| Rate of compensation increase | **2.4%** | 2.8% | **2.0%** | 2.4% |
| Assumed overall health care cost trend rate | **na** | na | **5.2%** (1) | 5.3% (1) |
| **Fair value of plan assets** | | | | |
| Fair value of plan assets at beginning of year | **8,655** | 8,072 | **150** | 131 |
| Interest income | **293** | 336 | **5** | 5 |
| Return on plan assets (excluding interest income) | **277** | 532 | **8** | 10 |
| Employer contributions | **219** | 235 | **40** | 38 |
| Employee contributions | **15** | 13 | **5** | 4 |
| Benefits paid | **(448)** | (406) | **(45)** | (42) |
| Administrative expenses | **(5)** | (5) | **–** | – |
| Foreign exchange and other | **(16)** | (122) | **(6)** | 4 |
| Fair value of plan assets at end of year | **8,990** | 8,655 | **157** | 150 |
| Surplus (deficit) and net defined benefit asset (liability) at end of year | **144** | (337) | **(1,303)** | (1,343) |
| **Recorded in:** | | | | |
| Other assets | **508** | 118 | **–** | – |
| Other liabilities | **(364)** | (455) | **(1,303)** | (1,343) |
| Surplus (deficit) and net defined benefit asset (liability) at end of year | **144** | (337) | **(1,303)** | (1,343) |
| **Actuarial gains (losses) recognized in other comprehensive income** | | | | |
| Net actuarial gains on plan assets | **277** | 532 | **8** | 10 |
| Actuarial gains (losses) on defined benefit obligation due to: | | | | |
| Changes in demographic assumptions | **127** | 34 | **104** | 34 |
| Changes in financial assumptions | **150** | (1,041) | **–** | (160) |
| Plan member experience | **(45)** | 9 | **(41)** | 12 |
| Foreign exchange and other | **(3)** | (8) | **–** | – |
| **Actuarial gains (losses) recognized in other comprehensive income for the year** | **506** | (474) | **71** | (104) |

(1) Trending to 4.5% in 2031 and remaining at that level thereafter.

na – not applicable

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Our pension and other employee future benefit plan assets are measured at fair value on a recurring basis. The fair values of plan assets held by our primary plans as at October 31 are as follows:

| (Canadian $ in millions) | Canadian plans | | U.S. plans (1) | |
|---|---|---|---|---|
| | **2017** | 2016 | **2017** | 2016 |
| Cash and money market funds (2) | **85** | 68 | **55** | 48 |
| Securities issued or guaranteed by: (3) | | | | |
| Canadian federal government | **192** | 144 | **–** | – |
| Canadian provincial and municipal governments | **797** | 722 | **–** | – |
| U.S. federal government | **20** | 3 | **307** | 145 |
| U.S. states, municipalities and agencies | **–** | – | **16** | 18 |
| Pooled funds (4) | **3,673** | 3,451 | **82** | 106 |
| Derivative instruments | **(29)** | (26) | **–** | – |
| Corporate debt (5) | **747** | 881 | **520** | 481 |
| Corporate equity (2) | **938** | 832 | **354** | 539 |
| | **6,423** | 6,075 | **1,334** | 1,337 |

(1) All of the U.S. plans' assets have quoted prices in active markets, except pooled funds, corporate debt and securities issued or guaranteed by U.S. states, municipalities and agencies.
(2) $80 million ($61 million in 2016) of the cash and money market funds and corporate equity are held by Canadian plans as at October 31, 2017 and 2016 have quoted prices in active markets.
(3) $622 million ($537 million in 2016) of securities issued or guaranteed by governments held by Canadian plans have quoted prices in active markets.
(4) $1,743 million ($1,607 million in 2016) of pooled funds held by Canadian plans have quoted prices in active markets.
(5) $9 million ($7 million in 2016) of corporate debt held by Canadian plans has quoted prices in active markets.

No plan assets are directly invested in the bank's or related parties' securities as at October 31, 2017 and 2016. As at October 31, 2017, our primary Canadian plan indirectly held, through pooled funds, approximately $3 million ($13 million in 2016) of our common shares. The plans do not hold any property we occupy or other assets we use.

The plans paid $4 million in the year ended October 31, 2017 ($4 million in 2016) to the bank and certain of our subsidiaries for investment management, record-keeping, custodial and administrative services rendered.

## Sensitivity of Assumptions

Key weighted-average assumptions used in measuring the defined benefit obligations for our primary plans are outlined in the following table. The sensitivity analysis provided in the table should be used with caution as it is hypothetical and the impact of changes in each key assumption may not be linear. The sensitivities to changes in each key variable have been calculated independently of the impact of changes in other key variables. Actual experience may result in simultaneous changes in a number of key assumptions, which would amplify or reduce certain sensitivities.

| | | Defined benefit obligation | |
|---|---|---|---|
| (Canadian $ in millions, except as noted) | | Pension benefit plans | Other employee future benefit plans |
| Discount rate (%) | | 3.5 | 3.6 |
| Impact of: | 1% increase ($) | (891) | (170) |
| | 1% decrease ($) | 1,125 | 216 |
| Rate of compensation increase (%) | | 2.4 | 2.0 |
| Impact of: | 0.25% increase ($) | 43 | 1 |
| | 0.25% decrease ($) | (42) | (1) |
| Mortality | | | |
| Impact of: | 1 year shorter life expectancy ($) | (150) | (34) |
| | 1 year longer life expectancy ($) | 147 | 35 |
| Assumed overall health care cost trend rate (%) | | na | 5.2 (1) |
| Impact of: | 1% increase ($) | na | 81 |
| | 1% decrease ($) | na | (82) |

(1) Trending to 4.5% in 2031 and remaining at that level thereafter.
na – not applicable

## Disaggregation of Defined Benefit Obligation

Disaggregation of the defined benefit obligation for our primary plans is as follows:

| | **2017** | 2016 |
|---|---|---|
| **Canadian pension plans** | | |
| Active members | **43%** | 45% |
| Inactive and retired members | **57%** | 55% |
| | **100%** | 100% |
| **U.S. pension plans** | | |
| Active members | **66%** | 68% |
| Inactive and retired members | **34%** | 32% |
| | **100%** | 100% |
| **Canadian other employee future benefit plans** | | |
| Active members | **41%** | 44% |
| Inactive and retired members | **59%** | 56% |
| | **100%** | 100% |

### Maturity Profile

The duration of the defined benefit obligation for our primary plans is as follows:

| (Years) | **2017** | 2016 |
|---|---|---|
| Canadian pension plans | **14.7** | 16.0 |
| U.S. pension plans | **8.0** | 8.3 |
| Canadian other employee future benefit plans | **16.5** | 17.2 |

### Cash Flows

Cash payments we made during the year in connection with our employee future benefit plans are as follows:

| (Canadian $ in millions) | Pension benefit plans | | | Other employee future benefit plans | | |
|---|---|---|---|---|---|---|
| | **2017** | 2016 | 2015 | **2017** | 2016 | 2015 |
| Contributions to defined benefit plans | **187** | 192 | 198 | **–** | – | – |
| Contributions to defined contribution plans | **123** | 96 | 86 | **–** | – | – |
| Benefits paid directly to pensioners | **32** | 43 | 33 | **40** | 38 | 35 |
| | **342** | 331 | 317 | **40** | 38 | 35 |

Our best estimate of the contributions we expect to make for the year ending October 31, 2018 is approximately $196 million to our defined benefit pension plans and $45 million to our other employee future benefit plans.

## Note 23: Income Taxes

We report our provision for income taxes in our Consolidated Statement of Income based upon transactions recorded in our consolidated financial statements regardless of when they are recognized for income tax purposes, with the exception of repatriation of retained earnings from our subsidiaries, as noted below.

In addition, we record an income tax expense or benefit in other comprehensive income or directly in shareholders' equity when the taxes relate to amounts recorded in other comprehensive income or shareholders' equity. For example, income tax expense (recovery) on hedging gains (losses) related to our net investment in foreign operations is recorded in our Consolidated Statement of Comprehensive Income as part of unrealized gains (losses) on translation of net foreign operations.

Current tax is the amount of income tax recoverable (payable) in respect of the taxable loss (profit) for a period. Deferred income tax assets and liabilities are measured at the tax rates expected to apply when temporary differences reverse. Changes in deferred income tax assets and liabilities related to a change in tax rates are recorded in income in the period the tax rate is substantively enacted, except to the extent that the tax arises from a transaction or event which is recognized either in other comprehensive income or directly in shareholders' equity. Current and deferred taxes are only offset when they are levied by the same taxing authority, levied on the same entity or group of entities and when there is a legal right to offset.

Included in deferred income tax assets is $126 million ($nil in 2016) related to Canadian tax loss carryforwards that will expire in 2037, $1,091 million ($1,328 million in 2016) related to U.S. tax loss carryforwards that will expire in various amounts in U.S. taxation years from 2029 through 2034 and $16 million ($15 million in 2016) related to U.K. tax loss carryforwards that are available for use indefinitely against relevant profits generated in the U.K. On the evidence available, including management projections of income, we believe that there will be sufficient taxable income generated by our business operations to support these deferred tax assets. The amount of tax on temporary differences, unused tax losses and unused tax credits for which no deferred tax asset is recognized in our Consolidated Balance Sheet as at October 31, 2017 is $282 million ($240 million as at October 31, 2016). Deferred tax assets have not been recognized in respect of these items because it is not probable that realization of these assets will occur.

Income that we earn in foreign countries through our branches or subsidiaries is generally subject to tax in those countries. We are also subject to Canadian taxation on the income earned in our foreign branches. Canada allows a credit for certain foreign taxes paid on this income. Upon repatriation of retained earnings from certain foreign subsidiaries, we would be required to pay tax on certain of these earnings. As repatriation of such earnings is not planned in the foreseeable future, we have not recorded the related deferred income tax liability.

Taxable temporary differences associated with investments in certain subsidiaries, branches, associates and interests in joint ventures for which deferred tax liabilities have not been recognized are $12 billion as at October 31, 2017 ($11 billion in 2016).

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## Provision for Income Taxes

| (Canadian $ in millions) | 2017 | 2016 | 2015 |
|---|---|---|---|
| **Consolidated Statement of Income** | | | |
| Current | | | |
| Provision for income taxes for the current period | **1,254** | 927 | 685 |
| Adjustments in respect of current tax for prior periods | **18** | 8 | 18 |
| Deferred | | | |
| Origination and reversal of temporary differences | **80** | 183 | 253 |
| Effect of changes in tax rates | **(2)** | (2) | (15) |
| Previously unrecognized tax loss, tax credit or temporary difference of a prior period | **(54)** | (15) | (5) |
| | **1,296** | 1,101 | 936 |
| **Other Comprehensive Income and Shareholders' Equity** | | | |
| Income tax expense (recovery) related to: | | | |
| Gains (losses) on remeasurement of pension and other employee future benefit plans | **157** | (156) | 51 |
| Unrealized gains (losses) on available-for-sale securities, net of hedging activities | **21** | 64 | (63) |
| Reclassification to earnings of (gains) on available-for-sale securities | **(36)** | (11) | (24) |
| Gains (losses) on remeasurement of own credit risk on financial liabilities designated at fair value | **(53)** | (55) | 43 |
| Gains (losses) on cash flow hedges | **(322)** | 4 | 188 |
| Reclassification to earnings of (gains) losses on cash flow hedges | **21** | 6 | (14) |
| Hedging of unrealized (gains) losses on translation of net foreign operations | **8** | 10 | (167) |
| Share-based compensation | **(12)** | – | – |
| Total | **1,080** | 963 | 950 |

Certain comparative figures have been reclassified to conform with the current year's presentation.

### Components of Total Provision for Income Taxes

| (Canadian $ in millions) | 2017 | 2016 | 2015 |
|---|---|---|---|
| Canada: Current income taxes | | | |
| Federal | **470** | 434 | 352 |
| Provincial | **272** | 248 | 191 |
| | **742** | 682 | 543 |
| Canada: Deferred income taxes | | | |
| Federal | **2** | (120) | 131 |
| Provincial | **–** | (67) | 71 |
| | **2** | (187) | 202 |
| Total Canadian | **744** | 495 | 745 |
| Foreign: Current income taxes | **281** | 220 | 103 |
| Deferred income taxes | **55** | 248 | 102 |
| Total foreign | **336** | 468 | 205 |
| Total | **1,080** | 963 | 950 |

Certain comparative figures have been reclassified to conform with the current year's presentation.

Set out below is a reconciliation of our statutory tax rates and income taxes that would be payable at these rates to the effective income tax rates and provision for income taxes that we have recorded in our Consolidated Statement of Income:

| (Canadian $ in millions, except as noted) | | 2017 | | 2016 | | 2015 |
|---|---|---|---|---|---|---|
| Combined Canadian federal and provincial income taxes at the statutory tax rate | **1,768** | **26.6%** | 1,525 | 26.6% (1) | 1,410 | 26.4% |
| Increase (decrease) resulting from: | | | | | | |
| Tax-exempt income from securities | **(409)** | **(6.2)** | (367) | (6.4) | (378) | (7.1) |
| Foreign operations subject to different tax rates | **22** | **0.3** | 13 | 0.3 | (34) | (0.6) |
| Change in tax rate for deferred income taxes | **(2)** | **–** | (2) | – | (15) | (0.3) |
| Previously unrecognized tax loss, tax credit or temporary difference of a prior period | **(54)** | **(0.8)** | (15) | (0.3) | (5) | (0.1) |
| Income attributable to investments in associates and joint ventures | **(103)** | **(1.5)** | (47) | (0.8) | (44) | (0.8) |
| Adjustments in respect of current tax for prior periods | **18** | **0.2** | 8 | 0.1 | 18 | 0.3 |
| Other | **56** | **0.9** | (14) | (0.3) | (16) | (0.3) |
| Provision for income taxes and effective tax rate | **1,296** | **19.5%** | 1,101 | 19.2% | 936 | 17.5% |

(1) The combined statutory tax rate changed during the year as a result of legislation that became substantively enacted with respect to the year.

Certain comparative figures have been reclassified to conform with the current year's presentation.

### Components of Deferred Income Tax Balances

(Canadian $ in millions)

| Deferred Income Tax Assets (1) | Allowance for credit losses | Employee future benefits | Deferred compensation benefits | Other comprehensive income | Tax loss carryforwards | Other | Total |
|---|---|---|---|---|---|---|---|
| As at October 31, 2015 | 1,019 | 382 | 431 | (31) | 1,324 | 674 | 3,799 |
| Benefit (expense) to income statement | (149) | 8 | 30 | – | 7 | 23 | (81) |
| Benefit (expense) to equity | – | 34 | – | (51) | – | – | (17) |
| Translation and other | 13 | – | 1 | – | 12 | (5) | 21 |
| As at October 31, 2016 | 883 | 424 | 462 | (82) | 1,343 | 692 | 3,722 |
| Benefit (expense) to income statement | **(118)** | **12** | **102** | **–** | **(18)** | **106** | **84** |
| Benefit (expense) to equity | **–** | **(14)** | **–** | **112** | **–** | **12** | **110** |
| Translation and other | **(55)** | **(6)** | **(19)** | **(3)** | **(92)** | **(36)** | **(211)** |
| As at October 31, 2017 | **710** | **416** | **545** | **27** | **1,233** | **774** | **3,705** |

| Deferred Income Tax Liabilities (2) | Premises and equipment | Pension benefits | Goodwill and intangible assets | Securities | Other | Total |
|---|---|---|---|---|---|---|
| As at October 31, 2015 | (454) | (33) | (316) | 9 | (108) | (902) |
| Benefit (expense) to income statement | (160) | (3) | 65 | 2 | 11 | (85) |
| Benefit (expense) to equity | – | 122 | – | – | – | 122 |
| Translation and other | 1 | 3 | (2) | 1 | (1) | 2 |
| As at October 31, 2016 | (613) | 89 | (253) | 12 | (98) | (863) |
| Benefit (expense) to income statement | **(83)** | **5** | **(23)** | **11** | **(18)** | **(108)** |
| Benefit (expense) to equity | **–** | **(143)** | **–** | **–** | **–** | **(143)** |
| Translation and other | **32** | **(3)** | **15** | **(2)** | **(1)** | **41** |
| As at October 31, 2017 | **(664)** | **(52)** | **(261)** | **21** | **(117)** | **(1,073)** |

(1) Deferred tax assets of $2,865 million and $3,101 million as at October 31, 2017 and 2016, respectively, are presented on the balance sheet net by legal jurisdiction.
(2) Deferred tax liabilities of $233 million and $242 million as at October 31, 2017 and 2016, respectively, are presented on the balance sheet net by legal jurisdiction.

During the year ended October 31, 2017, we were reassessed by the Canada Revenue Agency ("CRA") for additional income taxes and interest in an amount of approximately $116 million in respect of certain 2012 Canadian corporate dividends. Previously, during the year ended October 31, 2016, we were reassessed by the CRA for additional income taxes of approximately $76 million in respect of certain 2011 Canadian corporate dividends. In its reassessments, the CRA denied dividend deductions on the basis that the dividends were received as part of a "dividend rental arrangement." The tax rules dealing with dividend rental arrangements were revised in the 2015 Canadian Federal Budget, which introduced rules that applied as of May 1, 2017. It is possible that we may be reassessed for significant income tax for similar activities in 2013 and subsequent years. We remain of the view that our tax filing positions were appropriate and intend to challenge any reassessment.

The U.S. government is currently working on comprehensive tax reform legislation. The final legislation is currently unknown and any changes in tax law will be incorporated in our financial statements when they are enacted.

## Note 24: Earnings Per Share

Basic earnings per share is calculated by dividing net income attributable to our shareholders, after deducting preferred share dividends, by the daily average number of fully paid common shares outstanding throughout the year.

Diluted earnings per share is calculated in the same manner, with further adjustments made to reflect the dilutive impact of instruments convertible into our common shares.

The following table presents our basic and diluted earnings per share:

| Basic Earnings per Share (Canadian $ in millions, except as noted) | 2017 | 2016 | 2015 |
|---|---|---|---|
| Net income attributable to bank shareholders | **5,348** | 4,622 | 4,370 |
| Dividends on preferred shares | **(184)** | (150) | (117) |
| Net income available to common shareholders | **5,164** | 4,472 | 4,253 |
| Weighted-average number of common shares outstanding (in thousands) | **649,650** | 644,049 | 644,916 |
| Basic earnings per share (Canadian $) | **7.95** | 6.94 | 6.59 |
| **Diluted Earnings per Share** | | | |
| Net income available to common shareholders adjusted for impact of dilutive instruments | **5,164** | 4,472 | 4,253 |
| Weighted-average number of common shares outstanding (in thousands) | **649,650** | 644,049 | 644,916 |
| Effect of dilutive instruments | | | |
| Stock options potentially exercisable (1) | **6,859** | 8,706 | 9,470 |
| Common shares potentially repurchased | **(4,548)** | (6,629) | (7,245) |
| Weighted-average number of diluted common shares outstanding (in thousands) | **651,961** | 646,126 | 647,141 |
| Diluted earnings per share (Canadian $) | **7.92** | 6.92 | 6.57 |

(1) In computing diluted earnings per share, we excluded average stock options outstanding of 1,330,564, 1,353,464 and 1,909,518 with weighted-average exercise prices of $182.70, $238.45 and $226.11 for the years ended October 31, 2017, 2016 and 2015, respectively, as the average share price for the period did not exceed the exercise price.

Certain comparative figures have been reclassified to conform with the current year's presentation.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

# Note 25: Commitments, Guarantees, Pledged Assets, Provisions and Contingent Liabilities

In the normal course of business, we enter into a variety of contracts under which we may be required to make payments to reimburse a counterparty for a loss if a third party does not perform according to the terms of a contract or does not make payments when due under the terms of a debt instrument, and contracts under which we provide indirect guarantees of the indebtedness of another party, all of which are considered guarantees.

Guarantees that qualify as derivatives are accounted for in accordance with the policy for derivative instruments (see Note 8). For guarantees that do not qualify as derivatives, the liability is initially recorded at fair value, which is generally the fee received. Subsequently, guarantees are recorded at the higher of the initial fair value, less amortization to recognize any fee income earned over the period, and the best estimate of the amount required to settle the obligation. Any change in the liability is reported in our Consolidated Statement of Income.

We enter into a variety of commitments, including off-balance sheet credit instruments such as backstop liquidity facilities, securities lending, letters of credit, credit default swaps and commitments to extend credit, as a method of meeting the financial needs of our customers. These commitments include contracts where we may be required to make payments to a counterparty, based on changes in the value of an asset, liability or equity security that the counterparty holds, due to changes in an underlying interest rate, foreign exchange rate or other variable. The contractual amount of our commitments represents our maximum undiscounted potential exposure, before possible recoveries under recourse and collateral provisions. Collateral requirements for these instruments are consistent with collateral requirements for loans.

A large majority of these commitments expire without being drawn upon. As a result, the total contractual amounts may not be representative of the funding likely to be required for these commitments.

We strive to limit credit risk by dealing only with counterparties that we believe are creditworthy, and we manage our credit risk for these instruments using the same credit risk process that is applied to loans and other credit assets.

The maximum amount payable related to our various commitments is as follows:

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| **Financial Guarantees** | | |
| Standby letters of credit | **18,126** | 16,853 |
| Credit default swaps (1) | **448** | 981 |
| **Other Credit Instruments** | | |
| Backstop liquidity facilities | **5,044** | 5,776 |
| Securities lending | **5,336** | 6,022 |
| Documentary and commercial letters of credit | **1,030** | 1,135 |
| Commitments to extend credit (2) | **122,881** | 121,499 |
| Other commitments | **4,329** | 4,379 |
| Total | **157,194** | 156,645 |

(1) The fair value of the related derivatives included in our Consolidated Balance Sheet was $6 million as at October 31, 2017 ($7 million in 2016).
(2) Commitments to extend credit exclude personal lines of credit and credit cards that are unconditionally cancellable at our discretion.

## Financial Guarantees

Standby letters of credit represent our obligation to make payments to third parties on behalf of customers if they are unable to make the required payments or meet other contractual requirements. The majority have a term of one year or less. Collateral requirements for standby letters of credit and guarantees are consistent with our collateral requirements for loans. Standby letters of credit and guarantees include our guarantee of a subsidiary's debt directly provided to a third party.

Written credit default swaps require us to compensate a counterparty following the occurrence of a credit event in relation to a specified reference obligation, such as a bond or a loan. The terms of these contracts range from less than one year to 10 years. Refer to Note 8 for details.

## Other Credit Instruments

Backstop liquidity facilities are provided to asset-backed commercial paper ("ABCP") programs administered by either us or third parties as an alternative source of financing in the event that such programs are unable to access ABCP markets or when predetermined performance measures of the financial assets held by these programs are not met. The terms of the backstop liquidity facilities do not require us to advance money to these programs in the event of insolvency of the borrower. The facilities' terms are generally no longer than one year, but can be several years.

We lend eligible customers' securities to third-party borrowers who have been evaluated for credit risk using the same credit risk process that is applied to loans and other credit assets. In connection with these activities, we may provide indemnification to clients against losses resulting from the failure of the borrower to return loaned securities when due. All borrowings are fully collateralized with cash or marketable securities. As securities are loaned, we require borrowers to maintain collateral which is equal to or in excess of 100% of the fair value of the securities borrowed. The collateral is revalued on a daily basis.

Documentary and commercial letters of credit represent our agreement to honour drafts presented by a third party upon completion of specific activities.

Commitments to extend credit represent our commitment to our customers to grant them credit in the form of loans or other financings for specific amounts and maturities, subject to their meeting certain conditions.

As a participant in merchant banking activities, we enter into commitments to fund external private equity funds and investments in equity and debt securities at market value at the time the commitments are drawn. In addition, we act as underwriter for certain new issuances under which we, alone or together with a syndicate of financial institutions, purchase the new issue for resale to investors.

## Indemnification Agreements

In the normal course of operations, we enter into various agreements that provide general indemnifications. These indemnifications typically occur in connection with sales of assets, securities offerings, service contracts, membership agreements, clearing arrangements, derivative contracts and leasing transactions. Based on historical experience, we expect the risk of loss to be remote.

## Exchange and Clearinghouse Guarantees

We are a member of several securities and futures exchanges and central counterparties. Membership in certain of these organizations may require us to pay a pro rata share of the losses incurred by the organization in the event of default of another member. It is difficult to estimate our maximum exposure under these membership agreements, since this would require an assessment of future claims that may be made against us that have not yet occurred. Based on historical experience, we expect the risk of loss to be remote.

## Pledged Assets

In the normal course of business, we pledge assets as security for various liabilities that we incur.

The following tables summarize our pledged assets and collateral, and the activities to which they relate:

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| **Bank Assets** | | |
| Cash and securities (1) | | |
| Issued or guaranteed by the Government of Canada | **7,440** | 7,502 |
| Issued or guaranteed by a Canadian province, municipality or school corporation | **6,170** | 6,018 |
| Other | **51,848** | 52,164 |
| Mortgages, securities borrowed or purchased under resale agreements and other | **99,474** | 82,667 |
| | **164,932** | 148,351 |

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| **Assets pledged in relation to:** | | |
| Central counterparties, payment systems and depositories | **1,757** | 1,518 |
| Foreign governments and central banks | **3** | 3 |
| Obligations related to securities sold under repurchase agreements | **42,450** | 29,014 |
| Securities borrowing and lending | **51,120** | 49,218 |
| Derivatives transactions | **2,471** | 7,818 |
| Securitization | **27,632** | 26,530 |
| Covered bonds | **24,983** | 20,285 |
| Other | **14,516** | 13,965 |
| Total pledged assets and collateral (1) | **164,932** | 148,351 |

(1) Excludes cash pledged with central banks disclosed as restricted cash in Note 2.

## Collateral

When entering into trading activities such as purchases under resale agreements, securities borrowing and lending activities or financing for certain derivative transactions, we require our counterparties to provide us with collateral that will protect us from losses in the event of their default. Collateral transactions (received or pledged) are typically conducted under terms that are usual and customary in standard trading activities. If there is no default, the securities or their equivalents must be returned to or returned by the counterparty at the end of the contract.

The fair value of counterparty collateral that we are permitted to sell or repledge (in the absence of default by the owner of the collateral) was $118,324 million as at October 31, 2017 ($115,895 million as at October 31, 2016). The fair value of collateral that we have sold or repledged was $76,909 million as at October 31, 2017 ($67,917 million as at October 31, 2016).

## Lease Commitments

We have entered into a number of non-cancellable leases for premises and equipment. Our computer and software leases are typically fixed for one term and our premises leases have various renewal options and rights. Our total contractual rental commitments as at October 31, 2017 were $2,433 million. The commitments for each of the next five years and thereafter are $360 million for 2018, $329 million for 2019, $291 million for 2020, $232 million for 2021, $189 million for 2022 and $1,032 million thereafter. Included in these amounts are commitments related to 1,045 leased branch locations as at October 31, 2017.

## Provisions and Contingent Liabilities

Provisions are recognized when we have a legal or constructive obligation as a result of past events, such as contractual commitments, legal or other obligations where we can reliably estimate the obligation, and it is probable we will be required to settle the obligation. We recognize as a provision the best estimate of the amount required to settle the obligations as of the balance sheet date, taking into account the risks and uncertainties surrounding the obligations.

Changes in the provision balance during the year were as follows:

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| Balance at beginning of year | **268** | 211 |
| Additional provisions/increase in provisions | **153** | 274 |
| Provisions utilized | **(172)** | (185) |
| Amounts reversed | **(75)** | (34) |
| Exchange differences and other movements | **(4)** | 2 |
| Balance at end of year (1) | **170** | 268 |

(1) Balance included severance obligations, restructuring charges and legal provisions.

Contingent liabilities are potential obligations arising from past events, the existence of which will only be confirmed by the occurrence or non-occurrence of one or more future events not wholly within our control and are not included in the table above.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### Legal Proceedings

The bank and its subsidiaries are party to legal proceedings, including regulatory investigations, in the ordinary course of business. While there is inherent difficulty in predicting the outcome of these proceedings, management does not expect the outcome of any of these proceedings, individually or in the aggregate, to have a material adverse effect on the consolidated financial position or the results of operations of the bank.

BMO Nesbitt Burns Inc., an indirect subsidiary of the bank, has been named as a defendant in several individual actions and proposed class actions in Canada and the United States brought on behalf of shareholders of Bre-X Minerals Ltd. Many of the actions have been resolved as to BMO Nesbitt Burns Inc., including two during the year ended October 31, 2010. Management believes that there are strong defences to the remaining claims and will vigorously defend them.

## Note 26: Operating and Geographic Segmentation

### Operating Groups

We conduct our business through three operating groups, each of which has a distinct mandate. We determine our operating groups based on our management structure and therefore these groups, and the results attributed to them, may not be comparable with those of other financial services companies. We evaluate the performance of our groups using reported and adjusted measures such as net income, revenue growth, return on equity, and non-interest expense-to-revenue (productivity) ratio, as well as operating leverage.

### Personal and Commercial Banking

Personal and Commercial Banking ("P&C") is comprised of two operating segments: Canadian Personal and Commercial Banking and U.S. Personal and Commercial Banking.

*Canadian Personal and Commercial Banking*

Canadian Personal and Commercial Banking ("Canadian P&C") provides a full range of financial products and services to eight million customers. Personal Banking provides financial solutions for everyday banking, financing, investing, credit card and creditor insurance needs. Commercial Banking provides our small business and commercial banking customers with a broad suite of integrated commercial and capital markets products, as well as financial advisory services.

*U.S. Personal and Commercial Banking*

U.S. Personal and Commercial Banking ("U.S. P&C") offers a broad range of products and services. Our retail and small and mid-sized business banking customers are served through our branches, contact centres, online and mobile banking platforms and automated banking machines across eight states. Our commercial banking customers are offered in-depth specific industry knowledge, as well as strategic capital markets solutions.

### Wealth Management

BMO's group of wealth management businesses serves a full range of client segments from mainstream to ultra high net worth and institutional, with a broad offering of wealth management products and services, including insurance products. Wealth Management ("WM") is a global business with an active presence in markets across Canada, the United States, Europe and Asia.

### BMO Capital Markets

BMO Capital Markets ("BMO CM") is a North American-based financial services provider offering a complete range of products and services to corporate, institutional and government clients. Through our Investment and Corporate Banking and Trading Products lines of business, we operate in 30 locations around the world, including 16 offices in North America.

### Corporate Services

Corporate Services consists of Corporate Support Areas ("CSAs"), including Technology and Operations ("T&O"). CSAs provide enterprise-wide expertise and governance support in a variety of areas, including strategic planning, risk management, finance, legal and regulatory compliance, marketing, communications and human resources. T&O manages, maintains and provides governance over information technology, operations services, real estate and procurement for the bank.

The costs of these CSAs and T&O services are largely transferred to the three client operating groups (P&C, WM and BMO CM), with remaining related amounts retained in Corporate Services results. As such, Corporate Services operating results largely reflect the impact of residual treasury and asset liability management activities, the elimination of taxable equivalent adjustments, the results from certain impaired real estate secured assets, certain purchased loan accounting impacts, residual unallocated expenses, certain acquisition integration costs, restructuring costs and adjustments to the collective allowance for credit losses.

Corporate Services results prior to 2016 reflected certain items in respect of the loan portfolio purchased in 2011, including recognition of the reduction in the credit mark that is reflected in net interest income over the term of the purchased loans and provisions and recoveries of credit losses on the purchased loan portfolio. Beginning in the first quarter of 2016, the reduction in the credit mark that is reflected in net interest income and the provision for credit losses on the purchased performing loan portfolio are being recognized in U.S. P&C, consistent with the accounting for the acquisition of BMO TF, and given that these amounts have reduced substantially in size. Results for prior periods have not been reclassified. Recoveries or provisions on the purchased credit impaired loan portfolio acquired in 2011 continue to be recognized in Corporate Services. Purchased loan accounting impacts related to BMO TF are recognized in U.S. P&C. Also effective in the first quarter of 2016, income from equity investments has been reclassified from net interest income to non-interest revenue in Canadian P&C, Wealth Management and Corporate Services, and results from prior periods have been reclassified.

### Basis of Presentation

The results of these operating groups are based on our internal financial reporting systems. The accounting policies used in these segments are generally consistent with those followed in the preparation of our consolidated financial statements, as disclosed in Note 1 and throughout the consolidated financial statements. Income taxes presented below may not be reflective of taxes paid in each jurisdiction where we operate. Income taxes are generally applied to each segment based on a statutory tax rate and may be adjusted for items and activities specific to each segment. A notable accounting measurement difference is the taxable equivalent basis adjustment as described below.

Periodically, certain business lines and units within the business lines are transferred between client and corporate support groups to more closely align our organizational structure with our strategic priorities. In addition, revenue and expense allocations are updated to more accurately align with current experience. Results for prior periods are restated to conform to the current year's presentation.

*Taxable Equivalent Basis*
We analyze revenue on a taxable equivalent basis ("teb") at the operating group level. Revenue and the provision for income taxes are increased on tax-exempt securities to an equivalent before-tax basis to facilitate comparisons of income between taxable and tax-exempt sources. The offset to the groups' teb adjustments is reflected in Corporate Services revenue and provision for income taxes. The teb adjustment for the year ended October 31, 2017 was $567 million ($510 million in 2016 and $524 million in 2015).

*Inter-Group Allocations*
Various estimates and allocation methodologies are used in the preparation of the operating groups' financial information. We allocate expenses directly related to earning revenue to the groups that earned the related revenue. Expenses not directly related to earning revenue, such as overhead expenses, are allocated to operating groups using allocation formulas applied on a consistent basis. Operating group net interest income reflects internal funding charges and credits on the groups' assets, liabilities and capital, at market rates, taking into account relevant terms and currency considerations. The offset of the net impact of these charges and credits is reflected in Corporate Services. These inter-group allocations are also applied to the geographical segmentation.

Our results and average assets, grouped by operating segment, are as follows:

| (Canadian $ in millions) | Canadian P&C | U.S. P&C | Wealth Management | BMO CM | Corporate Services (1) | Total |
|---|---|---|---|---|---|---|
| **2017** | | | | | | |
| Net interest income (2) | **5,262** | **3,607** | **700** | **1,288** | **(850)** | **10,007** |
| Non-interest revenue | **2,182** | **1,066** | **5,492** | **3,336** | **177** | **12,253** |
| Total Revenue | **7,444** | **4,673** | **6,192** | **4,624** | **(673)** | **22,260** |
| Provision for credit losses | **505** | **295** | **8** | **44** | **(78)** | **774** |
| Insurance claims, commissions and changes in policy benefit liabilities | **–** | **–** | **1,538** | **–** | **–** | **1,538** |
| Amortization | **308** | **434** | **241** | **120** | **–** | **1,103** |
| Non-interest expense | **3,292** | **2,508** | **3,106** | **2,658** | **635** | **12,199** |
| Income before taxes and non-controlling interest in subsidiaries | **3,339** | **1,436** | **1,299** | **1,802** | **(1,230)** | **6,646** |
| Provision for income taxes | **827** | **370** | **346** | **487** | **(734)** | **1,296** |
| Reported net income (loss) | **2,512** | **1,066** | **953** | **1,315** | **(496)** | **5,350** |
| Non-controlling interest in subsidiaries | **–** | **–** | **2** | **–** | **–** | **2** |
| Net Income (loss) attributable to bank shareholders | **2,512** | **1,066** | **951** | **1,315** | **(496)** | **5,348** |
| Average Assets | **217,685** | **104,090** | **32,562** | **306,319** | **61,970** | **722,626** |

| (Canadian $ in millions) | Canadian P&C | U.S. P&C | Wealth Management | BMO CM | Corporate Services (1) | Total |
|---|---|---|---|---|---|---|
| 2016 | | | | | | |
| Net interest income (2) | 5,060 | 3,538 | 614 | 1,483 | (823) | 9,872 |
| Non-interest revenue | 1,909 | 1,119 | 5,274 | 2,855 | 58 | 11,215 |
| Total Revenue | 6,969 | 4,657 | 5,888 | 4,338 | (765) | 21,087 |
| Provision for credit losses | 542 | 257 | 9 | 81 | (74) | 815 |
| Insurance claims, commissions and changes in policy benefit liabilities | – | – | 1,543 | – | – | 1,543 |
| Amortization | 276 | 433 | 233 | 105 | – | 1,047 |
| Non-interest expense | 3,188 | 2,473 | 3,104 | 2,469 | 716 | 11,950 |
| Income before taxes and non-controlling interest in subsidiaries | 2,963 | 1,494 | 999 | 1,683 | (1,407) | 5,732 |
| Provision for income taxes | 761 | 409 | 238 | 430 | (737) | 1,101 |
| Reported net income (loss) | 2,202 | 1,085 | 761 | 1,253 | (670) | 4,631 |
| Non-controlling interest in subsidiaries | – | – | 2 | – | 7 | 9 |
| Net Income (loss) attributable to bank shareholders | 2,202 | 1,085 | 759 | 1,253 | (677) | 4,622 |
| Average Assets | 208,018 | 105,998 | 30,642 | 304,031 | 58,433 | 707,122 |

| (Canadian $ in millions) | Canadian P&C | U.S. P&C | Wealth Management | BMO CM | Corporate Services (1) | Total |
|---|---|---|---|---|---|---|
| 2015 | | | | | | |
| Net interest income (2) | 4,806 | 2,845 | 565 | 1,307 | (760) | 8,763 |
| Non-interest revenue | 1,833 | 787 | 5,198 | 2,528 | 280 | 10,626 |
| Total Revenue | 6,639 | 3,632 | 5,763 | 3,835 | (480) | 19,389 |
| Provision for credit losses | 496 | 119 | 7 | 26 | (36) | 612 |
| Insurance claims, commissions and changes in policy benefit liabilities | – | – | 1,254 | – | – | 1,254 |
| Amortization | 236 | 223 | 231 | 98 | – | 788 |
| Non-interest expense | 3,106 | 2,169 | 3,127 | 2,382 | 610 | 11,394 |
| Income before taxes and non-controlling interest in subsidiaries | 2,801 | 1,121 | 1,144 | 1,329 | (1,054) | 5,341 |
| Provision for income taxes | 698 | 284 | 295 | 320 | (661) | 936 |
| Reported net income (loss) | 2,103 | 837 | 849 | 1,009 | (393) | 4,405 |
| Non-controlling interest in subsidiaries | – | – | 5 | – | 30 | 35 |
| Net Income (loss) attributable to bank shareholders | 2,103 | 837 | 844 | 1,009 | (423) | 4,370 |
| Average Assets | 197,209 | 88,954 | 29,147 | 290,672 | 58,409 | 664,391 |

(1) Corporate Services includes Technology and Operations.
(2) Operating groups report on a taxable equivalent basis – see Basis of Presentation section.
Certain comparative figures have been reclassified to conform with the current year's presentation.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

*Geographic Information*

We operate primarily in Canada and the United States, but we also have operations in the United Kingdom, Europe, the Caribbean and Asia, which are grouped in other countries. We allocate our results by geographic region based on the location of the unit responsible for managing the related assets, liabilities, revenues and expenses.

Our results and average assets, grouped by geographic region, are as follows:

| (Canadian $ in millions) | Canada | United States | Other countries | Total |
|---|---|---|---|---|
| **2017** | | | | |
| Total Revenue | **13,420** | **7,134** | **1,706** | **22,260** |
| Income before taxes and non-controlling interest in subsidiaries | **4,548** | **1,649** | **449** | **6,646** |
| Reported net income | **3,782** | **1,255** | **313** | **5,350** |
| Average Assets | **430,570** | **264,473** | **27,583** | **722,626** |

| (Canadian $ in millions) | Canada | United States | Other countries | Total |
|---|---|---|---|---|
| 2016 | | | | |
| Total Revenue | 12,826 | 6,847 | 1,414 | 21,087 |
| Income before taxes and non-controlling interest in subsidiaries | 3,860 | 1,550 | 322 | 5,732 |
| Reported net income | 3,257 | 1,141 | 233 | 4,631 |
| Average Assets | 420,155 | 260,018 | 26,949 | 707,122 |

| (Canadian $ in millions) | Canada | United States | Other countries | Total |
|---|---|---|---|---|
| 2015 | | | | |
| Total Revenue | 11,764 | 5,902 | 1,723 | 19,389 |
| Income before taxes and non-controlling interest in subsidiaries | 3,851 | 1,190 | 300 | 5,341 |
| Reported net income | 3,200 | 950 | 255 | 4,405 |
| Average Assets | 402,199 | 234,475 | 27,717 | 664,391 |

Certain comparative figures have been reclassified to conform with the current year's presentation.

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# Note 27: Significant Subsidiaries

As at October 31, 2017, the bank, either directly or indirectly through its subsidiaries, controls the following significant operating subsidiaries.

| Significant subsidiaries (1) | Head or principal office | Book value of shares owned by the bank (Canadian $ in millions) |
|---|---|---|
| Bank of Montreal Capital Markets (Holdings) Limited and subsidiaries, including: | London, England | 307 |
| BMO Capital Markets Limited | London, England | |
| Pyrford International Limited | London, England | |
| Bank of Montreal (China) Co. Ltd. | Beijing, China | 432 |
| Bank of Montreal Holding Inc. and subsidiaries, including: | Calgary, Canada | 23,844 |
| BMO Investments Limited | Hamilton, Bermuda | |
| BMO Reinsurance Limited | St. Michaels, Barbados | |
| BMO Nesbitt Burns Holdings Corporation | Toronto, Canada | |
| BMO Nesbitt Burns Inc. | Toronto, Canada | |
| BMO Investments Inc. | Toronto, Canada | |
| BMO InvestorLine Inc. | Toronto, Canada | |
| Bank of Montreal Ireland plc | Dublin, Ireland | 969 |
| Bank of Montreal Mortgage Corporation | Calgary, Canada | 2,967 |
| BMO Mortgage Corp. | Vancouver, Canada | |
| BMO Financial Corp. and subsidiaries, including: | Chicago, United States | 20,425 |
| BMO Asset Management Corp. and subsidiaries | Chicago, United States | |
| BMO Capital Markets Corp. | New York, United States | |
| BMO Harris Bank National Association and subsidiaries, including: | Chicago, United States | |
| BMO Harris Investment Company LLC | Las Vegas, United States | |
| BMO Harris Financial Advisors, Inc. | Chicago, United States | |
| BMO Harris Financing, Inc. and subsidiaries | Chicago, United States | |
| CTC my CFO, LLC | Palo Alto, United States | |
| BMO Global Asset Management (Europe) Limited and subsidiaries, including: | London, England | 729 |
| F&C Asset Management plc and subsidiaries | London, England | |
| BMO Life Insurance Company and subsidiaries, including: | Toronto, Canada | 1,059 |
| BMO Life Holdings (Canada), ULC | Halifax, Canada | |
| BMO Life Assurance Company | Toronto, Canada | |
| BMO Trust Company | Toronto, Canada | 788 |
| BMO Trustee Asia Limited | Hong Kong, China | 2 |
| LGM (Bermuda) Limited and subsidiaries, including: | Hamilton, Bermuda | 112 |
| BMO Global Asset Management (Asia) Limited | Hong Kong, China | |
| LGM Investments Limited | London, England | |

(1) Each subsidiary is incorporated or organized under the law of the state or country in which the principal office is situated, except for BMO Financial Corp., BMO Asset Management Corp., BMO Capital Markets Corp., BMO Harris Financial Advisors, Inc., BMO Harris Financing, Inc., and CTC myCFO, LLC, which are incorporated under the laws of the State of Delaware, United States. F&C Asset Management plc is incorporated under the laws of Scotland.

## Significant Restrictions

Our ability to transfer funds between our subsidiaries may be restricted by statutory, contractual, capital and regulatory requirements. Restrictions include:

- Assets pledged as security for various liabilities we incur. Refer to Note 25 for details.
- Assets of our consolidated structured entities that are held for the benefit of the note holders. Refer to Note 7 for details.
- Assets held by our insurance subsidiaries. Refer to Note 12 for details.
- Regulatory and statutory requirements that reflect capital and liquidity requirements. Refer to Note 20 for details.
- Funds required to be held with central banks. Refer to Note 2 for details.

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# Note 28: Related Party Transactions

Related parties include subsidiaries, associates, joint ventures, key management personnel and employee future benefit plans. Transactions with our subsidiaries are eliminated on consolidation, and are not disclosed as related party transactions.

## Key Management Personnel Compensation

Key management personnel is defined as those persons having authority and responsibility for planning, directing and/or controlling the activities of an entity, being the members of our Board of Directors ("directors") and certain senior executives.

The following table presents the compensation of key management personnel:

| (Canadian $ in millions) | **2017** | 2016 | 2015 |
|---|---|---|---|
| Base salary and incentives | **23** | 22 | 20 |
| Post-employment benefits | **1** | 2 | 2 |
| Share-based payments (1) | **38** | 32 | 27 |
| Total key management personnel compensation | **62** | 56 | 49 |

(1) Amounts included in share-based payments are the fair values of awards granted in the year.

We offer senior executives preferential interest rates on credit card balances, a fee-based subsidy on annual credit card fees, and a select suite of customer loan and mortgage products at rates normally accorded to preferred customers. At October 31, 2017, loans to key management personnel totalled $10 million ($7 million in 2016).

Directors receive a specified amount of their annual retainers in deferred stock units. Until a director's shareholdings (including deferred stock units) are eight times greater than their annual retainer, they are required to take 100% of their annual retainer and other fees in the form of either our common shares or deferred stock units. They may elect to receive the remainder of such retainer fees and other remuneration in cash, common shares or deferred stock units.

Directors of our wholly owned subsidiary, BMO Financial Corp., are required to take a specified minimum amount of their annual retainers and other fees in the form of deferred stock units.

## Joint Ventures and Associates

We provide banking services to our joint ventures and associates on the same terms offered to our customers for these services. Our investment in a joint venture of which we own 50% totalled $182 million as at October 31, 2017 ($187 million in 2016). Our investments in associates over which we exert significant influence totalled $444 million as at October 31, 2017 ($390 million in 2016).

The following table presents transactions with our joint ventures and associates:

| (Canadian $ in millions) | **2017** | 2016 |
|---|---|---|
| Loans | **178** | 323 |
| Deposits | **132** | 205 |
| Fees paid for services received | **66** | 83 |
| Fees received for services provided | **3** | – |
| Interest income, loans | **4** | 5 |
| Interest expense | **1** | 3 |

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# Note 29: Contractual Maturities of Assets and Liabilities and Off-Balance Sheet Commitments

The tables below show the remaining contractual maturity of on-balance sheet assets and liabilities and off-balance sheet commitments. The contractual maturity of financial assets and liabilities is an input to, but is not necessarily consistent with, the expected maturity of assets and liabilities that is used in the management of liquidity and funding risk. We forecast asset and liability cash flows, both under normal market conditions and under a number of stress scenarios, to manage liquidity and funding risk. Stress scenarios include assumptions for loan repayments, deposit withdrawals, and credit commitment and liquidity facility drawdowns by counterparty and product type. Stress scenarios also consider the time horizon over which liquid assets can be monetized and the related haircuts and potential collateral requirements that may result from both market volatility and credit rating downgrades, among other assumptions. For further details, see the blue-tinted font portion of the Liquidity and Funding Risk section of Management's Discussion and Analysis.

| (Canadian $ in millions) | | | | | | | | | | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 to 1 month | 1 to 3 months | 3 to 6 months | 6 to 9 months | 9 to 12 months | 1 to 2 years | 2 to 5 years | Over 5 years | No maturity | Total |
| **On-Balance Sheet Financial Instruments** | | | | | | | | | | |
| **Assets** | | | | | | | | | | |
| Cash and cash equivalents | 31,641 | – | – | – | – | – | – | – | 958 | 32,599 |
| Interest bearing deposits with banks | 3,784 | 1,579 | 626 | 319 | 182 | – | – | – | – | 6,490 |
| Securities | | | | | | | | | | |
| Trading securities | 1,036 | 1,470 | 1,975 | 2,643 | 2,054 | 4,424 | 8,930 | 20,896 | 55,641 | 99,069 |
| Available-for-sale securities | 2,434 | 939 | 3,093 | 2,649 | 859 | 2,719 | 13,051 | 26,727 | 1,604 | 54,075 |
| Held-to-maturity securities | 150 | 501 | 865 | 553 | 712 | 523 | 836 | 4,954 | – | 9,094 |
| Other securities | – | 7 | – | – | – | 9 | 25 | 38 | 881 | 960 |
| Total securities | 3,620 | 2,917 | 5,933 | 5,845 | 3,625 | 7,675 | 22,842 | 52,615 | 58,126 | 163,198 |
| Securities borrowed or purchased under resale agreements | 57,919 | 13,236 | 2,353 | 1,241 | 249 | 49 | – | – | – | 75,047 |
| Loans | | | | | | | | | | |
| Residential mortgages | 1,045 | 1,551 | 4,531 | 7,687 | 6,201 | 19,866 | 65,547 | 8,830 | – | 115,258 |
| Consumer instalment and other personal | 517 | 371 | 1,084 | 1,374 | 1,285 | 4,211 | 20,845 | 8,590 | 23,667 | 61,944 |
| Credit cards | – | – | – | – | – | – | – | – | 8,071 | 8,071 |
| Businesses and governments | 13,379 | 7,352 | 6,454 | 6,169 | 18,694 | 17,948 | 63,614 | 11,380 | 33,242 | 178,232 |
| Allowance for credit losses | – | – | – | – | – | – | – | – | (1,833) | (1,833) |
| Total loans and acceptances, net of allowance | 14,941 | 9,274 | 12,069 | 15,230 | 26,180 | 42,025 | 150,006 | 28,800 | 63,147 | 361,672 |
| Other Assets | | | | | | | | | | |
| Derivative instruments | 1,701 | 3,748 | 1,580 | 1,229 | 1,306 | 3,272 | 7,426 | 8,689 | – | 28,951 |
| Customers' liability under acceptances | 14,179 | 2,263 | 104 | – | – | – | – | – | – | 16,546 |
| Premises and equipment | – | – | – | – | – | – | – | – | 2,033 | 2,033 |
| Goodwill | – | – | – | – | – | – | – | – | 6,244 | 6,244 |
| Intangible assets | – | – | – | – | – | – | – | – | 2,159 | 2,159 |
| Current tax assets | – | – | – | – | – | – | – | – | 1,371 | 1,371 |
| Deferred tax assets | – | – | – | – | – | – | – | – | 2,865 | 2,865 |
| Other | 1,340 | 475 | 129 | 17 | 11 | 11 | 131 | 4,431 | 3,860 | 10,405 |
| Total other assets | 17,220 | 6,486 | 1,813 | 1,246 | 1,317 | 3,283 | 7,557 | 13,120 | 18,532 | 70,574 |
| Total Assets | 129,125 | 33,492 | 22,794 | 23,881 | 31,553 | 53,032 | 180,405 | 94,535 | 140,763 | 709,580 |

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| (Canadian $ in millions) | | | | | | | | | | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 to 1 month | 1 to 3 months | 3 to 6 months | 6 to 9 months | 9 to 12 months | 1 to 2 years | 2 to 5 years | Over 5 years | No maturity | Total |
| **Liabilities and Equity** | | | | | | | | | | |
| Deposits (1) | | | | | | | | | | |
| Banks | 12,462 | 9,321 | 2,633 | 496 | 25 | – | – | – | 6,170 | 31,107 |
| Businesses and governments | 23,917 | 25,224 | 19,112 | 12,897 | 10,806 | 16,522 | 42,707 | 15,712 | 117,173 | 284,070 |
| Individuals | 3,835 | 5,081 | 5,569 | 5,662 | 7,999 | 9,098 | 15,811 | 2,075 | 113,181 | 168,311 |
| Total deposits | 40,214 | 39,626 | 27,314 | 19,055 | 18,830 | 25,620 | 58,518 | 17,787 | 236,524 | 483,488 |
| Other liabilities | | | | | | | | | | |
| Derivative instruments | 1,876 | 3,227 | 1,512 | 1,510 | 1,206 | 3,477 | 6,885 | 8,111 | – | 27,804 |
| Acceptances | 14,179 | 2,263 | 104 | – | – | – | – | – | – | 16,546 |
| Securities sold but not yet purchased | 25,163 | – | – | – | – | – | – | – | – | 25,163 |
| Securities lent or sold under repurchase agreements | 53,165 | 1,644 | 290 | 20 | – | – | – | – | – | 55,119 |
| Current tax liabilities | – | – | – | – | – | – | – | – | 125 | 125 |
| Deferred tax liabilities | – | – | – | – | – | – | – | – | 233 | 233 |
| Securitization and structured entities' liabilities | 10 | 709 | 1,523 | 556 | 845 | 3,931 | 11,812 | 3,668 | – | 23,054 |
| Other | 12,616 | 2,536 | 517 | 43 | 239 | 752 | 154 | 2,361 | 9,447 | 28,665 |
| Total other liabilities | 107,009 | 10,379 | 3,946 | 2,129 | 2,290 | 8,160 | 18,851 | 14,140 | 9,805 | 176,709 |
| Subordinated debt | – | – | – | – | – | – | – | 5,029 | – | 5,029 |
| Total Equity | – | – | – | – | – | – | – | – | 44,354 | 44,354 |
| Total Liabilities and Equity | 147,223 | 50,005 | 31,260 | 21,184 | 21,120 | 33,780 | 77,369 | 36,956 | 290,683 | 709,580 |

(1) Deposits payable on demand and payable after notice have been included under no maturity.

| (Canadian $ in millions) | | | | | | | | | | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 to 1 month | 1 to 3 months | 3 to 6 months | 6 to 9 months | 9 to 12 months | 1 to 2 years | 2 to 5 years | Over 5 years | No maturity | Total |
| **Off-Balance Sheet Commitments** | | | | | | | | | | |
| Commitments to extend credit (1) | 1,377 | 2,302 | 4,755 | 8,312 | 14,560 | 21,985 | 71,481 | 2,283 | – | 127,055 |
| Backstop liquidity facilities | – | – | – | – | – | – | 5,044 | – | – | 5,044 |
| Operating leases | 31 | 62 | 91 | 89 | 87 | 329 | 712 | 1,032 | – | 2,433 |
| Securities lending | 5,336 | – | – | – | – | – | – | – | – | 5,336 |
| Purchase obligations | 42 | 83 | 128 | 124 | 129 | 519 | 577 | 157 | – | 1,759 |

(1) A large majority of these commitments expire without being drawn upon. As a result, the total contractual amounts may not be representative of the funding likely to be required for these commitments.

| (Canadian $ in millions) | | | | | | | | | | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 to 1 month | 1 to 3 months | 3 to 6 months | 6 to 9 months | 9 to 12 months | 1 to 2 years | 2 to 5 years | Over 5 years | No maturity | Total |
| **On-Balance Sheet Financial Instruments** | | | | | | | | | | |
| **Assets** | | | | | | | | | | |
| Cash and cash equivalents | 30,745 | – | – | – | – | – | – | – | 908 | 31,653 |
| Interest bearing deposits with banks | 2,930 | 728 | 421 | 363 | 7 | – | – | – | – | 4,449 |
| Securities | | | | | | | | | | |
| Trading securities | 412 | 1,449 | 1,058 | 2,794 | 2,645 | 6,507 | 7,122 | 16,975 | 45,496 | 84,458 |
| Available-for-sale securities | 826 | 740 | 1,401 | 431 | 376 | 5,771 | 19,695 | 24,808 | 1,615 | 55,663 |
| Held-to-maturity securities | – | – | 294 | – | 350 | 2,841 | 1,270 | 4,210 | – | 8,965 |
| Other securities | – | – | – | – | – | 8 | 54 | 13 | 824 | 899 |
| Total securities | 1,238 | 2,189 | 2,753 | 3,225 | 3,371 | 15,127 | 28,141 | 46,006 | 47,935 | 149,985 |
| Securities borrowed or purchased under resale agreements | 51,085 | 10,993 | 4,167 | 338 | – | 63 | – | – | – | 66,646 |
| Loans | | | | | | | | | | |
| Residential mortgages | 1,001 | 1,212 | 3,347 | 4,772 | 3,930 | 24,555 | 64,044 | 9,416 | – | 112,277 |
| Consumer instalment and other personal | 371 | 374 | 791 | 828 | 887 | 5,431 | 24,041 | 8,542 | 23,415 | 64,680 |
| Credit cards | – | – | – | – | – | – | – | – | 8,101 | 8,101 |
| Businesses and governments | 11,473 | 5,904 | 7,155 | 6,727 | 20,547 | 18,140 | 63,049 | 11,380 | 31,222 | 175,597 |
| Allowance for credit losses | – | – | – | – | – | – | – | – | (1,925) | (1,925) |
| Total loans and acceptances, net of allowance | 12,845 | 7,490 | 11,293 | 12,327 | 25,364 | 48,126 | 151,134 | 29,338 | 60,813 | 358,730 |
| Other Assets | | | | | | | | | | |
| Derivative instruments | 2,508 | 4,483 | 1,443 | 1,480 | 1,804 | 3,826 | 9,796 | 13,843 | – | 39,183 |
| Customers' liability under acceptances | 11,230 | 1,748 | 42 | – | 1 | – | – | – | – | 13,021 |
| Premises and equipment | – | – | – | – | – | – | – | – | 2,147 | 2,147 |
| Goodwill | – | – | – | – | – | – | – | – | 6,381 | 6,381 |
| Intangible assets | – | – | – | – | – | – | – | – | 2,178 | 2,178 |
| Current tax assets | – | – | – | – | – | – | – | – | 906 | 906 |
| Deferred tax assets | – | – | – | – | – | – | – | – | 3,101 | 3,101 |
| Other | 1,274 | 453 | 106 | 18 | 4 | 3 | – | 4,324 | 3,373 | 9,555 |
| Total other assets | 15,012 | 6,684 | 1,591 | 1,498 | 1,809 | 3,829 | 9,796 | 18,167 | 18,086 | 76,472 |
| Total Assets | 113,855 | 28,084 | 20,225 | 17,751 | 30,551 | 67,145 | 189,071 | 93,511 | 127,742 | 687,935 |

| (Canadian $ in millions) | | | | | | | | | | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 to 1 month | 1 to 3 months | 3 to 6 months | 6 to 9 months | 9 to 12 months | 1 to 2 years | 2 to 5 years | Over 5 years | No maturity | Total |
| **Liabilities and Equity** | | | | | | | | | | |
| Deposits (1) | | | | | | | | | | |
| Banks | 11,940 | 12,327 | 2,239 | 1,488 | 464 | 500 | – | – | 5,313 | 34,271 |
| Businesses and governments | 33,833 | 29,737 | 15,216 | 13,174 | 8,359 | 15,499 | 34,103 | 13,006 | 113,287 | 276,214 |
| Individuals | 2,733 | 5,072 | 6,082 | 5,632 | 7,252 | 8,684 | 16,198 | 2,706 | 108,528 | 162,887 |
| Total deposits | 48,506 | 47,136 | 23,537 | 20,294 | 16,075 | 24,683 | 50,301 | 15,712 | 227,128 | 473,372 |
| Other liabilities | | | | | | | | | | |
| Derivative instruments | 1,956 | 3,064 | 2,315 | 1,373 | 1,240 | 5,434 | 9,303 | 13,542 | – | 38,227 |
| Acceptances | 11,230 | 1,748 | 42 | – | 1 | – | – | – | – | 13,021 |
| Securities sold but not yet purchased | 25,106 | – | – | – | – | – | – | – | – | 25,106 |
| Securities lent or sold under repurchase agreements | 38,004 | 2,532 | 182 | – | – | – | – | – | – | 40,718 |
| Current tax liabilities | – | – | – | – | – | – | – | – | 81 | 81 |
| Deferred tax liabilities | – | – | – | – | – | – | – | – | 242 | 242 |
| Securitization and structured entities' liabilities | 7 | 1,881 | 589 | 648 | 876 | 3,248 | 9,756 | 5,372 | – | 22,377 |
| Other | 8,651 | 1,152 | 701 | 22 | 4,809 | 1,704 | 140 | 2,444 | 8,401 | 28,024 |
| Total other liabilities | 84,954 | 10,377 | 3,829 | 2,043 | 6,926 | 10,386 | 19,199 | 21,358 | 8,724 | 167,796 |
| Subordinated debt | – | – | 100 | – | – | – | – | 4,339 | – | 4,439 |
| Total Equity | – | – | – | – | – | – | – | – | 42,328 | 42,328 |
| Total Liabilities and Equity | 133,460 | 57,513 | 27,466 | 22,337 | 23,001 | 35,069 | 69,500 | 41,409 | 278,180 | 687,935 |

(1) Deposits payable on demand and payable after notice have been included under no maturity.

| (Canadian $ in millions) | | | | | | | | | | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 to 1 month | 1 to 3 months | 3 to 6 months | 6 to 9 months | 9 to 12 months | 1 to 2 years | 2 to 5 years | Over 5 years | No maturity | Total |
| **Off-Balance Sheet Commitments** | | | | | | | | | | |
| Commitments to extend credit (1) | 2,267 | 2,120 | 3,776 | 8,293 | 12,289 | 16,236 | 75,998 | 3,013 | – | 123,992 |
| Backstop liquidity facilities | – | – | – | – | – | 5,776 | – | – | – | 5,776 |
| Operating leases | 30 | 61 | 90 | 88 | 88 | 317 | 709 | 602 | – | 1,985 |
| Securities lending | 6,022 | – | – | – | – | – | – | – | – | 6,022 |
| Purchase obligations | 45 | 96 | 128 | 132 | 129 | 148 | 172 | 99 | – | 949 |

(1) A large majority of these commitments expire without being drawn upon. As a result, the total contractual amounts may not be representative of the funding likely to be required for these commitments.

Certain comparative figures have been reclassified to conform with the current year's presentation.

**Exhibit 99.4**

**KPMG LLP**
**Chartered Accountants**
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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors of Bank of Montreal

We consent to the inclusion in this annual report on Form 40-F of:

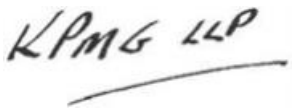
i. our independent auditors' report of registered public accounting firm dated December 5, 2017 on the consolidated balance sheets of Bank of Montreal (the "Bank") as at October 31, 2017 and October 31, 2016, the consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended October 31, 2017, and notes, comprising a summary of significant accounting policies and other explanatory information;

ii. our report of independent registered public accounting firm dated December 5, 2017 on the effectiveness of the Bank's internal control over financial reporting as of October 31, 2017;

each of which is contained in this annual report on Form 40-F of the Bank for the fiscal year ended October 31, 2017.

We also consent to the incorporation by reference of such reports in the following Registration Statements of the Bank:

(1) Registration Statement – Form F-3 – File No. 333-217200
(2) Registration Statement – Form F-3 – File No. 333-214934
(3) Registration Statement – Form S-8 – File No. 333-180968
(4) Registration Statement – Form S-8 – File No. 333-177579
(5) Registration Statement – Form S-8 – File No. 333-177568
(6) Registration Statement – Form S-8 – File No. 333-176479
(7) Registration Statement – Form S-8 – File No. 333-175413
(8) Registration Statement – Form S-8 – File No. 333-175412
(9) Registration Statement – Form S-8 – File No. 333-113096
(10) Registration Statement – Form S-8 – File No. 333-14260
(11) Registration Statement – Form S-8 – File No. 33-92112
(12) Registration Statement – Form S-8 – File No. 333-191591
(13) Registration Statement – Form S-8 – File No. 333-207739



Chartered Professional Accountants, Licensed Public Accountants

December 5, 2017
Toronto, Canada

**Exhibit 99.5**

**Certifications**

Pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Darryl White, Chief Executive Officer of Bank of Montreal, certify that:

1. I have reviewed this annual report on Form 40-F (the "report") of Bank of Montreal (the "issuer");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3 Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the issuer as of, and for, the periods presented in this report;

4. The issuer's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the issuer and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the issuer, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the issuer's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the issuer's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the issuer's internal control over financial reporting; and

5. The issuer's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the issuer's auditors and the audit committee of the issuer's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the issuer's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the issuer's internal control over financial reporting.

Date: December 5, 2017

/s/ Darryl White
Darryl White
Chief Executive Officer

**Exhibit 99.6**

**Certifications**

Pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Thomas E. Flynn, Chief Financial Officer of Bank of Montreal, certify that:

1. I have reviewed this annual report on Form 40-F (the "report") of Bank of Montreal (the "issuer");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the issuer as of, and for, the periods presented in this report;

4. The issuer's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the issuer and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the issuer, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the issuer's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the issuer's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the issuer's internal control over financial reporting; and

5. The issuer's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the issuer's auditors and the audit committee of the issuer's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the issuer's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the issuer's internal control over financial reporting.

Date: December 5, 2017

/s/ Thomas E. Flynn
Thomas E. Flynn
Chief Financial Officer

**Exhibit 99.7**

**Certifications**

Pursuant to Rule 13(a) or 15(d) under the Securities Exchange Act of 1934, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. 1350, the undersigned officers of Bank of Montreal (the *"Bank"*), hereby certify that, to his knowledge, (a) the annual report on Form 40-F for the period ended October 31, 2017 (the *"Report"*) fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934 and (b) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Bank.

Date: December 5, 2017

/s/ Darryl White
Darryl White
Chief Executive Officer

Date: December 5, 2017

/s/ Thomas E. Flynn
Thomas E. Flynn
Chief Financial Officer