

# Management's Discussion and Analysis

BMO's Chief Executive Officer and its Chief Financial Officer have signed a statement that outlines 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 140, 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, 2018 and 2017. The MD&A should be read in conjunction with our consolidated financial statements for the year ended October 31, 2018. The MD&A commentary is as of December 4, 2018. 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.

Effective the first quarter of 2018, the bank prospectively adopted IFRS 9, *Financial Instruments* (IFRS 9). Prior periods have not been restated. Since November 1, 2011, the bank'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. Prior periods have been reclassified for methodology changes and transfers of certain businesses between operating groups. See page 44.

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### 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](http://www.bmo.com/investorrelations), on the Canadian Securities Administrators' website at [www.sedar.com](http://www.sedar.com) and on the EDGAR section of the SEC's website at [www.sec.gov](http://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 \$774 billion, and an engaged and diverse base of employees. BMO provides a broad range of personal and commercial banking, wealth management and investment banking products and services, conducting business through three operating groups: Personal and Commercial Banking, BMO Wealth Management and BMO Capital Markets. We serve eight million customers across Canada through our Canadian personal and commercial arm, BMO Bank of Montreal. In the United States, we serve customers through BMO Harris Bank, based in the U.S. Midwest, with more than two million personal, business banking and commercial customers. 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.

## 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. We consider top-tier returns to be top-quartile shareholder returns relative to our Canadian and North American peer groups.

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 in 2018 was 10.1%, slightly above our target growth range of 7% to 10%. After achieving our adjusted net operating leverage target of 2% or more in each of the prior two years, adjusted net operating leverage for 2018 was 1.2%, in part reflecting softer Capital Markets revenue and continued investment in our business. Our one-year adjusted ROE was 14.6%, up from 13.7% in 2017, and nearing our target of 15% or more. We are well-capitalized with a Common Equity Tier 1 Ratio of 11.3%.

## Reasons to Invest in BMO

- Diversified businesses that continue to deliver robust earnings growth and long-term value for shareholders
- Strong foundation built for growth and differentiating strengths that drive competitive advantage:
  - Large and growing North American commercial banking business with advantaged market share
  - Well-established, highly profitable flagship banking business in Canada
  - Diversified U.S. operations well positioned to capture growth opportunities
  - Award-winning wealth franchise with an active presence in markets across Canada, the United States, Europe and Asia, well positioned to accelerate growth
  - Competitively advantaged Canadian capital markets franchise with a scalable U.S. platform
  - Transformative technology architecture, data and digital capabilities delivering customer and business value
- Well-capitalized with an attractive dividend yield
- Creating sustainable efficiency and reinvestment capacity through resource optimization, simplification and innovation
- Leading employee engagement and award-winning culture
- Adherence to industry-leading standards of corporate governance, including principles that ensure our strategic goals are aligned with managing our environmental and social impacts to deliver long-term sustainable growth for our stakeholders

| As at and for the periods ended October 31, 2018       | 1-year | 5-year* | 10-year* |
|--|--------|---------|----------|
| Average annual total shareholder return                | 3.3    | 10.5    | 13.7     |
| Average growth in annual EPS                           | 3.1    | 5.9     | 9.4      |
| Average growth in annual adjusted EPS                  | 10.1   | 7.7     | 7.1      |
| Average annual ROE                                     | 13.2   | 13.0    | 13.6     |
| Average annual adjusted ROE                            | 14.6   | 13.8    | 14.3     |
| Compound growth in annual dividends declared per share | 6.2    | 5.2     | 3.0      |
| Dividend yield**                                       | 3.8    | 3.9     | 4.3      |
| Price-to-earnings multiple**                           | 12.1   | 12.2    | 12.4     |
| Market value/book value ratio**                        | 1.52   | 1.52    | 1.55     |
| Common Equity Tier 1 Ratio                             | 11.3   | na      | na       |

\* 5-year and 10-year growth rates reflect growth based on CGAAP in 2008 and IFRS in 2013 and 2018, respectively.

\*\* 1-year measure as at October 31, 2018; 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 27.

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 29 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.

# Financial Highlights

| (Canadian \$ in millions, except as noted)                                     | 2018    | 2017    | 2016    |
|--|---------|---------|---------|
| <b>Summary Income Statement</b>  |         |         |         |
| Net interest income  | 10,313  | 10,007  | 9,872   |
| Non-interest revenue   | 12,724  | 12,253  | 11,215  |
| Revenue  | 23,037  | 22,260  | 21,087  |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) | 1,352   | 1,538   | 1,543   |
| Revenue, net of CCPB   | 21,685  | 20,722  | 19,544  |
| Provision for credit losses on impaired loans (1)                              | 700     | na      | na      |
| Provision for (recovery of) credit losses on performing loans (1)              | (38)    | na      | na      |
| Total provision for credit losses (1)  | 662     | 746     | 771     |
| Non-interest expense   | 13,613  | 13,330  | 13,041  |
| Provision for income taxes   | 1,960   | 1,296   | 1,101   |
| Net income   | 5,450   | 5,350   | 4,631   |
| Attributable to bank shareholders  | 5,450   | 5,348   | 4,622   |
| Attributable to non-controlling interest in subsidiaries                       | -       | 2       | 9       |
| Net income   | 5,450   | 5,350   | 4,631   |
| Adjusted net income  | 5,979   | 5,508   | 5,020   |
| <b>Common Share Data</b> (\$, except as noted)                                 |         |         |         |
| Earnings per share   | 8.17    | 7.92    | 6.92    |
| Adjusted earnings per share  | 8.99    | 8.16    | 7.52    |
| Earnings per share growth (%)  | 3.1     | 14.5    | 5.3     |
| Adjusted earnings per share growth (%)   | 10.1    | 8.5     | 7.4     |
| Dividends declared per share   | 3.78    | 3.56    | 3.40    |
| Book value per share   | 64.73   | 61.92   | 59.56   |
| Closing share price  | 98.43   | 98.83   | 85.36   |
| Number of common shares outstanding (in millions)                              |         |         |         |
| End of period  | 639.3   | 647.8   | 645.8   |
| Average diluted  | 644.9   | 652.0   | 646.1   |
| Total market value of common shares (\$ billions)                              | 62.9    | 64.0    | 55.1    |
| Dividend yield (%)   | 3.8     | 3.6     | 4.0     |
| Dividend payout ratio (%)  | 46.2    | 44.8    | 49.0    |
| Adjusted dividend payout ratio (%)   | 41.9    | 43.5    | 45.0    |
| <b>Financial Measures and Ratios</b> (%)                                       |         |         |         |
| Return on equity   | 13.2    | 13.3    | 12.1    |
| Adjusted return on equity  | 14.6    | 13.7    | 13.1    |
| Return on tangible common equity   | 16.2    | 16.3    | 15.3    |
| Adjusted return on tangible common equity                                      | 17.5    | 16.5    | 16.1    |
| Net income growth  | 1.9     | 15.5    | 5.1     |
| Adjusted net income growth   | 8.6     | 9.7     | 7.2     |
| Revenue growth   | 3.5     | 5.6     | 8.8     |
| Revenue growth, net of CCPB  | 4.6     | 6.0     | 7.8     |
| Non-interest expense growth  | 2.1     | 2.2     | 6.5     |
| Adjusted non-interest expense growth   | 3.4     | 3.6     | 5.9     |
| Efficiency ratio, net of CCPB  | 62.8    | 64.3    | 66.7    |
| Adjusted efficiency ratio, net of CCPB   | 62.2    | 62.9    | 64.1    |
| Operating leverage, net of CCPB  | 2.5     | 3.8     | 1.3     |
| Adjusted operating leverage, net of CCPB                                       | 1.2     | 2.0     | 2.3     |
| Net interest margin on average earning assets                                  | 1.51    | 1.55    | 1.59    |
| Effective tax rate   | 26.5    | 19.5    | 19.2    |
| Adjusted effective tax rate  | 20.7    | 19.8    | 19.9    |
| Total PCL-to-average Net Loans and acceptances (annualized)                    | 0.17    | 0.20    | 0.22    |
| PCL on impaired loans-to-average net loans and acceptances (annualized)        | 0.18    | 0.22    | 0.22    |
| <b>Balance Sheet</b> (as at, \$ millions, except as noted)                     |         |         |         |
| Assets   | 774,048 | 709,580 | 687,935 |
| Gross loans and acceptances  | 404,215 | 376,886 | 372,464 |
| Net loans and acceptances  | 402,576 | 375,053 | 370,539 |
| Deposits   | 522,051 | 479,792 | 470,281 |
| Common shareholders' equity  | 41,387  | 40,114  | 38,464  |
| Cash and securities-to-total assets ratio (%)                                  | 29.9    | 28.5    | 27.1    |
| <b>Capital Ratios</b> (%)  |         |         |         |
| Common Equity Tier 1 Ratio   | 11.3    | 11.4    | 10.1    |
| Tier 1 Capital Ratio   | 12.9    | 13.0    | 11.6    |
| Total Capital Ratio  | 15.2    | 15.1    | 13.6    |
| Leverage Ratio   | 4.2     | 4.4     | 4.2     |
| <b>Foreign Exchange Rates</b> (\$)   |         |         |         |
| As at Canadian/U.S. dollar   | 1.3169  | 1.2895  | 1.3411  |
| Average Canadian/U.S. dollar   | 1.2878  | 1.3071  | 1.3251  |

(1) Effective the first quarter of 2018, the bank prospectively adopted IFRS 9, *Financial Instruments* (IFRS 9). Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. Prior periods have not been restated. The provision for credit losses in prior periods is comprised of both specific and collective provisions. Refer to the Changes in Accounting Policies section on page 121 for further details.

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

Adjusted results in this table are non-GAAP amounts or non-GAAP measures. Please see the Non-GAAP Measures section on page 27.

na - not applicable

## Non-GAAP Measures

Results and measures in this document are presented on a GAAP basis. Unless otherwise indicated, all amounts are in Canadian dollars, and they have been derived from our consolidated financial statements prepared in accordance with International Financial Reporting Standards (IFRS). References to GAAP mean IFRS. They are also presented on an adjusted basis that excludes the impact of certain items as set out in the table below. 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 34 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 that may not 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 document applies equally to changes in the corresponding adjusted results. Adjusted results and measures are non-GAAP and as such do not have standardized meanings 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)                                     | 2018     | 2017     | 2016     |
|--|----------|----------|----------|
| <b>Reported Results</b>  |          |          |          |
| Revenue  | 23,037   | 22,260   | 21,087   |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) | (1,352)  | (1,538)  | (1,543)  |
| Revenue, net of CCPB   | 21,685   | 20,722   | 19,544   |
| Provision for credit losses  | (662)    | (746)    | (771)    |
| Non-interest expense   | (13,613) | (13,330) | (13,041) |
| Income before income taxes   | 7,410    | 6,646    | 5,732    |
| Provision for income taxes   | (1,960)  | (1,296)  | (1,101)  |
| Net Income   | 5,450    | 5,350    | 4,631    |
| Diluted EPS (\$)   | 8.17     | 7.92     | 6.92     |
| <b>Adjusting Items (Pre-tax) (1)</b>   |          |          |          |
| Acquisition integration costs (2)  | (34)     | (87)     | (104)    |
| Amortization of acquisition-related intangible assets (3)                      | (116)    | (149)    | (160)    |
| Cumulative accounting adjustment (4)   | -        | -        | (85)     |
| Restructuring costs (5)  | (260)    | (59)     | (188)    |
| Decrease in the collective allowance for credit losses (6)                     | -        | 76       | -        |
| Benefit from the remeasurement of an employee benefit liability (7)            | 277      | -        | -        |
| Adjusting items included in reported pre-tax income                            | (133)    | (219)    | (537)    |
| <b>Adjusting Items (After tax) (1)</b>   |          |          |          |
| Acquisition integration costs (2)  | (25)     | (55)     | (71)     |
| Amortization of acquisition-related intangible assets (3)                      | (90)     | (116)    | (124)    |
| Cumulative accounting adjustment (4)   | -        | -        | (62)     |
| Restructuring costs (5)  | (192)    | (41)     | (132)    |
| Decrease in the collective allowance for credit losses (6)                     | -        | 54       | -        |
| Benefit from the remeasurement of an employee benefit liability (7)            | 203      | -        | -        |
| U.S. net deferred tax asset revaluation (8)                                    | (425)    | -        | -        |
| Adjusting items included in reported net income after tax                      | (529)    | (158)    | (389)    |
| Impact on diluted EPS (\$)   | (0.82)   | (0.24)   | (0.60)   |
| <b>Adjusted Results</b>  |          |          |          |
| Revenue  | 23,037   | 22,260   | 21,171   |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) | (1,352)  | (1,538)  | (1,543)  |
| Revenue, net of CCPB   | 21,685   | 20,722   | 19,628   |
| Provision for credit losses  | (662)    | (822)    | (771)    |
| Non-interest expense   | (13,480) | (13,035) | (12,588) |
| Income before income taxes   | 7,543    | 6,865    | 6,269    |
| Provision for income taxes   | (1,564)  | (1,357)  | (1,249)  |
| Net Income   | 5,979    | 5,508    | 5,020    |
| Diluted EPS (\$)   | 8.99     | 8.16     | 7.52     |

(1) Adjusting items are generally included in Corporate Services, with the exception of the amortization of acquisition-related intangible assets and certain acquisition integration costs, which are charged to the operating groups.

(2) Acquisition integration costs related to F&C Asset Management plc (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. KGS-Alpha acquisition-related integration costs are reported in BMO Capital Markets. Acquisition integration costs are recorded in non-interest expense.

(3) These expenses were charged to the non-interest expense of the operating groups. Before-tax and after-tax amounts for each operating group are provided on pages 44, 46, 50, 54 and 58.

(4) Cumulative accounting adjustment recognized in other non-interest revenue related to foreign currency translation, largely impacting prior periods.

(5) In 2018, we recorded a restructuring charge, primarily related to severance costs, as a result of an ongoing bank-wide initiative to simplify how we work, drive increased efficiency and invest in technology to move our business forward. Restructuring charges in 2017 and 2016 were also taken as we continued to accelerate the use of technology to enhance customer experience and focused on driving operational efficiencies. Restructuring costs are included in non-interest expense in Corporate Services.

(6) Adjustments to the collective allowance for credit losses are recorded in Corporate Services provision for credit losses in 2017 and prior years.

(7) The current year included a benefit of \$203 million after-tax (\$277 million pre-tax) from the remeasurement of an employee benefit liability as a result of an amendment to our other employee future benefits plan for certain employees that was announced in the fourth quarter of 2018. This amount has been included in Corporate Services in non-interest expense.

(8) Charge due to the revaluation of our U.S. net deferred tax asset as a result of the enactment of the U.S. *Tax Cuts and Jobs Act*. For more information on the impact of the U.S. *Tax Cuts and Jobs Act*, see Provision for Income Taxes section on page 42.

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

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

# Enterprise-Wide Strategy

## Our Strategy in Context

Customers inspire what we do every day.

Our aim is to deliver top-tier shareholder return as we balance our commitments to our customers and employees, the environment and the communities in which we live and work. We are unified in our focus – and we are accelerating.

Our strategy is built on a strong foundation of assets and capabilities that position us well for future growth. Adapting and innovating, we are working hard to anticipate customers' expectations and deliver growing value to shareholders, as we continue to navigate an increasingly complex world characterized by mixed macroeconomic performance, rapid advances in technology, competitive intensity and a dynamic regulatory environment.

We have a clear plan, anchored in our strategy. Although the fundamentals of our strategy remain consistent, we have refocused our priorities for 2019 to address the changing market landscape. Our group strategic priorities align with and support our enterprise-wide strategy, positioning us well to drive competitive performance. Group strategies are outlined in the 2018 Operating Groups Performance Review, which starts on page 43.

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## Our Strategic Priorities

- Drive leading growth in priority areas by earning customer loyalty
- Simplify, speed up, and improve productivity
- Harness the power of digital and data to grow
- Be leaders in taking and managing risk, consistent with our overall risk appetite
- Activate a high-performance culture

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## Our Sustainability Principles

BMO is dedicated to pursuing growth in a responsible and sustainable manner. Our sustainability principles sit alongside our strategic priorities and represent the inextricable connection between financial performance and corporate responsibility. Our success as a business depends on meeting our commitments to our community and our planet, our employees and our customers. Where they connect is the source of sustainable growth.

### Social Change

Helping people adapt and thrive by embracing diversity and tailoring our products and services to meet changing expectations

### Financial Resilience

Working with our customers to achieve their goals, and providing guidance and support to underserved communities

### Community-Building

Fostering social and economic well-being in the places where we live, work and give back

### Environmental Impact

Reducing our environmental footprint while considering the impacts of our business

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## 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 in this document may include, but are not limited to, statements with respect to our objectives and priorities for fiscal 2019 and beyond, our strategies or future actions, our targets, expectations for our financial condition or share price, the regulatory environment in which we operate and the results of or outlook for our operations or for the Canadian, U.S. and international economies, and include statements of our management. Forward-looking statements are typically identified by words such as "will", "would", "should", "believe", "expect", "anticipate", "project", "intend", "estimate", "plan", "goal", "target", "may" and "could".

By their nature, forward-looking statements require us to make assumptions and are subject to inherent risks and uncertainties, both general and specific in nature. 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 – many of which are beyond our control and the effects of which can be difficult to predict – 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; the Canadian housing market, 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; failure of third parties to comply with their obligations to us; 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, including with respect to reliance on third parties; 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, 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; 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, in the Enterprise-Wide Risk Management section on page 78, all of which outline certain key factors and risks that may affect our 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. We do 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.

Material economic assumptions underlying the forward-looking statements contained in this document are set out in the Economic Developments and Outlook section on page 30. 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.

# Economic Developments and Outlook

## Economic Developments in 2018 and Outlook for 2019

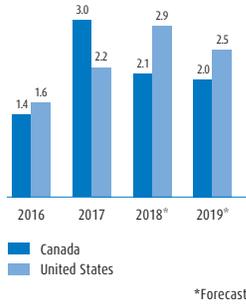
Growth in the Canadian economy moderated in 2018 after a robust expansion in 2017. Consumer spending slowed in response to higher interest rates, elevated household debt and slower employment growth. The level of housing market activity fell in the first half of the year as stricter mortgage rules took effect, although markets in most regions stabilized in the second half of the year as a result of population growth that was the highest in 27 years, reflecting record net immigration. Business investment strengthened early in the year, but weakened subsequently in response to rising concerns about trade protectionism. After a disappointing performance in 2017, export growth accelerated in response to stronger U.S. demand, a robust global economy and the relatively low value of the Canadian dollar compared with the U.S. dollar. The Bank of Canada raised its policy rate by 125 basis points over a 16-month period that ended in October 2018, and it is expected to increase rates by an additional 75 basis points before the end of 2019. After leading all other G7 countries with GDP growth of 3.0% in 2017, the rate of economic expansion in Canada is projected to moderate to 2.1% in 2018 and 2.0% in 2019, while remaining slightly above the country's longer-term potential growth rate. The unemployment rate is expected to decline modestly to a 45-year low of 5.6% before the end of 2019 from 5.8% in October 2018. Industry-wide consumer credit growth is projected to slow from an estimated 4.7% in 2018 to 3.2% in 2019. Residential mortgage growth is anticipated to moderate to below 4% in both years, the slowest pace since 2001, in response to higher borrowing costs and stricter mortgage rules. Non-financial business loan growth is projected to decelerate from an estimated 6.2% in 2018 to a still-healthy rate of 5.6% in 2019. By removing a downside risk that had been facing Canada's economy, the new United States-Mexico-Canada Agreement, assuming it is ratified by the legislatures in each country, should support an improvement in business spending and a modest increase in the value of the Canadian dollar to around US\$0.78 by year-end 2019.

Growth in the U.S. economy strengthened in 2018 due to expansionary fiscal policies. Deregulation and tax reform, including a sizeable decrease in corporate tax rates, led to sustained increases in business investment. Consumer spending remained strong in response to reductions in personal income taxes, healthy employment growth and record levels of household wealth. However, housing market activity moderated as higher borrowing costs and rising home prices eroded affordability. Despite an appreciation of the U.S. dollar, exports strengthened in response to robust global demand. After accelerating from a rate of 2.2% in 2017 to an estimated 2.9% in 2018, real GDP growth is projected to moderate to 2.5% in 2019 as a result of higher interest rates and reduced fiscal stimulus. The continued economic expansion is expected to reduce the unemployment rate to a 49-year low of 3.5% by the end of 2019 from 3.7% in October 2018. The Federal Reserve is expected to increase policy rates by a further 75 basis points before the end of 2019. The higher cost of borrowing will likely cause industry-wide consumer credit growth to moderate from an estimated 3.9% in 2018 to 3.7% in 2019, with residential mortgage growth easing from 3.9% to 3.8%. Slower growth in business spending is projected to reduce the rate of non-financial business loan growth to a still-healthy 5.8% rate in 2019. The main risks to the U.S. economic outlook relate to trade protectionism, geopolitical tensions and the possibility of rising inflation. While the tariffs imposed to date are unlikely to markedly slow the economy, additional protectionist measures could lead to more pronounced weakness and a rising unemployment rate.

The U.S. Midwest region, which includes the six contiguous states within the BMO footprint, has benefited from the pickup in national and global economic activity and manufacturing. Growth in the region's GDP is expected to improve from 1.0% in 2017 to 2.1% in 2018 and 1.9% in 2019. However, the regional rate of growth will likely continue to lag the national rate due to slower population growth, downshifting of automobile production in Indiana and continued budgetary constraints in Illinois.

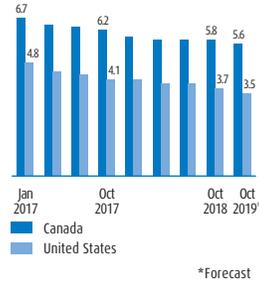
This Economic Developments and Outlook section contains forward-looking statements. Please see the Caution Regarding Forward-Looking Statements on page 29.

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



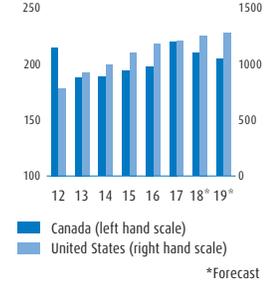
The U.S. economy is expected to grow modestly faster than the Canadian economy in 2019.

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



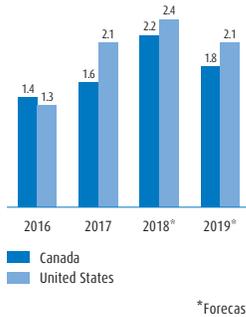
Unemployment rates in Canada and the United States are projected to further modestly decline.

**Housing Starts (in thousands)**



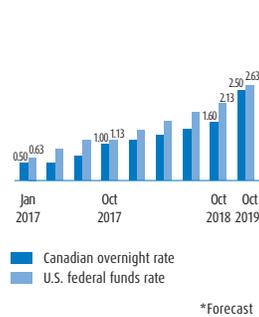
Housing market activity is expected to decline modestly in Canada, but strengthen somewhat in the United States.

**Consumer Price Index Inflation (%)**



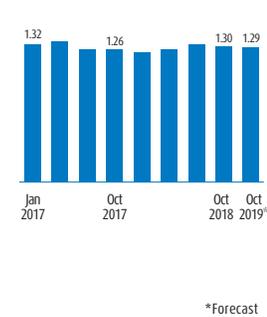
Inflation is expected to remain low.

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



Central banks are expected to continue to raise policy rates slowly.

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



The Canadian dollar is expected to strengthen slightly in 2019.

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

# Value Measures

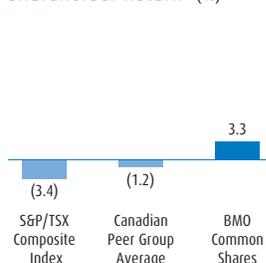
## Total Shareholder Return

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 3.3% outperformed the corresponding average returns of both our Canadian bank peer group and the overall market in Canada. Our three-year average annual TSR of 13.3% and our five-year average annual TSR of 10.5% were strong, and each outperformed the corresponding average returns of both our Canadian bank peer group and the overall market in Canada.

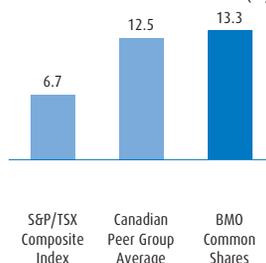
The table below summarizes dividends paid on BMO common shares over the past five years and the movements in BMO's share price. An investment of \$1,000 in BMO common shares made at the beginning of fiscal 2014 would have been worth \$1,650 at October 31, 2018, assuming reinvestment of dividends, for a total return of 65.0%.

On December 4, 2018, BMO announced that the Board of Directors had declared a quarterly dividend on common shares of \$1.00 per share, up \$0.04 per share or 4% from the prior quarter and up \$0.07 per share or 8% from the prior year. The dividend is payable on February 26, 2019 to shareholders of record on February 1, 2019. We have increased our quarterly dividend declared four times over the past two years from \$0.86 per common share for the first quarter of 2017. Dividends paid over a five-year period have increased at an average annual compound rate of 5.0%.

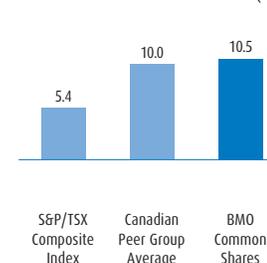
One-Year Total Shareholder Return\* (%)



Three-Year Average Annual Total Shareholder Return\* (%)



Five-Year Average Annual Total Shareholder Return\* (%)



\*All returns represent total returns.

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              | 2018         | 2017  | 2016  | 2015  | 2014  | 3-year CAGR (1) | 5-year CAGR (1) |
|--|--------------|-------|-------|-------|-------|-----------------|-----------------|
| Closing market price per common share (\$) | <b>98.43</b> | 98.83 | 85.36 | 76.04 | 81.73 | <b>9.0</b>      | <b>6.3</b>      |
| Dividends paid (\$ per share)              | <b>3.72</b>  | 3.52  | 3.36  | 3.20  | 3.04  | <b>5.1</b>      | <b>5.0</b>      |
| Dividend yield (%)                         | <b>3.8</b>   | 3.6   | 4.0   | 4.3   | 3.8   | <b>nm</b>       | <b>nm</b>       |
| Increase (decrease) in share price (%)     | <b>(0.4)</b> | 15.8  | 12.3  | (7.0) | 12.5  | <b>nm</b>       | <b>nm</b>       |
| Total annual shareholder return (%) (2)    | <b>3.3</b>   | 20.2  | 17.0  | (3.0) | 17.1  | <b>13.3</b>     | <b>10.5</b>     |

(1) Compound annual growth rate (CAGR) expressed as a percentage.

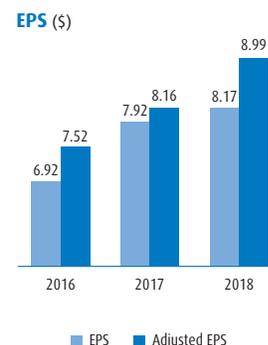
(2) Total annual shareholder return assumes reinvestment of quarterly dividends and therefore does not equal the sum of dividend and share price returns in the table.  
nm - not meaningful

## 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 \$8.17, up \$0.25 or 3% from \$7.92 in 2017. Adjusted EPS was \$8.99, up \$0.83 or 10% from \$8.16 in 2017, 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 2% higher year-over-year, while the average number of diluted common shares outstanding decreased by 1%, primarily due to share buybacks.

**Earnings per share (EPS)** is calculated by dividing net income attributable to bank shareholders, after deducting preferred share 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 23 on page 200 of the consolidated financial statements. Adjusted EPS is calculated in the same manner using adjusted net income.

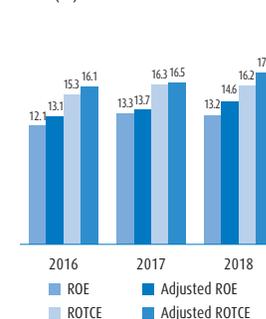


Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 27.

## Return on Equity

Reported return on equity (ROE) was 13.2% in 2018 and adjusted ROE was 14.6%, compared with 13.3% and 13.7%, respectively, in 2017. Reported ROE decreased in 2018, primarily due to growth in common equity exceeding growth in income, in part due to reported income being impacted by a \$425 million one-time non-cash charge due to the revaluation of our U.S. net deferred tax asset due to U.S. tax reform. Adjusted ROE increased in 2018, primarily due to growth in income exceeding growth in common equity. There was an increase of \$102 million or 2% in net income available to common shareholders and an increase of \$473 million or 9% in adjusted net income available to common shareholders in 2018. Average common shareholders' equity increased \$792 million or 2% from 2017, primarily due to increased retained earnings, partially offset by lower accumulated other comprehensive income. The reported return on tangible common equity (ROTCE) was 16.2%, compared with 16.3% in 2017, and adjusted ROTCE was 17.5%, compared with 16.5% in 2017. Book value per share increased 5% from the prior year to \$64.73, largely reflecting the increase in shareholders' equity.

ROE (%)



**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)  
For the year ended October 31

|   | 2018   | 2017   | 2016   |
|---|--------|--------|--------|
| Reported net income   | 5,450  | 5,350  | 4,631  |
| Attributable to non-controlling interest in subsidiaries  | -      | (2)    | (9)    |
| Preferred dividends   | (184)  | (184)  | (150)  |
| Net income available to common shareholders (A)   | 5,266  | 5,164  | 4,472  |
| After-tax amortization of acquisition-related intangible assets   | 90     | 116    | 124    |
| Net income available to common shareholders after adjusting for amortization of acquisition-related intangible assets (B) | 5,356  | 5,280  | 4,596  |
| After-tax impact of other adjusting items (1)   | 439    | 42     | 265    |
| Adjusted net income available to common shareholders (C)  | 5,795  | 5,322  | 4,861  |
| Average common shareholders' equity (D)   | 39,754 | 38,962 | 36,997 |
| Return on equity (%) (= A/D)  | 13.2   | 13.3   | 12.1   |
| Adjusted return on equity (%) (= C/D)   | 14.6   | 13.7   | 13.1   |
| Average tangible common equity (E)  | 33,125 | 32,303 | 30,101 |
| Return on tangible common equity (%) (= B/E)  | 16.2   | 16.3   | 15.3   |
| Adjusted return on tangible common equity (%) (= C/E)   | 17.5   | 16.5   | 16.1   |

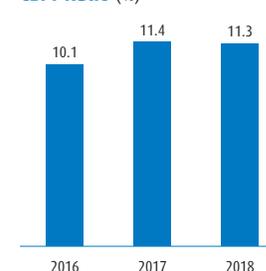
(1) Other adjusting items include a charge related to the revaluation of our U.S. net deferred tax asset and the benefit on an employee future benefit liability in 2018, a decrease in the collective allowance in 2017 and a cumulative accounting adjustment in 2016. All periods also include restructuring and acquisition integration costs.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 27. Certain comparative figures have been reclassified to conform with the current period's presentation.

## 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 11.3% at October 31, 2018, compared with 11.4% at October 31, 2017. The CET1 Ratio decreased from the end of fiscal 2017 as higher CET1 capital from retained earnings growth, net of share repurchases, was more than offset by higher risk-weighted assets, including an acquisition.

CET1 Ratio (%)



**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 asset and other items, divided by risk-weighted assets for CET1.

# 2018 Financial Performance Review

This section provides a review of our enterprise financial performance for 2018 that focuses on the Consolidated Statement of Income included in our consolidated financial statements, which begin on page 143. A review of our operating groups' strategies and performance follows the enterprise review. A summary of the enterprise financial performance for 2017 appears on page 65.

## Foreign Exchange

The Canadian dollar equivalents of BMO's U.S. results that are denominated in U.S. dollars decreased relative to 2017 due to 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 2018, 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 \$14 million, in the absence of hedging transactions.

Economically, our U.S. dollar income stream was unhedged to changes in foreign exchange rates during 2018 and 2017. During 2016, a portion of the BMO Capital Markets U.S. dollar net income was economically hedged. We regularly determine whether to execute hedging transactions in order to mitigate the impact of foreign exchange rate movements on net income.

See the Enterprise-Wide Capital Management section on page 69 for a 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, as a result of 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 \$148 million.

## Effects of Changes in Exchange Rates on BMO's U.S. Segment Reported and Adjusted Results

| (Canadian \$ in millions, except as noted)      | 2018 vs.<br>2017 | 2017 vs.<br>2016 |
|---|------------------|------------------|
| Canadian/U.S. dollar exchange rate (average)    |                  |                  |
| 2018  | <b>1.2878</b>    |                  |
| 2017  | <b>1.3071</b>    | 1.3071           |
| 2016  |                  | 1.3251           |
| <b>Effects on U.S. segment reported results</b> |                  |                  |
| Decreased net interest income                   | <b>(58)</b>      | (51)             |
| Decreased non-interest revenue                  | <b>(47)</b>      | (40)             |
| Decreased revenues                              | <b>(105)</b>     | (91)             |
| Decreased provision for credit losses           | <b>3</b>         | -                |
| Decreased expenses                              | <b>76</b>        | 68               |
| Decreased income taxes                          | <b>21</b>        | 6                |
| Decreased reported net income                   | <b>(5)</b>       | (17)             |
| <b>Effects on U.S. segment adjusted results</b> |                  |                  |
| Decreased net interest income                   | <b>(58)</b>      | (51)             |
| Decreased non-interest revenue                  | <b>(47)</b>      | (40)             |
| Decreased revenues                              | <b>(105)</b>     | (91)             |
| Decreased provision for credit losses           | <b>4</b>         | 2                |
| Decreased expenses                              | <b>74</b>        | 66               |
| Decreased income taxes                          | <b>5</b>         | 5                |
| Decreased adjusted net income                   | <b>(22)</b>      | (18)             |

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 27.

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

### Caution

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

## Net Income

Reported net income was \$5,450 million in 2018, an increase of \$100 million or 2% from the prior year. Adjusted net income was \$5,979 million, an increase of \$471 million or 9%. Adjusted net income excludes a one-time non-cash charge related to the revaluation of our U.S. net deferred tax asset due to U.S. tax reform and a benefit of the remeasurement of an employee benefit liability in the current year, restructuring and acquisition integration costs and the amortization of acquisition-related intangible assets in both years, and a decrease in the collective allowance in the prior year. For more information, see the Non-GAAP Measures section on page 27. The impact of the weaker U.S. dollar on net income was not significant.

Reported and adjusted net income growth largely reflects the benefit of good performance in U.S. P&C, Wealth Management and Canadian P&C. BMO Capital Markets results declined, while Corporate Services net loss was higher on a reported basis, but lower on an adjusted basis.

Canadian P&C reported net income of \$2,554 million increased \$43 million or 2%, and adjusted net income of \$2,556 million, which excludes the amortization of acquisition-related intangible assets, increased \$42 million or 2% from the prior year. The prior year benefited from a \$168 million after-tax gain on the sale of Moneris Solutions Corporation (Moneris US), which had a negative impact of approximately 7% on net income growth in 2018. Excluding the gain, net income increased as a result of higher balances across most products, higher non-interest revenue, and wider margins, partially offset by higher expenses.

U.S. P&C reported net income of \$1,394 million increased \$367 million or 36%, and adjusted net income of \$1,439 million increased \$366 million or 34% from the prior year. Adjusted net income excludes the amortization of acquisition-related intangible assets. On a U.S. dollar basis, reported net income of \$1,083 million increased \$296 million or 37%, and adjusted net income of \$1,118 million increased \$295 million or 36% from the prior year, due to higher revenue, the benefit of U.S. tax reform and lower provisions for credit losses, partially offset by higher expenses. The benefit of U.S. tax reform was approximately \$91 million in reported net income and \$95 million in adjusted net income. The prior year results included a \$27 million after-tax loss on a loan sale.

Wealth Management reported net income of \$1,072 million increased \$105 million or 11% from the prior year. Adjusted net income of \$1,113 million, which excludes the amortization of acquisition-related intangible assets, increased \$81 million or 8%. Traditional wealth reported net income of \$805 million increased \$76 million or 11% from the prior year. Adjusted net income in traditional wealth of \$846 million increased \$52 million or 7%, primarily due to growth from our diversified businesses and higher equity markets on average, partially offset by higher expenses and a legal provision. Net income in insurance of \$267 million increased \$29 million or 12%, primarily due to less elevated reinsurance claims in the current year and business growth, partially offset by unfavourable market movements in the current year relative to favourable market movements in the prior year.

BMO Capital Markets reported net income of \$1,156 million decreased \$119 million or 9% from the prior year. Adjusted net income of \$1,169 million, which excludes the amortization of acquisition-related intangible assets and acquisition integration costs, decreased \$108 million or 8%, primarily due to lower revenue.

Corporate Services reported net loss for the year was \$726 million, compared with a reported net loss of \$430 million a year ago. The adjusted net loss for the year was \$298 million, compared with an adjusted net loss of \$388 million a year ago. The adjusted net loss excludes a one-time non-cash charge of \$425 million related to the revaluation of our U.S. net deferred tax asset due to U.S. tax reform and a benefit of \$203 million as a result of the remeasurement of an employee benefit liability in the current year, restructuring costs and acquisition integration costs in both years with higher costs incurred in 2018, and a \$54 million decrease in the collective allowance in the prior year. The adjusted net loss improved primarily due to lower expenses and higher revenue, excluding the taxable equivalent basis (teb) adjustment. The reported net loss increased \$296 million from the prior year, due to the impact of the adjusting items and other drivers noted above.

Further discussion is provided in the 2018 Operating Groups Performance Review section on pages 43 to 61.

## Revenue <sup>(1)</sup>

Revenue of \$23,037 million increased \$777 million or 3% from \$22,260 million in the prior year. On a basis that nets insurance claims, commissions and changes in policy benefit liabilities (CCPB) against insurance revenue (net revenue), revenue increased \$963 million or 5% to \$21,685 million, driven by good performance in U.S. P&C, Canadian P&C, Wealth Management and higher Corporate Services revenue, partially offset by a decrease in revenue in BMO Capital Markets. The impact of the weaker U.S. dollar on revenue growth was not significant.

BMO analyzes revenue at the consolidated level based on GAAP revenue 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 2018 totalled \$313 million, down from \$567 million in 2017.

Canadian P&C revenue increased \$269 million or 4% from the prior year. Revenue increased due to higher balances across most products, higher non-interest revenue, including a \$39 million gain related to the restructuring of Interac Corporation in the current year, and wider margins. The prior year benefited from a \$187 million gain on the sale of Moneris US, which had a negative impact of approximately 3% on revenue growth in 2018.

U.S. P&C revenue increased \$366 million or 8% from the prior year on a Canadian dollar basis. On a U.S. dollar basis, revenue of \$3,869 million increased \$334 million or 9%, mainly due to higher deposit revenue and loan volumes in the current year, and the impact of a loss on a loan sale in the prior year, net of loan spread compression.

Wealth Management revenue, net of CCPB, of \$4,942 million increased \$266 million or 6% from the prior year. Revenue in traditional wealth of \$4,463 million increased \$257 million or 6%, due to growth in client assets, including a benefit from higher equity markets on average, and higher deposit and loan revenue, partially offset by the impact of the divestiture of a non-core business in the prior year. Insurance revenue, net of CCPB, of \$479 million increased \$9 million or 2%, due to less elevated reinsurance claims in the current year and business growth, partially offset by unfavourable market movements in the current year relative to favourable market movements in the prior year.

BMO Capital Markets revenue of \$4,355 million decreased \$214 million or 5% from the prior year, or 4% excluding the impact of the weaker U.S. dollar, driven by lower revenue in our Trading Products business, primarily in interest rate trading, and lower revenue in Investment and Corporate Banking due to lower underwriting and advisory revenue, partially offset by higher corporate banking-related revenue.

Corporate Services reported and adjusted revenue both increased \$276 million from the prior year, largely driven by a lower teb adjustment.

Further discussion is provided in the 2018 Operating Groups Performance Review section on pages 43 to 61.

(1) Insurance revenue can experience variability arising from fluctuations in the fair value of insurance assets, caused by movements in interest rates and equities markets. 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 39.

**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 | 2018          | 2017   | 2016   | Change<br>from 2017<br>(%) |
|---|---------------|--------|--------|----------------------------|
| Net interest income   | <b>10,313</b> | 10,007 | 9,872  | <b>3</b>                   |
| Non-interest revenue  | <b>12,724</b> | 12,253 | 11,215 | <b>4</b>                   |
| Total revenue   | <b>23,037</b> | 22,260 | 21,087 | <b>3</b>                   |
| Total revenue, net of CCPB  | <b>21,685</b> | 20,722 | 19,544 | <b>5</b>                   |
| Adjusted net interest income  | <b>10,313</b> | 10,007 | 9,872  | <b>3</b>                   |
| Adjusted non-interest revenue   | <b>12,724</b> | 12,253 | 11,299 | <b>4</b>                   |
| Total adjusted revenue  | <b>23,037</b> | 22,260 | 21,171 | <b>3</b>                   |
| Total adjusted revenue, net of CCPB   | <b>21,685</b> | 20,722 | 19,628 | <b>5</b>                   |

### Net Interest Income

Net interest income of \$10,313 million increased \$306 million or 3%, due to increased loan volumes and higher deposit volumes and margins in the P&C businesses, partially offset by lower net interest income in BMO Capital Markets, due to certain trading businesses where the related revenue is recorded in trading income, non-interest revenue.

Net interest income excluding trading of \$10,735 million increased \$595 million or 6%, due to increased loan and deposit volumes, and wider margins in the P&C businesses.

Average earning assets of \$682.9 billion increased \$36.1 billion or 6%, due to loan growth, higher securities, increased cash resources and higher securities borrowed or purchased under resale agreements.

BMO's overall net interest margin of 1.51% decreased 4 basis points, primarily due to lower net interest income from trading businesses. Net interest margin on an excluding trading basis of 1.87% was flat, compared with the prior year, as higher margins in the P&C businesses were mostly offset by higher volume of lower spread assets.

Table 3 on page 128 provides further details on net interest income and net interest margin.

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

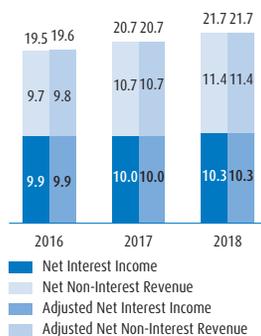
**Net interest margin** is the ratio of net interest income to average earning assets, expressed as a percentage or in basis points.

**Net non-interest revenue** is non-interest revenue, net of insurance claims, commissions and changes in policy benefit liabilities (CCPB).

**Average Earning Assets and Net Interest Margin**

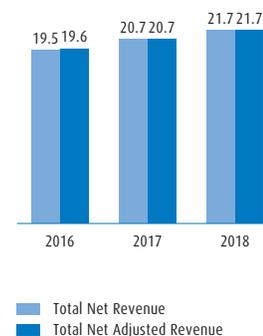


**Net Interest Income and Net Non-Interest Revenue\***  
(\$ billions)



\*Numbers may not add due to rounding.

**Net Revenue**  
(\$ billions)



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

| (Canadian \$ in millions, except as noted)<br>For the year ended October 31 | Net interest income (teb)<br>Change |        |      | Average earning assets<br>Change |         |    | Net interest margin<br>(in basis points) |      |        |
|---|-------------------------------------|--------|------|----------------------------------|---------|----|--|------|--------|
|   | 2018                                | 2017   | %    | 2018                             | 2017    | %  | 2018                                     | 2017 | Change |
| Canadian P&C  | 5,541                               | 5,261  | 5    | 212,965                          | 207,815 | 2  | 260                                      | 253  | 7      |
| U.S. P&C  | 3,843                               | 3,551  | 8    | 103,394                          | 96,363  | 7  | 372                                      | 368  | 4      |
| Personal and Commercial Banking (P&C)                                       | 9,384                               | 8,812  | 6    | 316,359                          | 304,178 | 4  | 297                                      | 290  | 7      |
| Wealth Management   | 826                                 | 722    | 14   | 31,167                           | 28,026  | 11 | 265                                      | 257  | 8      |
| BMO Capital Markets   | 659                                 | 1,233  | (47) | 271,839                          | 263,128 | 3  | 24                                       | 47   | (23)   |
| Corporate Services  | (556)                               | (760)  | 27   | 63,580                           | 51,467  | 24 | nm                                       | nm   | nm     |
| Total BMO reported  | 10,313                              | 10,007 | 3    | 682,945                          | 646,799 | 6  | 151                                      | 155  | (4)    |
| U.S. P&C (US\$ in millions)   | 2,983                               | 2,718  | 10   | 80,255                           | 73,752  | 9  | 372                                      | 369  | 3      |

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 \$471 million or 4% to \$12,724 million in 2018. Reported and adjusted non-interest revenue, net of CCPB, both increased \$657 million or 6% to \$11,372 million with the majority of the growth driven by BMO Capital Markets. Excluding trading revenue, non-interest revenue, net of CCPB, increased \$179 million or 2%.

Trading revenues increased \$478 million and are discussed in the Trading-Related Revenues section that follows.

Investment management and custodial fees increased \$120 million from the prior year, mainly due to business growth in Wealth Management, partially offset by the impact of a divestiture of a non-core business in the prior year. Mutual fund revenue increased \$62 million. Both investment management and custodial fees and mutual fund revenues benefited from higher equity markets on average, compared with the prior year.

Card fees increased \$85 million, driven by higher interchange revenue in Canadian P&C.

Lending fees increased \$80 million, primarily due to increased lending activity in Canadian P&C and in BMO Capital Markets.

Securities gains, other than trading, increased \$68 million, due to higher net securities gains in Corporate Services, Canadian P&C and U.S. P&C, partially offset by lower net securities gains in BMO Capital Markets and Wealth Management.

Securities commissions and fees increased \$60 million. These revenues largely consist of brokerage commissions within Wealth Management and institutional equity trading commissions within BMO Capital Markets. The increase was due to growth in fee-based businesses in Wealth Management and higher levels of client activity in both Wealth Management and BMO Capital Markets.

Deposit and payment service charges increased \$21 million and other non-interest revenue increased \$16 million.

Investments in associates and joint ventures decreased \$219 million, primarily due to the \$187 million pre-tax gain on sale of Moneris US in 2017.

Gross insurance revenue decreased \$191 million from 2017, due to higher increases in long-term interest rates decreasing the fair value of insurance investments in the current year, and stronger equity markets in the prior year, partially offset by higher annuity sales and underlying business growth in the current year. Insurance revenue can experience variability arising from fluctuations in the fair value of insurance assets, caused by movements in interest rates and equity markets. The investments that support policy benefit liabilities are predominantly fixed income and equity 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 39.

Underwriting and advisory fees decreased \$100 million, primarily due to lower equity underwriting activity.

Foreign exchange, other than trading, decreased \$9 million.

Table 3 on page 128 provides further details on revenue and revenue growth.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 27.

## Non-Interest Revenue

| (Canadian \$ in millions)<br>For the year ended October 31 | 2018          | 2017          | 2016          | Change<br>from 2017<br>(%) |
|--|---------------|---------------|---------------|----------------------------|
| Securities commissions and fees                            | 1,029         | 969           | 924           | 6                          |
| Deposit and payment service charges                        | 1,144         | 1,123         | 1,076         | 2                          |
| Trading revenues   | 1,830         | 1,352         | 1,192         | 35                         |
| Lending fees   | 997           | 917           | 859           | 9                          |
| Card fees  | 564           | 479           | 526           | 18                         |
| Investment management and custodial fees                   | 1,742         | 1,622         | 1,556         | 7                          |
| Mutual fund revenues                                       | 1,473         | 1,411         | 1,364         | 4                          |
| Underwriting and advisory fees                             | 936           | 1,036         | 820           | (10)                       |
| Securities gains, other than trading                       | 239           | 171           | 84            | 39                         |
| Foreign exchange, other than trading                       | 182           | 191           | 162           | (5)                        |
| Insurance revenue  | 1,879         | 2,070         | 2,023         | (9)                        |
| Investments in associates and joint ventures               | 167           | 386           | 140           | (57)                       |
| Other  | 542           | 526           | 489           | 3                          |
| <b>Total reported</b>                                      | <b>12,724</b> | <b>12,253</b> | <b>11,215</b> | <b>4</b>                   |
| Reported, net of CCPB                                      | 11,372        | 10,715        | 9,672         | 6                          |
| <b>Total adjusted</b>                                      | <b>12,724</b> | <b>12,253</b> | <b>11,299</b> | <b>4</b>                   |
| Adjusted, net of CCPB                                      | 11,372        | 10,715        | 9,756         | 6                          |
| Insurance revenue, net of CCPB                             | 527           | 532           | 480           | (1)                        |

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

### 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 and market conditions. BMO earns a spread or profit on the net sum of its client positions by profitably managing, within prescribed limits, the overall risk in its net positions. On a limited basis, BMO also earns revenue from principal trading positions.

Interest and non-interest trading-related revenues on a taxable equivalent basis (teb) decreased \$39 million or 2%. Interest rate trading-related revenues decreased \$43 million or 9%, primarily due to decreased client activity. Foreign exchange trading-related revenues increased \$8 million or 2%, driven by increased client activity. Equities trading-related revenues decreased \$18 million or 2%, reflecting lower activity with corporate clients. Commodities trading-related revenues decreased \$21 million or 25%, due to decreased client hedging activity in energy products. Other trading-related revenues increased \$35 million or 76%, primarily due to fair value gains associated with hedging exposures in our structural balance sheet. These fair value gains were largely offset by lower net interest income.

The Market Risk section on page 95 provides more information on trading-related revenues.

**Trading-related revenues** include net interest income and non-interest revenue earned from on-balance sheet 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.

## Interest and Non-Interest Trading-Related Revenues <sup>(1)</sup>

| (Canadian \$ in millions)<br>(taxable equivalent basis)<br>For the year ended October 31 | 2018  | 2017  | 2016  | Change<br>from 2017<br>(%) |
|--|-------|-------|-------|----------------------------|
| Interest rates   | 437   | 480   | 663   | (9)                        |
| Foreign exchange   | 377   | 369   | 349   | 2                          |
| Equities   | 709   | 727   | 629   | (2)                        |
| Commodities  | 63    | 84    | 66    | (25)                       |
| Other (2)  | 82    | 47    | 25    | 76                         |
| Total (teb)  | 1,668 | 1,707 | 1,732 | (2)                        |
| Teb offset   | 260   | 488   | 441   | (47)                       |
| Reported total   | 1,408 | 1,219 | 1,291 | 16                         |
| Reported as:   |       |       |       |                            |
| Net interest income  | (162) | 355   | 540   | (+100)                     |
| Non-interest revenue – trading revenues  | 1,830 | 1,352 | 1,192 | 35                         |
| Total (teb)  | 1,668 | 1,707 | 1,732 | (2)                        |
| Teb offset   | 260   | 488   | 441   | (47)                       |
| Reported total, net of teb offset  | 1,408 | 1,219 | 1,291 | 16                         |
| Adjusted net interest income, net of teb offset  | (422) | (133) | 99    | (+100)                     |
| Adjusted non-interest revenue – trading revenues   | 1,830 | 1,352 | 1,192 | 35                         |
| Adjusted total, net of teb offset  | 1,408 | 1,219 | 1,291 | 16                         |

(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 27.

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

Insurance claims, commissions and changes in policy benefit liabilities (CCPB) were \$1,352 million in 2018, a decrease of \$186 million pre-tax from \$1,538 million in 2017, due to the impact of higher increases in long-term interest rates decreasing the fair value of policy benefit liabilities in the current year, stronger equity markets in the prior year and less elevated reinsurance claims in the current year, partially offset by higher annuity sales and underlying business growth in the current year. 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 37.

## Provision for Credit Losses

Effective the first quarter of 2018, the bank prospectively adopted IFRS 9. Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. The provision for credit losses on impaired loans under IFRS 9 is consistent with the specific provision under IAS 39 in prior years. The provision for credit losses on performing loans replaces the collective provision under IAS 39. Refer to Note 4 on page 157 of the consolidated financial statements for an explanation of the provision for credit losses. Prior periods have not been restated.

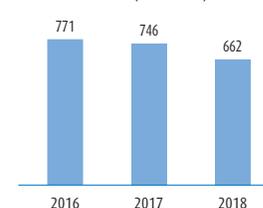
The total provision for credit losses (PCL) was \$662 million in the current year, down from \$746 million in 2017. Adjusted PCL, which excludes a \$76 million pre-tax decrease in the collective allowance in the prior year, decreased \$160 million. The PCL on impaired loans of \$700 million decreased from \$822 million in the prior year, reflecting a net recovery of credit losses in BMO Capital Markets in the current year, compared with net provisions in the prior year, lower provisions in Canadian and U.S. P&C and Wealth Management, and higher recoveries in Corporate Services. There was a \$38 million net recovery of credit losses on performing loans in the current year, primarily in the U.S. P&C business.

Total PCL as a percentage of average net loans and acceptances was 0.17% in 2018, down from 0.20% in the prior year. PCL on impaired loans as a percentage of average net loans and acceptances was 0.18%, down from 0.22% in the prior year.

Total PCL in Canadian P&C decreased \$14 million to \$469 million, due to lower commercial provisions, partially offset by higher consumer provisions. Total U.S. P&C provisions of \$220 million decreased \$69 million, reflecting lower consumer and commercial PCL on impaired loans, and a \$38 million net recovery of credit losses on performing loans. BMO Capital Markets had a net recovery of credit losses of \$18 million, compared with net provisions of \$44 million in the prior year. Corporate Services total recoveries of credit losses of \$15 million decreased \$63 million, due to the \$76 million collective allowance reduction in the prior year.

On a geographic basis, the majority of our provisions relate to our Canadian loan portfolio, reflecting the larger size of this portfolio compared with our U.S. and international loan portfolios. Total PCL in Canada and other countries (excluding the U.S.) was \$424 million, compared with \$452 million in 2017. Total PCL in the U.S. was \$238 million, down from \$294 million in 2017. Note 4 on page 157 of the consolidated financial statements provides provision for credit losses information on a geographic basis. Table 15 on page 138 provides further provision for credit losses segmentation information.

Provision for Credit Losses (\$ millions)



### Provision for Credit Losses by Operating Group <sup>(1)</sup>

| (Canadian \$ in millions)   | Canadian P&C | U.S. P&C | Total P&C | Wealth Management | BMO Capital Markets | Corporate Services (2) | Total Bank |
|---|--------------|----------|-----------|-------------------|---------------------|------------------------|------------|
| <b>2018</b>   |              |          |           |                   |                     |                        |            |
| Provision for (recovery of) credit losses on impaired loans             | 466          | 258      | 724       | 6                 | (17)                | (13)                   | 700        |
| Provision for (recovery of) credit losses on performing loans           | 3            | (38)     | (35)      | -                 | (1)                 | (2)                    | (38)       |
| Total provision for (recovery of) credit losses                         | 469          | 220      | 689       | 6                 | (18)                | (15)                   | 662        |
| <b>2017</b>   |              |          |           |                   |                     |                        |            |
| Total specific and collective provision for (recovery of) credit losses | 483          | 289      | 772       | 8                 | 44                  | (78)                   | 746        |
| <b>2016</b>   |              |          |           |                   |                     |                        |            |
| Total specific and collective provision for (recovery of) credit losses | 506          | 249      | 755       | 9                 | 81                  | (74)                   | 771        |

(1) Effective the first quarter of 2018, the bank prospectively adopted IFRS 9, *Financial Instruments* (IFRS 9). Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. Prior periods have not been restated. The provision for credit losses in periods prior to 2018 is comprised of specific provisions for operating groups and includes both specific and collective provisions for Corporate Services. Refer to the Changes in Accounting Policies section on page 121 for further details.

(2) In prior years the reduction in the collective provision for credit losses was recorded in Corporate Services. Certain comparative figures have been reclassified to conform with the current year's presentation.

### Provision for Credit Losses Performance Ratios

|   | 2018 | 2017 | 2016 |
|---|------|------|------|
| Total PCL-to-average net loans and acceptances (annualized) (%)             | 0.17 | 0.20 | 0.22 |
| PCL on impaired loans-to-average net loans and acceptances (annualized) (%) | 0.18 | 0.22 | 0.22 |

## Non-Interest Expense

Non-interest expense increased \$283 million or 2% to \$13,613 million in 2018.

Adjusted non-interest expense excludes a benefit from the remeasurement of an employee benefit liability in the current year, restructuring costs, the amortization of acquisition-related intangible assets and acquisition integration costs in both years. The benefit from the remeasurement was \$277 million pre-tax in the current year and was recorded in other employee compensation. Restructuring costs were \$260 million and \$59 million in 2018 and 2017, respectively. The amortization of acquisition-related intangible assets was \$116 million and \$149 million in 2018 and 2017, respectively. Acquisition integration costs were \$34 million and \$87 million in 2018 and 2017, respectively.

Adjusted non-interest expense increased \$445 million or 3% to \$13,480 million, primarily due to increased technology investments and higher employee-related expenses, partially offset by benefits from disciplined expense management. Reported non-interest expense increased \$283 million or 2%, due to the same drivers as adjusted non-interest expense growth, partially offset by the net benefit of the adjusting items noted above. 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 below. Table 4 on page 129 provides more detail on expenses and expense growth.

Performance-based compensation on a reported basis increased \$124 million or 5% and on an adjusted basis increased \$127 million or 5%, primarily due to improved performance across most operating groups and growth initiatives. Other employee compensation, which includes salaries, benefits and severance, on a reported basis decreased \$132 million or 3%, reflecting the benefit resulting from a remeasurement of an employee benefit liability, partially offset by higher restructuring costs in the current year. Other employee compensation decreased \$13 million on an adjusted basis, mainly reflecting lower pension costs.

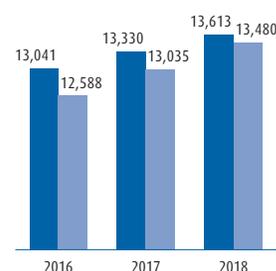
Premises and equipment costs on a reported basis increased \$262 million or 11% and on an adjusted basis increased \$308 million or 13%, primarily due to an increase in technology investments. Other reported expenses increased \$11 million and adjusted other expenses decreased \$28 million or 1%.

BMO's reported efficiency ratio improved 80 basis points to 59.1% and the adjusted efficiency ratio improved 10 basis points to 58.5% in 2018. On a net revenue basis<sup>(1)</sup>, the reported efficiency ratio improved 150 basis points to 62.8% and the adjusted efficiency ratio improved 70 basis points to 62.2% in 2018.

On a net revenue basis<sup>(1)</sup>, reported operating leverage was 2.5% and adjusted operating leverage was 1.2%.

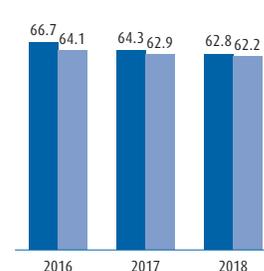
(1) This ratio is calculated excluding insurance claims, commissions and changes in policy benefit liabilities (CCPB).

**Non-Interest Expense**  
(\$ millions)



■ Reported Non-Interest Expense  
■ Adjusted Non-Interest Expense

**Net Efficiency Ratio (%)**



■ Net Efficiency Ratio  
■ Adjusted Net Efficiency Ratio

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 adjusted non-interest 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)<br>For the year ended October 31 | 2018   | 2017   | 2016   | Change<br>from 2017<br>(%) |
|--|--------|--------|--------|----------------------------|
| Performance-based compensation                             | 2,510  | 2,386  | 2,278  | 5                          |
| Other employee compensation                                | 4,949  | 5,081  | 5,104  | (3)                        |
| Total employee compensation                                | 7,459  | 7,467  | 7,382  | -                          |
| Premises and equipment                                     | 2,753  | 2,491  | 2,393  | 11                         |
| Other  | 2,898  | 2,887  | 2,822  | -                          |
| Amortization of intangible assets                          | 503    | 485    | 444    | 4                          |
| Total non-interest expense                                 | 13,613 | 13,330 | 13,041 | 2                          |

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

## Adjusted Non-Interest Expense <sup>(1)</sup>

| (Canadian \$ in millions)<br>For the year ended October 31 | 2018   | 2017   | 2016   | Change<br>from 2017<br>(%) |
|--|--------|--------|--------|----------------------------|
| Performance-based compensation                             | 2,508  | 2,381  | 2,248  | 5                          |
| Other employee compensation                                | 4,994  | 5,007  | 4,894  | -                          |
| Total employee compensation                                | 7,502  | 7,388  | 7,142  | 2                          |
| Premises and equipment                                     | 2,738  | 2,430  | 2,357  | 13                         |
| Other  | 2,853  | 2,881  | 2,805  | (1)                        |
| Amortization of intangible assets                          | 387    | 336    | 284    | 15                         |
| Total adjusted non-interest expense                        | 13,480 | 13,035 | 12,588 | 3                          |

(1) Adjusted non-interest expense excludes restructuring costs, the amortization of acquisition-related intangible assets, acquisition integration costs, and the benefit on an employee future benefit liability.

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

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 27.

## 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 22 on page 198 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.

On December 22, 2017, the U.S. *Tax Cuts and Jobs Act* (the Act) was signed into law in the United States. Consequently, effective January 1, 2018, the U.S. federal corporate tax rate was reduced from 35% to 21%. The tax rate change resulted in a one-time non-cash charge of \$425 million to our net income due to the revaluation of our U.S. net deferred tax asset to the lower tax rate. This one-time non-cash charge for the reduction in the U.S. federal tax rate was recorded in income taxes in the current year. For more information on the impact of U.S. tax reform, see the discussion in the Critical Accounting Estimates section on page 117.

The provision for income taxes was \$1,960 million in 2018, compared with \$1,296 million in 2017. The reported effective tax rate in 2018 was 26.5%, compared with 19.5% in 2017. The higher reported effective tax rate was primarily due to the one-time non-cash charge due to the revaluation of our U.S. net deferred tax asset noted above. The adjusted provision for income taxes<sup>(1)</sup> was \$1,564 million in 2018, compared with \$1,357 million in 2017. The adjusted effective tax rate in 2018 was 20.7%, compared with 19.8% in 2017. The higher adjusted effective tax rate was primarily due to lower tax-exempt income from securities and changes in earnings mix, partially offset by the benefit of U.S. tax reform of approximately US\$100 million. On a teb basis, the reported effective tax rate was 29.4% in 2018, compared with 25.8% in 2017. On a teb basis, the adjusted effective tax rate was 23.9% in 2018, compared with 25.9% in 2017.

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 recovery in shareholders' equity of \$56 million for the current year, compared with an income tax expense of \$8 million in 2017. Refer to the Consolidated Statement of Changes in Equity on page 146 of the consolidated financial statements for further details.

Legislative changes and changes in tax policy, including their interpretation by taxing authorities and the courts, may impact our earnings. See the discussion in the Critical Accounting Estimates section on page 117 for additional related details. For instance, the 2018 Canadian federal budget introduced a rule that impacts the tax deductibility of Canadian dividends in certain circumstances, which was effective February 27, 2018. The impact of this rule is to increase our effective tax rate.

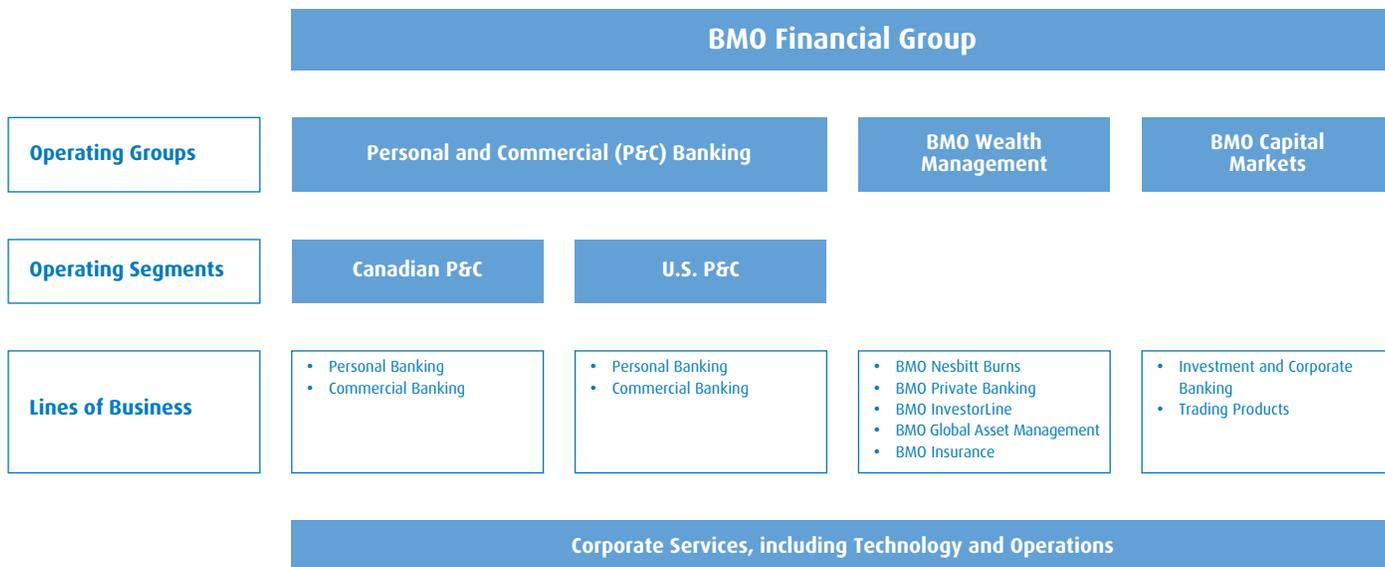
Table 4 on page 129 details the \$2,714 million of total government levies and taxes incurred by BMO in 2018. \$1,539 million of this amount is incurred in Canada, with \$990 million included in our provision for income taxes and the remaining \$549 million included in total government levies other than income taxes. The increase from \$2,025 million in 2017 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.

# 2018 Operating Groups Performance Review

## Summary

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.

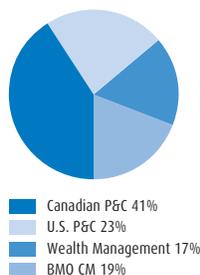


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BMO's business mix is well diversified by operating segment and by geography. This robust business mix has long been a key driver of growth, comprising the key geographies and customer segments that are critical to our strategic plans for sustaining growth and delivering value to our shareholders.

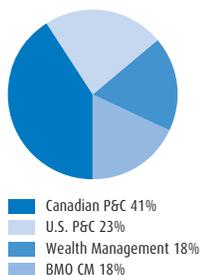
**Reported Net Income by Operating Segment\***

2018



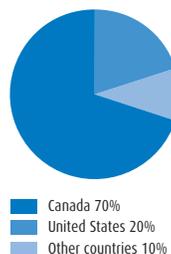
**Adjusted Net Income by Operating Segment\***

2018



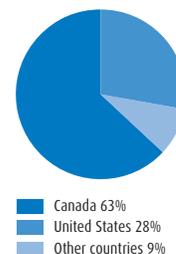
**Reported Net Income by Country**

2018



**Adjusted Net Income by Country**

2018



\*Percentages determined excluding results in Corporate Services.

## 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 with the current period's presentation.

Effective the first quarter of 2018, the allocation of certain revenue items from Corporate Services to the operating groups was updated to better align with underlying business activity. Results for prior periods and related ratios have been reclassified to conform with the current presentation.

The following additional reclassifications were made effective the first quarter of 2018. Loan losses related to certain fraud costs have been reclassified from provision for credit losses to other non-interest expense in Canadian P&C and U.S. P&C. Certain fees have been reclassified from deposit and payment service charges to card fees within non-interest revenue in Canadian P&C. Also, cash collateral balances were reclassified from loans and deposits to other assets and other liabilities in BMO Capital Markets. Results for prior periods and related ratios have been reclassified to conform with the current period's presentation.

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

BMO analyzes revenue at the consolidated level based on GAAP revenue as reported 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.

Effective with the adoption of IFRS 9, we allocate the provision for credit losses on performing loans and the related allowance to the operating groups. In 2017 and prior years, the collective provision and allowance was held in Corporate Services.

## Personal and Commercial Banking

| (Canadian \$ in millions, except as noted)<br>As at or for the year ended October 31 | Canadian P&C   |         |         | U.S. P&C       |         |         | Total P&C      |         |         |
|--|----------------|---------|---------|----------------|---------|---------|----------------|---------|---------|
|  | 2018           | 2017    | 2016    | 2018           | 2017    | 2016    | 2018           | 2017    | 2016    |
| Net interest income (teb)  | <b>5,541</b>   | 5,261   | 5,080   | <b>3,843</b>   | 3,551   | 3,491   | <b>9,384</b>   | 8,812   | 8,571   |
| Non-interest revenue   | <b>2,171</b>   | 2,182   | 1,909   | <b>1,140</b>   | 1,066   | 1,119   | <b>3,311</b>   | 3,248   | 3,028   |
| Total revenue (teb)  | <b>7,712</b>   | 7,443   | 6,989   | <b>4,983</b>   | 4,617   | 4,610   | <b>12,695</b>  | 12,060  | 11,599  |
| Provision for credit losses on impaired loans (1)                                    | <b>466</b>     | na      | na      | <b>258</b>     | na      | na      | <b>724</b>     | na      | na      |
| Provision for (recovery of) credit losses on performing loans (1)                    | <b>3</b>       | na      | na      | <b>(38)</b>    | na      | na      | <b>(35)</b>    | na      | na      |
| Total provision for credit losses (1)  | <b>469</b>     | 483     | 506     | <b>220</b>     | 289     | 249     | <b>689</b>     | 772     | 755     |
| Non-interest expense   | <b>3,805</b>   | 3,622   | 3,500   | <b>3,012</b>   | 2,944   | 2,914   | <b>6,817</b>   | 6,566   | 6,414   |
| Income before income taxes   | <b>3,438</b>   | 3,338   | 2,983   | <b>1,751</b>   | 1,384   | 1,447   | <b>5,189</b>   | 4,722   | 4,430   |
| Provision for income taxes (teb)   | <b>884</b>     | 827     | 766     | <b>357</b>     | 357     | 396     | <b>1,241</b>   | 1,184   | 1,162   |
| Reported net income  | <b>2,554</b>   | 2,511   | 2,217   | <b>1,394</b>   | 1,027   | 1,051   | <b>3,948</b>   | 3,538   | 3,268   |
| Amortization of acquisition-related intangible assets (2)                            | <b>2</b>       | 3       | 2       | <b>45</b>      | 46      | 50      | <b>47</b>      | 49      | 52      |
| Adjusted net income  | <b>2,556</b>   | 2,514   | 2,219   | <b>1,439</b>   | 1,073   | 1,101   | <b>3,995</b>   | 3,587   | 3,320   |
| <b>Key Performance Metrics and Drivers</b>   |                |         |         |                |         |         |                |         |         |
| Net income growth (%)  | <b>1.7</b>     | 13.2    | 4.8     | <b>35.7</b>    | (2.2)   | 28.4    | <b>11.6</b>    | 8.3     | 11.4    |
| Adjusted net income growth (%)   | <b>1.7</b>     | 13.2    | 4.7     | <b>34.0</b>    | (2.4)   | 26.3    | <b>11.4</b>    | 8.0     | 11.0    |
| Revenue growth (%)   | <b>3.6</b>     | 6.5     | 5.0     | <b>7.9</b>     | 0.1     | 27.9    | <b>5.3</b>     | 4.0     | 13.0    |
| Non-interest expense growth (%)  | <b>5.0</b>     | 3.5     | 3.1     | <b>2.3</b>     | 1.0     | 21.0    | <b>3.8</b>     | 2.4     | 10.5    |
| Adjusted non-interest expense growth (%)   | <b>5.0</b>     | 3.5     | 3.2     | <b>2.6</b>     | 1.2     | 21.7    | <b>3.9</b>     | 2.5     | 10.7    |
| Return on equity (%)   |                |         |         |                |         |         | <b>18.6</b>    | 16.7    | 15.8    |
| Adjusted return on equity (%)  |                |         |         |                |         |         | <b>18.8</b>    | 16.9    | 16.1    |
| Operating leverage (teb) (%)   | <b>(1.4)</b>   | 3.0     | 1.9     | <b>5.6</b>     | (0.9)   | 6.9     | <b>1.5</b>     | 1.6     | 2.5     |
| Adjusted operating leverage (teb) (%)  | <b>(1.4)</b>   | 3.0     | 1.8     | <b>5.3</b>     | (1.1)   | 6.2     | <b>1.4</b>     | 1.5     | 2.3     |
| Efficiency ratio (teb) (%)   | <b>49.3</b>    | 48.7    | 50.1    | <b>60.4</b>    | 63.8    | 63.2    | <b>53.7</b>    | 54.4    | 55.3    |
| Adjusted efficiency ratio (teb) (%)  | <b>49.3</b>    | 48.6    | 50.0    | <b>59.3</b>    | 62.4    | 61.7    | <b>53.2</b>    | 53.9    | 54.7    |
| Net interest margin on average earning assets (teb) (%)                              | <b>2.60</b>    | 2.53    | 2.55    | <b>3.72</b>    | 3.68    | 3.58    | <b>2.97</b>    | 2.90    | 2.88    |
| Average common equity  |                |         |         |                |         |         | <b>20,914</b>  | 20,849  | 20,241  |
| Average earning assets   | <b>212,965</b> | 207,815 | 199,527 | <b>103,394</b> | 96,363  | 97,651  | <b>316,359</b> | 304,178 | 297,178 |
| Average gross loans and acceptances  | <b>223,536</b> | 215,848 | 205,973 | <b>98,001</b>  | 90,533  | 90,959  | <b>321,537</b> | 306,381 | 296,932 |
| Average net loans and acceptances  | <b>222,673</b> | 215,667 | 205,813 | <b>97,346</b>  | 90,572  | 90,865  | <b>320,019</b> | 306,239 | 296,678 |
| Average deposits   | <b>159,483</b> | 152,492 | 142,132 | <b>90,738</b>  | 85,927  | 87,881  | <b>250,221</b> | 238,419 | 230,013 |
| Assets under administration  | <b>28,313</b>  | 29,267  | 25,439  | <b>178,600</b> | 148,753 | 159,448 | <b>206,913</b> | 178,020 | 184,887 |
| Full-time equivalent employees   | <b>14,644</b>  | 14,559  | 14,803  | <b>7,188</b>   | 7,138   | 7,055   | <b>21,832</b>  | 21,697  | 21,858  |

(1) Effective the first quarter of 2018, the bank prospectively adopted IFRS 9, *Financial Instruments* (IFRS 9). Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. Prior periods have not been restated. The provision for credit losses in periods prior to 2018 is comprised of specific provisions. Refer to the Changes in Accounting Policies section on page 121 for further details.

(2) Total P&C before tax amounts of \$61 million in 2018, \$66 million in 2017 and \$71 million in 2016 are included in non-interest expense.

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

na - not applicable

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 \$3,948 million increased \$410 million or 12% from the prior year. Adjusted net income, which excludes the amortization of acquisition-related intangible assets, was \$3,995 million, an increase of \$408 million or 11%. 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 27.

# Canadian Personal and Commercial Banking

Canadian Personal and Commercial Banking provides financial products and services to eight million customers. We're here to help our customers make the right financial decisions as they bank with us across our network of 900 branches, contact centres, digital banking platforms and over 3,300 automated teller machines. Our top-tier commercial franchise serves as an advisor and trusted partner to our clients across multiple industry sectors throughout Canada.



## Cameron Fowler

President  
North American Personal and Business Banking, BMO Financial Group

MD&A

## Lines of Business

**Personal Banking** provides customers with a wide range of products and services, including chequing and savings accounts, credit cards, mortgages 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 services 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.
- Top-tier commercial banking business, as evidenced by BMO's number two ranking in Canadian market share for business loans up to \$25 million.
- Strong and growing retail banking business, benefiting from nearly 50% year-over-year digital sales growth and 25% digital sales penetration.
- Largest Mastercard and AIR MILES® card issuer in Canada for retail cards and largest Mastercard card issuer for commercial cards.
- Consistently applied credit risk management practices that provide customers with reliable access to appropriate financing solutions. Our prudent underwriting standards support responsible personal lending and long-term financial sustainability.
- Proud to be working with Indigenous communities to provide improved access to employment opportunities, education and financial services for more than 25 years.
- The official bank of the Canadian defence community, serving the unique needs of members of the Canadian military 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                                      | 2018 Achievements   | 2019 Focus  |
|---|---|---|
| Continue our focus on customer loyalty and growth | <ul style="list-style-type: none"> <li>• Achieved strong employee engagement survey results, above leading company benchmarks, demonstrating our employees' ongoing commitment to deliver a leading customer experience</li> <li>• Created dedicated teams focused on improving moments that matter, to help enhance the overall experience for our customers</li> <li>• Upgraded 44 branches across Canada and opened three new Smart Branch locations in Manitoba and Alberta, providing customers with access to the best of our innovative technologies in a unique, smaller format tailored to their needs</li> <li>• Continued enhancing our automated teller machine (ATM) network by extending the flexibility of choosing bill denominations at 75% of our ATMs across Canada</li> </ul> <p><b>Personal Banking</b></p> <ul style="list-style-type: none"> <li>• Ran effective campaigns in support of key offerings, ranging from home financing and credit cards to Everyday Banking, which helped to increase our new-to-BMO customer base and deepen existing relationships</li> <li>• Continued to grow our mix of advice-based roles, strengthening our ability to engage with customers on financial issues that are important to them, whenever and however they choose to interact with us</li> </ul> | <p>Continue to improve customer loyalty by deepening primary relationships</p> <p>In Personal Banking, deliver a leading customer experience by leveraging new digital channels and enhancing existing networks</p> |

| Key Priority  | 2018 Achievements  | 2019 Focus   |
|---|--|--|
| Continue our focus on customer loyalty and growth (continued) | <b>Commercial Banking</b> <ul style="list-style-type: none"> <li>Improved processes and increased platform efficiencies, allowing our sales force to spend more time engaging directly with customers</li> <li>Launched new suite of Small Business Banking Mastercard products that were well received by our clients, with the number of new clients acquired increasing more than 30% from the prior year</li> <li>Proud to be named Best Commercial Bank in Canada for the fourth consecutive year by <i>World Finance Magazine</i> at its 2018 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 Indigenous banking</li> </ul> | In Commercial Banking, focus on maintaining our core strengths, while targeting opportunities for diversification across high-value sectors and businesses |
| Deliver a leading digital experience                          | <ul style="list-style-type: none"> <li>Recognized as a leader in mobile banking by Forrester in The Forrester Banking Sales Wave™: Canadian Mobile Sites, Q4 2018</li> <li>Continued to enhance and simplify the account opening process, and launched a new Business Xpress lending platform that has enabled a 95% faster approval time for Small Business loans</li> <li>Enhanced customer experience driven by our mobile-first approach throughout 2018, resulting in a 16% growth year-over-year in the number of active mobile users</li> <li>Leveraged the power of artificial intelligence in the rollout of BMO Bolt™ (chatbot for Facebook Messenger) and BMO's Virtual Assistant (chatbot for Twitter)</li> </ul>  | Continue to enhance the digital experience through sales and service transactions  |

## Canadian P&C

(Canadian \$ in millions, except as noted)  
As at or for the year ended October 31

|   | 2018  | 2017  | 2016  |
|---|-------|-------|-------|
| Net interest income                                       | 5,541 | 5,261 | 5,080 |
| Non-interest revenue                                      | 2,171 | 2,182 | 1,909 |
| Total revenue (teb)                                       | 7,712 | 7,443 | 6,989 |
| Provision for credit losses on impaired loans (1)         | 466   | na    | na    |
| Provision for credit losses on performing loans (1)       | 3     | na    | na    |
| Total provision for credit losses (1)                     | 469   | 483   | 506   |
| Non-interest expense                                      | 3,805 | 3,622 | 3,500 |
| Income before income taxes                                | 3,438 | 3,338 | 2,983 |
| Provision for income taxes                                | 884   | 827   | 766   |
| Reported net income                                       | 2,554 | 2,511 | 2,217 |
| Amortization of acquisition-related intangible assets (2) | 2     | 3     | 2     |
| Adjusted net income                                       | 2,556 | 2,514 | 2,219 |

### Key Performance Metrics and Drivers

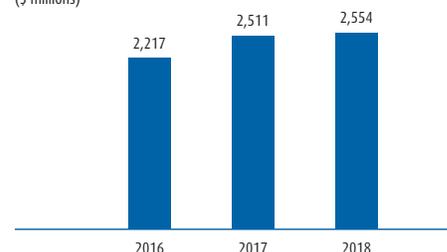
|   |         |         |         |
|---|---------|---------|---------|
| Personal revenue                                  | 5,013   | 4,718   | 4,568   |
| Commercial revenue                                | 2,699   | 2,725   | 2,421   |
| Net income growth (%)                             | 1.7     | 13.2    | 4.8     |
| Revenue growth (%)                                | 3.6     | 6.5     | 5.0     |
| Non-interest expense growth (%)                   | 5.0     | 3.5     | 3.1     |
| Adjusted non-interest expense growth (%)          | 5.0     | 3.5     | 3.2     |
| Operating leverage (%)                            | (1.4)   | 3.0     | 1.9     |
| Adjusted operating leverage (%)                   | (1.4)   | 3.0     | 1.8     |
| Efficiency ratio (%)                              | 49.3    | 48.7    | 50.1    |
| Net interest margin on average earning assets (%) | 2.60    | 2.53    | 2.55    |
| Average earning assets                            | 212,965 | 207,815 | 199,527 |
| Average gross loans and acceptances               | 223,536 | 215,848 | 205,973 |
| Average net loans and acceptances                 | 222,673 | 215,667 | 205,813 |
| Average deposits                                  | 159,483 | 152,492 | 142,132 |
| Full-time equivalent employees                    | 14,644  | 14,559  | 14,803  |

(1) Effective the first quarter of 2018, the bank prospectively adopted IFRS 9, *Financial Instruments* (IFRS 9). Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. Prior periods have not been restated. The provision for credit losses in prior periods is comprised of specific provisions. Refer to the Changes in Accounting Policies section on page 121 for further details.

(2) Before tax amounts of \$2 million in 2018 and \$3 million in both 2017 and 2016 are included in non-interest expense. Adjusted results in this table are non-GAAP amounts or non-GAAP measures. Please see the Non-GAAP Measures section. na - not applicable

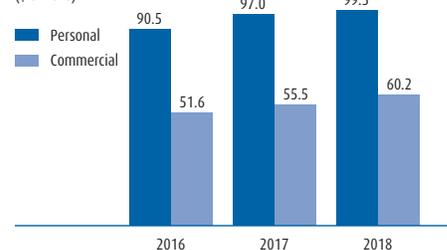
### Reported Net Income

(\$ millions)



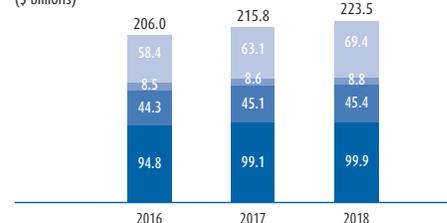
### Average Deposits

(\$ billions)



### Average Gross Loans and Acceptances\*

(\$ billions)



\*Numbers may not add due to rounding.

## Financial Review

Canadian P&C reported net income of \$2,554 million increased \$43 million or 2%, and adjusted net income of \$2,556 million increased \$42 million or 2% from the prior year. Adjusted net income excludes the amortization of acquisition-related intangible assets. Net income in the prior year included a \$168 million after-tax (\$187 million pre-tax) gain on the sale of Moneris US, which had a negative impact of approximately 7% on net income growth and 3% on revenue growth in the year.

Revenue increased \$269 million or 4% to \$7,712 million. In our personal banking business, revenue increased \$295 million or 6% due to an increase in non-interest revenue, including a \$39 million gain related to the restructuring of Interac Corporation, higher margins and higher balances across most products. In our commercial banking business, revenue decreased \$26 million or 1% as the benefit from higher balances and higher margins was more than offset by lower non-interest revenue, due to the gain on sale of Moneris US in the prior year, which had a 7% negative impact on revenue growth in the current year.

Net interest margin increased 7 basis points to 2.60%, due to higher spreads and a favourable product mix.

The provision for credit losses decreased \$14 million or 3% to \$469 million. The provision for credit losses on impaired loans decreased \$17 million due to lower commercial provisions, partially offset by higher consumer provisions. There was a \$3 million provision for credit losses on performing loans in the current year.

Non-interest expense was \$3,805 million, an increase of \$183 million or 5% from a year ago, largely reflecting continued investment in the business, including increases in technology and sales force investments.

Average gross loans and acceptances increased \$7.7 billion or 4% from a year ago to \$223.5 billion. Total personal lending balances (excluding retail cards) increased 1% from the prior year, reflecting certain participation choices, including reduced participation in non-proprietary mortgage channels, offset by 4% growth in proprietary mortgages and amortizing home equity line of credit (HELOC) loans. Commercial loan balances (excluding corporate cards) increased 10% year-over-year, with good growth across a number of industry sectors.

Average deposits increased \$7.0 billion or 5% to \$159.5 billion. Personal deposit balances increased 2%, including growth in chequing account balances of 7%. Commercial deposit balance growth was broad-based, with balances growing 8% from the prior year.

## Business Environment, Outlook and Challenges

The personal and commercial banking business in Canada is highly competitive in a rapidly changing environment. Traditional competitors continue to invest in innovative technologies that allow them to serve customers in new ways and focus more effectively on the customer experience. Non-traditional competitors have continued to gain momentum and are deepening their connections with banks in order to enhance their products and build customer relationships.

Growth in the Canadian economy for 2019 is expected to be in line with 2018, with rising interest rates and modestly lower unemployment. This interest rate environment is expected to put pressure on growth in consumer loans, residential mortgages and business lending. Personal and commercial term deposits are expected to grow modestly as interest rates trend higher. Margins are expected to increase slightly as a result of rising interest rates, although any increase may be dampened by the effects of competitive pricing in the market.

We are committed to building out our commercial business by expanding our advisory sales force and targeting commercial opportunities across geographic regions, market segments and industry sectors, especially in high-value sectors and businesses.

We continue to develop our personal business by growing our sales force and deepening primary customer relationships, while leveraging digital technologies to deliver an exceptional customer experience. We are positioning ourselves to thrive in a digital future, investing in talent and enhancing our customers' experience.

Technology will continue to play a leading role in delivering exceptional experiences for all our customers, while enhancing the efficiency of our operations.

The Canadian economic environment in 2018 and the outlook for 2019 are discussed in more detail in the Economic Developments and Outlook section on page 30.

### Caution

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

# U.S. Personal and Commercial Banking

We help more than two million customers by providing a banking experience with a human touch – delivering a broad range of financial services. Our commercial bank provides a combination of sector expertise, local knowledge, and a breadth of products and services as a trusted partner to our clients. We serve our personal and business banking customers seamlessly across our extensive network of more than 560 branches, our dedicated contact centres, our digital banking platforms, and nationwide access to more than 43,000 automated teller machines.



**David R. Casper**

Chief Executive Officer, BMO Financial Corporation  
Group Head, North American Commercial Banking

**Ernie (Erminia) Johansson**

Group Head  
U.S. Personal and Business Banking

MD&A

## Lines of Business

**Personal and Business Banking** offers a variety of products and services, including deposits, home lending, 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, make better choices in saving, investing, and borrowing, and have confidence in their decisions.

**Commercial Banking** provides clients with a broad range of banking products and services, including multiple financing options and treasury solutions, as well as risk management products. We believe in partnering with our clients, anticipating their financial needs and sharing our expertise and knowledge to help them grow their businesses.

## Strengths and Value Drivers

- Rich Midwestern heritage dating back to 1847, with a long-standing commitment to the success of our customers and the communities in which our employees work and live.
- Talented and experienced team that understands our customers and knows how to compete and perform well in our markets.
- 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.
- Increasing momentum for continued growth in personal banking, driven by a large and growing customer base, our extensive branch network, a broad suite of products and services and accelerated investment in digital capabilities.
- Comprehensive and integrated control structure that supports the active management of 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   | 2018 Achievements   | 2019 Focus   |
|--|---|--|
| Deliver a great experience for our customers and employees | <ul style="list-style-type: none"> <li>• Ranked second among the 40 leading banks in the 2018 Survey of Bank Reputations by <i>American Banker</i>, which assesses financial institutions for their governance, products and services, and innovation</li> <li>• <i>Community Reinvestment Act</i> performance that was rated Outstanding by the Office of the Comptroller of the Currency, recognizing our commitment to help support low and moderate-income communities</li> <li>• Named to the 2017 list of America's Top Corporations for Women's Business Enterprises by the Women's Business Enterprise National Council, reflecting our commitment to creating a level playing field for women-owned businesses</li> <li>• Maintained robust customer growth, continuing to lead in household acquisition for retail deposits and building momentum across commercial segments</li> <li>• Further improved customer loyalty as measured by Net Promoter Score across all businesses</li> <li>• Reinforced our second-place ranking in deposit market share in our core Chicago and Wisconsin markets and our top-five ranking across our Midwest footprint</li> </ul> | Continue to strengthen our competitive position by investing in key capabilities, such as digital and talent, while leveraging our distinctive cross-border advantage and differentiated "One Bank" value proposition to deliver a great customer experience |

| Key Priority  | 2018 Achievements   | 2019 Focus  |
|---|---|---|
| <p><b>In Personal and Business Banking, accelerate digitization and guidance delivery, drive deposit growth, build a flagship franchise in business banking, and optimize our lending portfolio</b></p> | <ul style="list-style-type: none"> <li>Enhanced our digital capabilities with new online banking features, including the ability to open accounts digitally, and enhanced branch infrastructure, including instant debit card and in-branch Wi-Fi</li> <li>Continued to enhance our deposit product suite with a new Platinum Money Market™ product, designed to help our customers grow their savings while also maintaining the convenience of liquidity</li> <li>Opened our 12th Smart Branch over the past three years, bringing together high-tech convenience and personalized services to offer customers a new and engaging environment</li> <li>Launched the second annual BMO Harris/1871 Innovation Program to continue to engage with and mentor early-stage fintech startups across Chicagoland and Wisconsin</li> </ul>                                       | <p>Deliver leading deposit growth, build a business banking franchise, drive profitable growth in lending and accelerate digitization and guidance delivery</p>   |
| <p><b>In Commercial Banking, accelerate growth in high-potential geographies, invest in specialty businesses and high-growth sectors, and deepen deposit capture and share of wallet</b></p>            | <ul style="list-style-type: none"> <li>Continued to grow our geographic footprint, with expansion of our coverage in Dallas, Texas and Columbus, Ohio and investment to build out our presence in the Southeast (Atlanta)</li> <li>Developed and launched new sales initiatives and products, including variable rate and term certificates of deposit and increased emphasis on select sectors, as part of a new deposit growth strategy</li> <li>Added to our offering in specialty sectors, including expansion of asset-based lending to cover more industries and geographies and the launch of unitranche financing in sponsor finance, to further reinforce our market position and value proposition</li> <li>Launched new digital capabilities, such as eSign, to enhance the customer experience in onboarding with our treasury and payment solutions</li> </ul> | <p>Invest in underpenetrated markets, expand national presence in high-potential geographies, establish new specialty businesses, increase investment in treasury and payment solutions, and enhance cross-bank collaboration</p> |

## U.S. P&amp;C

(Canadian \$ equivalent in millions, except as noted)  
As at or for the year ended October 31

|                                | 2018  | 2017  | 2016  |
|--------------------------------|-------|-------|-------|
| Reported net income            | 1,394 | 1,027 | 1,051 |
| Adjusted net income            | 1,439 | 1,073 | 1,101 |
| Net income growth (%)          | 35.7  | (2.2) | 28.4  |
| Adjusted net income growth (%) | 34.0  | (2.4) | 26.3  |

(US\$ in millions, except as noted)

|   |       |       |       |
|---|-------|-------|-------|
| Net interest income (teb)   | 2,983 | 2,718 | 2,635 |
| Non-interest revenue  | 886   | 817   | 845   |
| Total revenue (teb)   | 3,869 | 3,535 | 3,480 |
| Provision for credit losses on impaired loans (1)                 | 201   | na    | na    |
| Provision for (recovery of) credit losses on performing loans (1) | (31)  | na    | na    |
| Total provision for credit losses (1)                             | 170   | 221   | 188   |
| Non-interest expense  | 2,338 | 2,253 | 2,199 |
| Income before income taxes  | 1,361 | 1,061 | 1,093 |
| Provision for income taxes (teb)                                  | 278   | 274   | 299   |
| Reported net income   | 1,083 | 787   | 794   |
| Amortization of acquisition-related intangible assets (2)         | 35    | 36    | 37    |
| Adjusted net income   | 1,118 | 823   | 831   |

## Key Performance Metrics and Drivers (US\$ basis)

|   |        |        |        |
|---|--------|--------|--------|
| Personal revenue  | 1,559  | 1,386  | 1,417  |
| Commercial revenue                                      | 2,310  | 2,149  | 2,063  |
| Net income growth (%)                                   | 37.5   | (0.8)  | 21.8   |
| Adjusted net income growth (%)                          | 35.8   | (1.0)  | 19.8   |
| Revenue growth (%)                                      | 9.4    | 1.6    | 21.1   |
| Non-interest expense growth (%)                         | 3.8    | 2.4    | 14.6   |
| Adjusted non-interest expense growth (%)                | 4.0    | 2.6    | 15.3   |
| Operating leverage (teb) (%)                            | 5.6    | (0.8)  | 6.5    |
| Adjusted operating leverage (teb) (%)                   | 5.4    | (1.0)  | 5.8    |
| Efficiency ratio (teb) (%)                              | 60.4   | 63.7   | 63.2   |
| Adjusted efficiency ratio (teb) (%)                     | 59.3   | 62.4   | 61.7   |
| Net interest margin on average earning assets (teb) (%) | 3.72   | 3.69   | 3.57   |
| Average earning assets                                  | 80,255 | 73,752 | 73,724 |
| Average gross loans and acceptances                     | 76,067 | 69,294 | 68,670 |
| Average net loans and acceptances                       | 75,558 | 69,324 | 68,599 |
| Average deposits  | 70,431 | 65,724 | 66,343 |
| Full-time equivalent employees                          | 7,188  | 7,138  | 7,055  |

(1) Effective the first quarter of 2018, the bank prospectively adopted IFRS 9, *Financial Instruments* (IFRS 9). Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. Prior periods have not been restated. The provision for credit losses in prior periods is comprised of specific provisions. Refer to the Changes in Accounting Policies section on page 121 for further details.

(2) Before tax amounts of US\$45 million in 2018, US\$49 million in 2017 and US\$52 million in 2016 are included in non-interest expense.

Adjusted results in this table are non-GAAP amounts or non-GAAP measures. Please see the Non-GAAP Measures section. na - not applicable

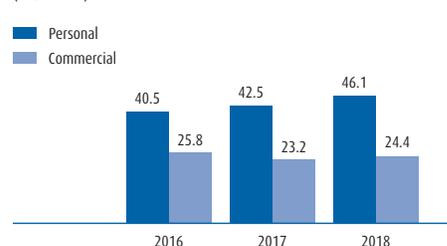
## Reported Net Income

(\$ millions)



## Average Deposits\*

(US\$ billions)



\*Numbers may not add due to rounding.

## Average Gross Loans and Acceptances\*

(US\$ billions)



\*Numbers may not add due to rounding.

## Financial Review

U.S. P&C reported net income of \$1,394 million increased \$367 million or 36%, and adjusted net income of \$1,439 million increased \$366 million or 34% from the prior year. 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 \$1,083 million increased \$296 million or 37%, and adjusted net income of \$1,118 million increased \$295 million or 36%, due to higher revenue, the benefit of U.S. tax reform and lower provisions for credit losses, partially offset by higher expenses. The benefit of U.S. tax reform was \$91 million in reported net income and \$95 million in adjusted net income. The prior year results included a \$27 million after-tax (\$43 million pre-tax) loss on a loan sale, which had a favourable impact of approximately 5% on reported net income growth, and 4% on an adjusted basis.

Revenue of \$3,869 million increased \$334 million or 9%, mainly due to higher deposit revenue and loan volumes in the current year, and the impact of the loss on a loan sale in the prior year, net of loan spread compression.

In our commercial banking business, revenue increased \$161 million or 7% to \$2,310 million, mainly due to increased loan volumes and deposit revenue, net of loan spread compression.

In our personal and business banking business, revenue increased \$173 million or 13% to \$1,559 million, primarily due to higher deposit revenue, reflecting higher spreads, and the loss on a loan sale in the prior year.

Net interest margin increased 3 basis points to 3.72%, mainly due to higher deposit revenue driven by higher interest rates, partially offset by loan spread compression and change in business mix.

The provision for credit losses decreased \$51 million or 23% to \$170 million. The provision for credit losses on impaired loans decreased \$20 million, due to lower consumer and commercial provisions. There was a \$31 million net recovery of credit losses on performing loans in the current year.

Non-interest expense of \$2,338 million and adjusted non-interest expense of \$2,293 million both increased 4%, primarily due to technology and other investments in the business.

Average gross loans and acceptances increased \$6.8 billion or 10% to \$76.1 billion, driven by growth of 10% in both commercial and personal loan volumes. Commercial loan growth was driven by robust diversified growth from most of our segments, while personal loan growth benefited from the purchase of a mortgage portfolio in the first quarter of 2018, as well as organic growth.

Average deposits of \$70.4 billion increased \$4.7 billion or 7% from the prior year, driven by 8% growth in personal volumes and 5% growth in commercial volumes.

## Business Environment, Outlook and Challenges

U.S. P&C operations are primarily based in the six states of the U.S. Midwest (Illinois, Wisconsin, Indiana, Minnesota, Missouri and Kansas). In addition, our personal business serves customers in Arizona and Florida, while our commercial business provides targeted nationwide coverage for key specialty sectors.

The personal and commercial banking environment is competitive, and with the rising rate environment, there is added pressure on deposit market share and pricing. Indications of sustainable economic growth within our footprint include unemployment rates that are at historic lows, higher consumer and commercial spending amid lower income taxes, encouraging credit growth and a healthy housing market. The main risks to the U.S. economic outlook relate to trade protectionism, geopolitical tensions and the possibility of rising inflation.

Economic growth is expected to moderate, but remain solid in 2019. This growth environment offers notable opportunities for both our businesses, in particular for the expansion of our personal business and for greater national coverage in our commercial business.

In our personal banking business, the adoption of digital solutions and progressive product offerings that align our strategic initiatives with market trends and consumer needs will help drive growth.

In our flagship commercial business, our main priorities of building out a presence in new markets, maintaining good momentum in existing markets and deepening our relationships with customers, will help us to continue to achieve peer-leading growth.

The U.S. economic environment in 2018 and the outlook for 2019 are discussed in more detail in the Economic Developments and Outlook section on page 30.

### Caution

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

# BMO Wealth Management

BMO's wealth management business serves a full range of clients, 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 <sup>(1)</sup>

## Gilles Ouellette

Group Head, BMO Asset Management and  
Vice-Chair, International, BMO Financial Group <sup>(1)</sup>

MD&A

## 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; and adviceDirect™, which provides investors with continuous portfolio monitoring and industry-leading analysis.

**BMO's Private Banking** businesses in Canada, Hong Kong and Singapore offer a comprehensive range of financial services and solutions to high net worth and ultra-high net worth clients.

**BMO's U.S. Wealth Management** businesses offer financial solutions to high net worth and ultra-high net worth families and businesses, and under BMO Harris Financial Advisors, to clients in the mass affluent segment.

**BMO Global Asset Management (GAM)** is a globally significant asset manager offering a comprehensive range of investment products and solutions to institutional, retail and high net worth investors around the world.

**BMO Insurance** provides life insurance and wealth solutions. We manufacture 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 for individuals, families and businesses that integrates investment, insurance, specialized wealth management and core banking solutions, offered by a team of highly skilled wealth professionals committed to making a meaningful difference in the lives of our clients.
- Diversified portfolio of solutions, ranging from self-directed online investment to professional money management and integrated trust/banking services, for both retail and institutional clients.
- Well-established presence in North American wealth management, as well as private banking capabilities in Asia.
- Globally significant asset manager with broad distribution capabilities in North America, as well as Europe, the Middle East and Africa (EMEA) and Asia.
- Prestigious brand that is widely recognized and trusted, with access to BMO's broad client base and distribution networks, and a culture of innovation that anticipates clients' needs.
- Robust risk management framework supporting alignment with 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 innovation and productivity, and strong collaboration across BMO, while maintaining a robust risk management framework.

| Key Priority   | 2018 Achievements   | 2019 Focus  |
|--|---|---|
| Deliver on our clients' current and evolving personal wealth management and insurance needs, with an exceptional client experience | <ul style="list-style-type: none"> <li>• Continued to drive stronger client loyalty scores across all our businesses with our focus on delivering holistic wealth planning and great client experiences</li> <li>• Continued to invest in digital technology solutions to improve processes, drive productivity and provide greater mobility for our client-facing professionals, enabling them to serve clients in the manner most convenient for them</li> <li>• Launched new digital capabilities to enhance self-serve options for our clients</li> <li>• Transformed the digital journey for our SmartFolio clients from onboarding through account funding, and continued to improve their mobile experience</li> </ul> | Provide outstanding support and innovative wealth and insurance offerings that anticipate clients' evolving needs and exceed their expectations |

<sup>(1)</sup> Gilles Ouellette, Group Head, BMO Asset Management and Vice-Chair, International, BMO Financial Group, plans to retire in 2019. Joanna Rotenberg, Group Head, BMO Wealth Management, will then assume an expanded mandate, leading BMO Global Asset Management in addition to her current responsibilities.

| Key Priority   | 2018 Achievements  | 2019 Focus   |
|--|--|--|
| <p><b>Deliver on our clients' current and evolving personal wealth management and insurance needs, with an exceptional client experience (continued)</b></p> | <ul style="list-style-type: none"> <li>• Strengthened our cross-border banking capabilities, providing Wealth Management clients with more ways to access and transfer funds, complemented by new outreach and education initiatives</li> <li>• Added to BMO's financial planning team, which has doubled in size since 2013, to provide clients and wealth professionals with regional technical expertise in areas such as estate and cross-border planning</li> <li>• Launched a Cross-Pacific Referral Program with BMO Private Banking Canada and BMO Private Banking Asia to help meet our clients' global needs</li> <li>• Continued to address the unique needs of women business owners and clients with our industry-leading BMO for Women program</li> <li>• Ongoing positive response to the simplicity and flexibility of our Whole Life insurance offering, with sales doubling year-over-year</li> <li>• Maintained and reinforced our leading position in pension de-risking, supported by a prudent approach to underwriting</li> </ul> | <p>Make a meaningful difference in the lives of our clients, enabled by a distinctive talent approach, strong technology and operations, world-class marketing and analytics and client-focused risk and regulatory compliance</p> |
| <p><b>Build on our leadership position in key asset management markets through enhanced investment and distribution capabilities</b></p>                     | <ul style="list-style-type: none"> <li>• Leveraged global investment capabilities to enable delivery of solutions to new markets</li> <li>• Focused distribution on targeted channels, geographic markets and client segments to differentiate and capture share, for example, in the fiduciary market in EMEA</li> <li>• Achieved strong investment performance, with 83% of assets under management meeting or surpassing the relevant benchmark over a five-year period</li> <li>• Ranked #2 in Canadian ETF market share, while leading the market in net sales for the past five years</li> <li>• BMO Global Asset Management was named the <i>Best Environmental Social and Governance (ESG) Research Team</i> in the Investment Week Sustainable &amp; ESG Investment Awards 2018. This award recognizes our long-standing commitment and leadership in responsible investing, and our belief that prudent management of ESG issues can have an important impact on the creation of long-term investor value</li> </ul>                           | <p>Continue to build scale at BMO Global Asset Management by extending award-winning global investment capabilities for clients around the world, supported by our global operating platform</p>                                   |
| <p><b>Bring the best of BMO to our clients through effective collaboration</b></p>   | <ul style="list-style-type: none"> <li>• Advanced collaboration among BMO Private Banking Canada, BMO Nesbitt Burns and Business Banking, as well as between U.S. Wealth Management and Commercial partners, to offer banking, investment and holistic wealth planning services to business and commercial clients in Canada and the United States</li> <li>• Continued to make co-location arrangements for our banking, planning, estate and trust, and investment teams, making it easier for clients to access the best of BMO</li> <li>• Made further improvements to our engagement model and delivered innovative BMO Global Asset Management offerings to Personal and Commercial Banking clients</li> </ul>   | <p>Continue to strengthen one team across Wealth Management, across the enterprise and across borders to bring the best of BMO to all clients</p>  |

## BMO Wealth Management

| (Canadian \$ in millions, except as noted)<br>As at or for the year ended October 31 | 2018  | 2017  | 2016  |
|--|-------|-------|-------|
| Net interest income  | 826   | 722   | 635   |
| Non-interest revenue   | 5,468 | 5,492 | 5,274 |
| Total revenue  | 6,294 | 6,214 | 5,909 |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB)       | 1,352 | 1,538 | 1,543 |
| Revenue, net of CCPB   | 4,942 | 4,676 | 4,366 |
| Provision for credit losses on impaired loans (1)                                    | 6     | na    | na    |
| Provision for credit losses on performing loans (1)                                  | -     | na    | na    |
| Total provision for credit losses (1)  | 6     | 8     | 9     |
| Non-interest expense   | 3,509 | 3,351 | 3,337 |
| Income before income taxes   | 1,427 | 1,317 | 1,020 |
| Provision for income taxes   | 355   | 350   | 245   |
| Reported net income  | 1,072 | 967   | 775   |
| Acquisition integration costs (2)  | -     | -     | 30    |
| Amortization of acquisition-related intangible assets (3)                            | 41    | 65    | 71    |
| Adjusted net income  | 1,113 | 1,032 | 876   |

### Key Performance Metrics and Drivers

|   |         |         |         |
|---|---------|---------|---------|
| Traditional wealth businesses net income          | 805     | 729     | 552     |
| Traditional wealth businesses adjusted net income | 846     | 794     | 653     |
| Insurance net income                              | 267     | 238     | 223     |
| Net income growth (%)                             | 11.0    | 24.5    | (10.0)  |
| Adjusted net income growth (%)                    | 8.0     | 17.6    | (9.4)   |
| Revenue growth (%)                                | 1.3     | 5.2     | 2.2     |
| Revenue growth, net of CCPB (%)                   | 5.7     | 7.1     | (3.6)   |
| Non-interest expense growth (%)                   | 4.7     | 0.4     | (0.6)   |
| Adjusted non-interest expense growth (%)          | 5.7     | 1.9     | (0.4)   |
| Return on equity (%)                              | 17.8    | 15.9    | 12.7    |
| Adjusted return on equity (%)                     | 18.5    | 17.0    | 14.3    |
| Operating leverage, net of CCPB (%)               | 1.0     | 6.7     | (3.0)   |
| Adjusted operating leverage, net of CCPB (%)      | -       | 5.2     | (3.2)   |
| Efficiency ratio, net of CCPB (%)                 | 71.0    | 71.7    | 76.4    |
| Adjusted efficiency ratio (%)                     | 54.9    | 52.6    | 54.3    |
| Adjusted efficiency ratio, net of CCPB (%)        | 70.0    | 70.0    | 73.5    |
| Net interest margin on average earning assets (%) | 2.65    | 2.57    | 2.45    |
| Average common equity                             | 5,989   | 6,040   | 6,078   |
| Average earning assets                            | 31,167  | 28,026  | 25,898  |
| Average gross loans and acceptances               | 20,290  | 18,068  | 16,464  |
| Average net loans and acceptances                 | 20,260  | 18,063  | 16,458  |
| Average deposits                                  | 34,251  | 33,289  | 29,931  |
| Assets under administration (4)                   | 382,839 | 359,773 | 469,694 |
| Assets under management                           | 438,274 | 429,448 | 405,695 |
| Full-time equivalent employees                    | 6,407   | 6,304   | 6,282   |

### U.S. Business Select Financial Data (US\$ in millions)

|                                   |       |       |       |
|-----------------------------------|-------|-------|-------|
| Total revenue                     | 600   | 650   | 629   |
| Non-interest expense              | 532   | 546   | 575   |
| Reported net income               | 50    | 76    | 39    |
| Adjusted net income               | 60    | 88    | 54    |
| Average earning assets            | 3,709 | 3,348 | 3,446 |
| Average net loans and acceptances | 3,619 | 3,300 | 3,200 |
| Average deposits                  | 5,748 | 5,783 | 5,602 |

(1) Effective the first quarter of 2018, the bank prospectively adopted IFRS 9, *Financial Instruments* (IFRS 9). Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. Prior periods have not been restated. The provision for credit losses in prior periods is comprised of specific provisions. Refer to the Changes in Accounting Policies section on page 121 for further details.

(2) F&C acquisition integration costs before tax amounts of \$nil in both 2018 and 2017 and \$38 million in 2016 are included in non-interest expense.

(3) Before tax amounts of \$52 million in 2018, \$80 million in 2017 and \$88 million in 2016 are included in non-interest expense.

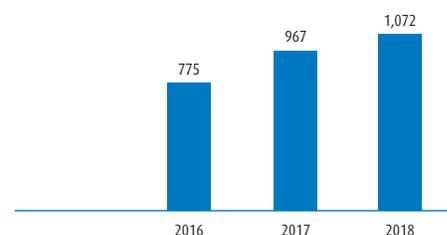
(4) Certain assets under management that are also administered by us are included in assets under administration.

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

na - not applicable

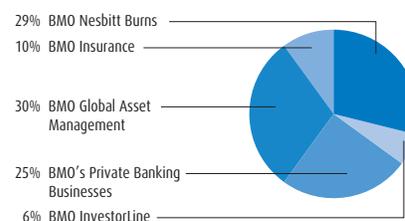
## Reported Net Income

(\$ millions)



## 2018 Net Revenue by Line of Business

(%)



## Financial Review

Wealth Management reported net income of \$1,072 million increased \$105 million or 11% from the prior year. Adjusted net income of \$1,113 million, which excludes the amortization of acquisition-related intangible assets, increased \$81 million or 8%.

Traditional wealth reported net income of \$805 million increased \$76 million or 11% from the prior year. Adjusted net income in traditional wealth of \$846 million increased \$52 million or 7%, primarily due to growth from our diversified businesses and higher equity markets on average, partially offset by higher expenses and a legal provision. Net income in insurance of \$267 million increased \$29 million or 12%, primarily due to less elevated reinsurance claims in the current year and business growth, partially offset by unfavourable market movements in the current year relative to favourable market movements in the prior year.

Revenue of \$6,294 million increased \$80 million or 1% from the prior year. Revenue, net of CCPB, of \$4,942 million increased \$266 million or 6%. Revenue in traditional wealth of \$4,463 million increased \$257 million or 6%, due to growth in client assets, including a benefit from higher equity markets on average, and higher deposit and loan revenue, partially offset by the impact of the divestiture of a non-core business in the prior year. Insurance revenue, net of CCPB, of \$479 million increased \$9 million or 2%, due to the drivers noted above.

The provision for credit losses was \$6 million, compared with \$8 million in the prior year. The provision for credit losses on impaired loans decreased \$2 million, due to lower consumer provisions. There was no provision for credit losses on performing loans in the current year.

Non-interest expense was \$3,509 million, an increase of \$158 million or 5%. Adjusted non-interest expense was \$3,457 million, an increase of \$186 million or 6% from the prior year, reflecting higher revenue-based costs, technology investments and strategic growth in the sales force, partially offset by the impact of the divestiture.

Assets under management increased \$8.8 billion or 2% from the prior year to \$438.3 billion, primarily driven by growth in client assets. Assets under administration increased \$23.1 billion or 6% from the prior year to \$382.8 billion, also primarily driven by growth in client assets.

## Business Environment, Outlook and Challenges

Wealth Management is a global financial services provider. The operating environment within the wealth management industry, which includes major banks, insurance companies, brokers, and independent mutual fund and asset management companies, is highly competitive. Faced with changing client needs and regulatory demands, the industry continues to evolve. Wealth Management is considered to be an engine of growth for BMO's operating performance, with many peer group competitors also actively pursuing accelerated growth strategies.

Growth in the Canadian economy is expected to remain steady but subdued in 2019 while the U.S. economy is expected to moderate somewhat compared with 2018. We anticipate good growth in net new assets, and market appreciation is expected to be moderate. Long-term interest rates in Canada and the United States are expected to rise moderately. We anticipate that rising short-term interest rates will have a positive impact on our brokerage businesses. Ongoing changes in the regulatory and competitive environment and client preferences could result in downward pressure on fees for products and services. We expect to maintain our disciplined expense management approach by gaining efficiencies through digitization and by simplifying the way we work and service our clients. Resources conserved through these ongoing initiatives will contribute to fund strategic business investments.

The Canadian and U.S. economic environment in 2018 and the outlook for 2019 are discussed in more detail in the Economic Developments and Outlook section on page 30.

### Caution

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

# 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 2,700 professionals in 33 locations around the world, including 19 offices in North America.



**Daniel Barclay**  
Group Head  
BMO Capital Markets <sup>(1)</sup>

**Patrick Cronin**  
Chief Risk Officer  
BMO Financial Group <sup>(1)</sup>

MD&A

## Lines of Business

**Investment and Corporate Banking** offers debt and equity capital-raising services to clients, as well as loan origination and syndication, balance sheet management solutions and treasury management services. We provide strategic advice on mergers and acquisitions (M&A), 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 our clients' needs.
- Top-ranked Canadian equity and fixed income research with sales and trading capabilities and deep expertise in core sectors.
- 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.
- Strong first-line-of-defence risk management and regulatory and compliance capabilities, enabling effective decision-making in support of our strategic priorities.

## Strategy and Key Priorities

BMO Capital Markets' vision is to be a top 10 North American investment bank, enabling clients to achieve their goals. We offer an integrated platform, differentiated by innovative ideas and unified coverage.

| Key Priority  | 2018 Achievements   | 2019 Focus  |
|---|---|---|
| Maintain our leadership position in Canada through our top-tier coverage team | <ul style="list-style-type: none"> <li>• Continued to win key mandates in core Canadian industries, including: acting as exclusive financial advisor to Pure Industrial Real Estate Trust on its \$3.8 billion sale, the largest industrial real estate transaction in Canadian history; advising METRO on its acquisition of Jean Coutu Group, which created a \$16 billion retail leader; and advising steelmaker Stelco as a joint bookrunner on its IPO and two follow-on offerings, which raised \$645 million</li> <li>• Ranked #1 in equity research and trading in Canada in the 2018 Brendan Wood International survey</li> <li>• Recognized as a 2018 Greenwich Quality Leader in Canadian Equity Sales Trading and Execution Service</li> <li>• Announced a strategic technology partnership with Clearpool Group to provide a suite of fully customizable algorithms to institutional clients trading Canadian and U.S. equities</li> <li>• Launched a pilot fixed income issuance transaction using blockchain technology to mirror the transaction, a first of its kind in the Canadian marketplace</li> <li>• Received the top two Canadian awards for Structured Products from StructuredRetailProducts.com at the 2018 Americas Structured Products and Derivatives Conference, and was also named Best House, Canada (sixth nomination for this award in seven years) and Best Distributor, Canada</li> <li>• Named Best Bank for the Canadian Dollar by <i>FX Week</i> magazine for the eighth consecutive year</li> </ul> | Continue to earn leading market share in Canada by strengthening our client relationships and driving incremental market share growth |

(1) Prior to November 1, 2018, Daniel Barclay was Co-Head, Global Investment and Corporate Banking, and Patrick Cronin was Group Head, BMO Capital Markets.

| Key Priority   | 2018 Achievements  | 2019 Focus   |
|--|--|--|
| <p>Drive performance in our U.S. platform with a focused strategy and selectively expand our U.S. corporate bank where we are competitively advantaged</p> | <ul style="list-style-type: none"> <li>• Acquired KGS-Alpha Capital Markets (KGS-Alpha), a New York-based fixed income broker-dealer specializing in U.S. mortgage-backed and asset-backed securities in the institutional investor market</li> <li>• Collaborated with our U.S. P&amp;C business to deliver as “One Bank” in key middle-market M&amp;A transactions, including our exclusive financial advisory role with Lifetouch in its US\$825 million sale to Shutterstock</li> <li>• Acted as lead-left bookrunner on 134 U.S. equity and debt capital raising transactions, up more than 38% from last year</li> <li>• Closed 38 U.S. and seven cross-border M&amp;A transactions with a total deal volume of US\$23.8 billion</li> <li>• Ranked #1 in the Institutional Investor 2018 All-America Fixed Income Research Team Survey for U.S. Rates Strategy and Technical Analysis</li> <li>• Expanded our presence with the acquisition of US\$3 billion in energy loan commitments from a global financial institution</li> </ul>   | <p>Continue to leverage our key strategic investment to accelerate growth from our U.S. platform, and selectively expand our U.S. corporate bank where we are competitively advantaged</p> |
| <p>Leverage our strong North American capabilities and presence in select international markets</p>  | <ul style="list-style-type: none"> <li>• Named World’s Best Metals &amp; Mining Investment Bank for the ninth consecutive year by <i>Global Finance</i> and hosted one of the industry’s most important events, the 27th Annual Global Metals &amp; Mining Conference, which brought together 550 investors and 800 corporate attendees, including 140 presenting companies</li> <li>• Named Best Institutional Forex Provider in North America/China for the eighth consecutive year by <i>Global Banking and Finance Review</i></li> <li>• Executed live pilot transactions on Batavia, a blockchain-based global trade finance platform jointly developed by a consortium that includes BMO</li> <li>• Maintained our leadership position in the Supranational Sub-Sovereign &amp; Agency (SSA) sector as joint lead manager on two World Bank Sustainable Development Bonds – one in support of the empowerment of women and girls and the other in support of the health and nutrition of women, adolescents and children – with each offering raising \$1 billion</li> <li>• Underwrote our first social bond issued by a supranational borrower, the Inter-American Development Bank, to help fund childhood education in developing Latin American countries</li> <li>• Hosted inaugural U.S. Rates Seminar in Seoul, South Korea, with more than 70 participants, demonstrating the growing extent of our reach into Asian market segments</li> </ul> | <p>Continue to leverage our strong North American and global capabilities to expand our footprint and establish strategic relationships in select international markets</p>                |

## BMO Capital Markets

(Canadian \$ in millions, except as noted)

As at or for the year ended October 31

|   | 2018  | 2017  | 2016  |
|---|-------|-------|-------|
| Net interest income (teb)                                 | 659   | 1,233 | 1,459 |
| Non-interest revenue                                      | 3,696 | 3,336 | 2,855 |
| Total revenue (teb)                                       | 4,355 | 4,569 | 4,314 |
| Provision for credit losses on impaired loans (1)         | (17)  | na    | na    |
| Provision for credit losses on performing loans (1)       | (1)   | na    | na    |
| Total provision for credit losses (1)                     | (18)  | 44    | 81    |
| Non-interest expense                                      | 2,851 | 2,778 | 2,574 |
| Income before income taxes                                | 1,522 | 1,747 | 1,659 |
| Provision for income taxes (teb)                          | 366   | 472   | 424   |
| Reported net income                                       | 1,156 | 1,275 | 1,235 |
| Acquisition integration costs (2)                         | 11    | -     | -     |
| Amortization of acquisition-related intangible assets (3) | 2     | 2     | 1     |
| Adjusted net income                                       | 1,169 | 1,277 | 1,236 |

## Key Performance Metrics and Drivers

|   |         |         |         |
|---|---------|---------|---------|
| Trading Products revenue                                | 2,539   | 2,694   | 2,653   |
| Investment and Corporate Banking revenue                | 1,816   | 1,875   | 1,661   |
| Net income growth (%)                                   | (9.4)   | 3.2     | 23.1    |
| Adjusted net income growth (%)                          | (8.5)   | 3.3     | 23.0    |
| Revenue growth (%)                                      | (4.7)   | 5.9     | 12.7    |
| Non-interest expense growth (%)                         | 2.6     | 7.9     | 3.8     |
| Adjusted non-interest expense growth (%)                | 2.1     | 7.9     | 3.8     |
| Return on equity (%)                                    | 12.8    | 15.3    | 15.8    |
| Adjusted return on equity (%)                           | 13.0    | 15.4    | 15.8    |
| Operating leverage (teb) (%)                            | (7.3)   | (2.0)   | 8.9     |
| Adjusted operating leverage (teb) (%)                   | (6.8)   | (2.0)   | 8.9     |
| Efficiency ratio (teb) (%)                              | 65.5    | 60.8    | 59.7    |
| Adjusted efficiency ratio (teb) (%)                     | 65.1    | 60.8    | 59.6    |
| Net interest margin on average earning assets (teb) (%) | 0.24    | 0.47    | 0.58    |
| Average common equity                                   | 8,464   | 7,900   | 7,387   |
| Average earning assets                                  | 271,839 | 263,128 | 251,962 |
| Average assets  | 307,087 | 302,518 | 301,623 |
| Average gross loans and acceptances                     | 46,724  | 48,217  | 44,866  |
| Average net loans and acceptances                       | 46,658  | 48,191  | 44,817  |
| Average deposits  | 138,440 | 144,357 | 146,888 |
| Full-time equivalent employees                          | 2,700   | 2,502   | 2,353   |

## U.S. Business Select Financial Data (US\$ in millions)

|                                   |        |        |        |
|-----------------------------------|--------|--------|--------|
| Total revenue (teb)               | 1,249  | 1,318  | 1,132  |
| Non-interest expense              | 985    | 927    | 860    |
| Reported net income               | 196    | 267    | 175    |
| Adjusted net income               | 205    | 268    | 176    |
| Average earning assets            | 92,235 | 88,044 | 78,619 |
| Average assets                    | 98,265 | 93,253 | 86,137 |
| Average net loans and acceptances | 15,249 | 15,359 | 14,932 |
| Average deposits                  | 53,008 | 52,471 | 52,459 |

(1) Effective the first quarter of 2018, the bank prospectively adopted IFRS 9, *Financial Instruments* (IFRS 9). Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. Prior periods have not been restated. The provision for credit losses in prior periods is comprised of specific provisions. Refer to the Changes in Accounting Policies section on page 121 for further details.

(2) KGS-Alpha acquisition integration costs before tax amount of \$14 million in 2018 is included in non-interest expense.

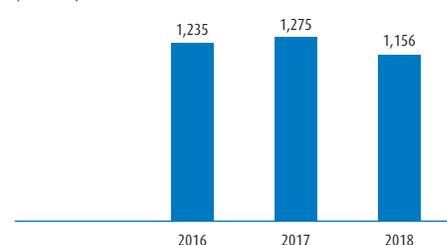
(3) Before tax amounts of \$3 million in 2018, \$3 million in 2017 and \$1 million in 2016 are included in non-interest expense.

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

na - not applicable

## Reported Net Income

(\$ millions)



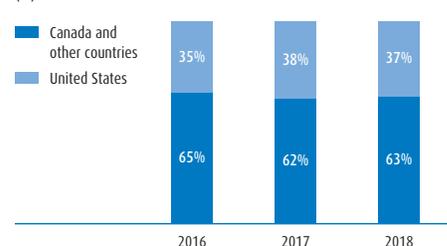
## Revenue by Line of Business

(\$ millions)



## Revenue by Geography

(% )



## Financial Review

BMO Capital Markets reported net income of \$1,156 million decreased \$119 million or 9% from the prior year. Adjusted net income of \$1,169 million, which excludes the amortization of acquisition-related intangible assets and acquisition integration costs, decreased \$108 million or 8%, primarily due to lower revenue.

Revenue of \$4,355 million decreased \$214 million or 5% from the prior year. Excluding the impact of the weaker U.S. dollar, revenue decreased \$189 million or 4%, driven by lower revenue in the Trading Products and Investment and Corporate Banking businesses. Trading Products revenue decreased \$155 million or 6% from the prior year, due to lower interest rate trading revenues, lower equity-related activity with corporate clients, and lower net securities gains, partially offset by the impact of the KGS-Alpha acquisition. Investment and Corporate Banking revenue decreased \$59 million or 3% from the prior year, primarily due to lower underwriting and advisory revenue, partially offset by higher corporate banking-related revenue.

Total net recovery of credit losses was \$18 million, compared with net provisions of \$44 million in the prior year. The net recovery of credit losses on impaired loans was \$17 million, and there was a \$1 million net recovery of credit losses on performing loans in the current year.

Non-interest expense of \$2,851 million increased \$73 million or 3%, and adjusted non-interest expense of \$2,834 million increased \$59 million or 2%, or 3% excluding the impact of the weaker U.S. dollar, mainly driven by continued investment in the business, including the acquisition and growth initiatives.

Average assets of \$307.1 billion increased \$4.6 billion from the prior year. Excluding the impact of the weaker U.S. dollar, average assets increased \$6.3 billion. Higher levels of cash and cash equivalents, securities and reverse repos were partially offset by lower derivative financial asset balances.

## Business Environment, Outlook and Challenges

In 2018, the operating environment in Canada and the United States remained highly competitive for capital markets businesses. Traditional banks focused on revenue growth opportunities, ongoing cost reduction efforts and technology advancements to improve efficiency, while non-bank competitors continued to seek opportunities to disrupt the business activities of traditional banks in certain trading and investment banking products.

Looking ahead to fiscal 2019, we are focused on executing our consistent strategy of expanding a highly integrated, client-focused North American capital markets business. We continue to project that our U.S. business will be a significant driver of growth, and we expect to further leverage our established U.S. capabilities, as well as our overall franchise and capital position, to differentiate ourselves in the marketplace and selectively grow our loan book. In Canada, we have leading market share positions across all products and sectors in which we operate, and we expect this business to perform well going forward. We are selectively expanding our capabilities to better serve North American-based clients that have a global presence. Our disciplined and integrated approach to risk management, along with our investments in regulatory technology infrastructure, will continue to enable us to meet risk management requirements in the coming years. Stability in the markets could be challenged by macroeconomic concerns and the heightened risk of protracted trade tensions. Assuming markets are constructive, we are confident that we will be able to maintain our strong position and achieve our strategic objectives.

The Canadian and U.S. economic environment in 2018 and the outlook for 2019 are discussed in more detail in the Economic Developments and Outlook section on page 30.

### Caution

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

# Corporate Services, including Technology and Operations

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

The costs of these Corporate Units and T&O services are largely transferred to the three operating groups (Personal and Commercial Banking, Wealth Management and BMO Capital Markets), with any remaining amounts retained in Corporate Services results. As such, Corporate Services results largely reflect the impact of residual treasury-related activities, the elimination of taxable equivalent adjustments, residual unallocated expenses, certain acquisition integration costs and restructuring costs, as well as the one-time non-cash charge due to the revaluation of our U.S. net deferred tax asset due to U.S. tax reform and the benefit resulting from a remeasurement of an employee benefit liability.

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:

- Established the Enterprise Initiatives, Infrastructure and Innovation (EII) Group to drive enterprise-wide, sustainable productivity improvements and create capacity for investment in revenue growth, in partnership with the three operating groups
- Accelerated the deployment of digital technology to transform our business, including the successful implementation of our U.S. digital platform, which is now expediting digital developments across personal and commercial segments
- Invested in information technology initiatives to meet regulatory requirements, while also deploying new capabilities that will reduce time to market and strengthen our technology foundation
- Enhanced our data and analytics platform to add new governance, analytics and robotics capabilities in support of business initiatives. Additionally, we advanced cloud-based efficiencies and established partnerships to drive innovation
- Continued to pursue operational efficiencies through the monetization of our technology architecture and data investment, focusing more new spend on transformation and protection
- Launched a new cross-functional team focused on enhancing our employees' technology and workplace experience

## Financial Review

Corporate Services reported net loss for the year was \$726 million, compared with a reported net loss of \$430 million a year ago. The adjusted net loss for the year was \$298 million, compared with an adjusted net loss of \$388 million a year ago. The adjusted net loss excludes a one-time non-cash charge of \$425 million related to the revaluation of our U.S. net deferred tax asset due to U.S. tax reform and a \$203 million benefit as a result of a remeasurement of an employee benefit liability in the current year, restructuring costs and acquisition integration costs in both years with higher costs incurred in 2018, and a \$54 million decrease in the collective allowance for credit losses in the prior year. The adjusted net loss improved primarily due to lower expenses and higher revenue, excluding the taxable equivalent basis (teb) adjustment. The reported net loss increased \$296 million from the prior year due to the impact of the adjusting items and other drivers noted above.

## Corporate Services, including Technology and Operations

(Canadian \$ in millions, except as noted)

As at or for the year ended October 31

|  | 2018   | 2017    | 2016    |
|--|--------|---------|---------|
| Net interest income before group teb offset                                | (243)  | (193)   | (283)   |
| Group teb offset   | (313)  | (567)   | (510)   |
| Net interest income (teb)  | (556)  | (760)   | (793)   |
| Non-interest revenue   | 249    | 177     | 58      |
| Total revenue (teb)  | (307)  | (583)   | (735)   |
| Provision for credit losses on impaired loans (1)                          | (13)   | na      | na      |
| Provision for (recovery of) credit losses on performing loans (1)          | (2)    | na      | na      |
| Total provision for (recovery of) credit losses (1)                        | (15)   | (78)    | (74)    |
| Non-interest expense   | 436    | 635     | 716     |
| Loss before income taxes   | (728)  | (1,140) | (1,377) |
| Recovery of income taxes (teb)   | (2)    | (710)   | (730)   |
| Reported net loss  | (726)  | (430)   | (647)   |
| Acquisition integration costs (2)  | 14     | 55      | 41      |
| Cumulative accounting adjustment (3)                                       | -      | -       | 62      |
| Restructuring costs (4)  | 192    | 41      | 132     |
| Decrease in the collective allowance for credit losses (5)                 | -      | (54)    | -       |
| U.S. net deferred tax asset revaluation (6)                                | 425    | -       | -       |
| Benefit from the remeasurement of an employee benefit liability (7)        | (203)  | -       | -       |
| Adjusted net loss  | (298)  | (388)   | (412)   |
| Adjusted total revenue (teb)   | (307)  | (583)   | (651)   |
| Adjusted provision for credit losses on impaired loans (1)                 | (13)   | na      | na      |
| Adjusted provision for (recovery of) credit losses on performing loans (1) | (2)    | na      | na      |
| Total adjusted provision for (recovery of) credit losses (1)               | (15)   | (2)     | (74)    |
| Adjusted non-interest expense  | 433    | 489     | 461     |
| Adjusted net loss  | (298)  | (388)   | (412)   |
| Full-time equivalent employees   | 14,515 | 14,697  | 14,741  |

### U.S. Business Select Financial Data (US\$ in millions)

|  |       |       |       |
|--|-------|-------|-------|
| Total revenue (teb)                    | (39)  | (90)  | (114) |
| Recovery of credit losses (1)          | (12)  | (23)  | (81)  |
| Non-interest expense                   | 194   | 245   | 218   |
| Recovery of income taxes (teb)         | 265   | (109) | (71)  |
| Reported net loss                      | (486) | (203) | (180) |
| Adjusted total revenue (teb)           | (39)  | (90)  | (114) |
| Adjusted recovery of credit losses (1) | (12)  | (2)   | (56)  |
| Adjusted non-interest expense          | 139   | 171   | 119   |
| Adjusted net loss                      | (106) | (170) | (134) |

(1) Effective the first quarter of 2018, the bank prospectively adopted IFRS 9, *Financial Instruments* (IFRS 9). Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. Prior periods have not been restated. Changes in the provision for credit losses on performing loans under this methodology will not be considered an adjusting item. The provision for credit losses in periods prior to 2018 is comprised of both specific and collective provisions. Refer to the Changes in Accounting Policies section on page 121 for further details.

(2) Acquisition integration costs related to the acquired BMO Transportation Finance business are 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 \$260 million in 2018, \$59 million in 2017 and \$188 million in 2016. Restructuring costs are included in non-interest expense.

(5) Decrease in the collective allowance for credit losses before tax amount of \$76 million in 2017.

(6) Reported net income in the first quarter of 2018 included a \$425 million (US\$339 million) charge due to the revaluation of our U.S. net deferred tax asset as a result of the enactment of the U.S. *Tax Cuts and Jobs Act*. For more information on the impact of the U.S. *Tax Cuts and Jobs Act*, see Provision for Income Taxes section on page 42.

(7) The current year included a benefit of \$277 million pre-tax from the remeasurement of an employee benefit liability as a result of an amendment to our other employee future benefits plan for certain employees that was announced in the fourth quarter of 2018. This amount was included in Corporate Services in non-interest expense.

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

na - not applicable.

## 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. For example, 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. 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 a charge related to a revaluation of our U.S. net deferred tax asset in the first quarter of 2018 and the impact of elevated reinsurance claims in Wealth Management in the fourth quarters of 2017 and 2018. Reported results were also impacted by a benefit of an employee future benefit liability in the fourth quarter of 2018, restructuring charges in the second quarter of 2018 and the fourth quarter of 2017, and a decrease in the collective allowance in the third quarter of 2017.

Canadian P&C delivered positive year-over-year net income growth in seven of the past eight quarters, largely reflecting revenue growth driven by higher balances and an increase in non-interest revenue. Results also reflect a \$168 million after-tax gain on sale recognized in the first quarter of 2017. U.S. P&C performance in 2018 was largely driven by deposit growth from higher interest rates and volumes, good growth in loan volumes, the benefit of U.S. tax reform and lower credit losses. U.S. P&C results in the first quarter of 2017 also included an after-tax loss of \$35 million on the sale of a portion of the indirect auto loan portfolio. Wealth Management delivered good net income performance in 2017 and 2018. In traditional wealth, growth across our diversified businesses also benefited from relatively good performance in North American equity markets, notwithstanding a correction experienced in the fourth quarter of 2018. 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 in the second half of 2018 reflect improved performance following the impact of lower underwriting and advisory activity in the first half of the year. BMO Capital Markets' performance in 2017 was good, notwithstanding the impact of tax law changes with respect to certain clients in our equities business in the second half of the year. 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.

Effective the first quarter of 2018, the bank prospectively adopted IFRS 9. Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. The provision for credit losses on impaired loans under IFRS 9 is consistent with the specific provision under IAS 39 in prior years. The provision for credit losses on performing loans replaces the collective provision for credit losses under IAS 39. Prior periods have not been restated. Refer to Note 4 on page 157 of the consolidated financial statements for an explanation of the provision for credit losses. As a result of the forward-looking nature of IFRS 9, we anticipate there will be increased variability in the bank's provision for credit losses on performing loans.

BMO's PCL measured as a percentage of loans and acceptances has been relatively stable, with some quarter-to-quarter variability. Overall, PCL on impaired loans was relatively stable in 2018. Total PCL increased in the third quarter of 2018, primarily due to a \$9 million provision for credit losses on performing loans. Total PCL declined in the first quarter of 2018, primarily due to a \$33 million recovery of credit losses on performing loans. The decrease in the third quarter of 2017 was due to a decrease in the collective allowance in our 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 has varied, as it depends on legislative changes, changes in tax policy, including their interpretation by taxing authorities and the courts, earnings mix, including the relative proportion of earnings attributable to the different jurisdictions in which we operate, and the amount of tax-exempt income from securities. The higher reported tax rate in the first quarter of 2018 due to the one-time non-cash tax charge related to a revaluation of our U.S. net deferred tax asset due to U.S. tax reform.

## Summarized Statement of Income and Quarterly Financial Measures

| (Canadian \$ in millions, except as noted)                                     | Q4-2018 | Q3-2018 | Q2-2018 | Q1-2018 | Q4-2017 | Q3-2017 | Q2-2017 | Q1-2017 |
|--|---------|---------|---------|---------|---------|---------|---------|---------|
| Net interest income  | 2,669   | 2,607   | 2,491   | 2,546   | 2,535   | 2,533   | 2,409   | 2,530   |
| Non-interest revenue   | 3,253   | 3,213   | 3,126   | 3,132   | 3,120   | 2,926   | 3,332   | 2,875   |
| Revenue  | 5,922   | 5,820   | 5,617   | 5,678   | 5,655   | 5,459   | 5,741   | 5,405   |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) | 390     | 269     | 332     | 361     | 573     | 253     | 708     | 4       |
| Revenue, net of CCPB   | 5,532   | 5,551   | 5,285   | 5,317   | 5,082   | 5,206   | 5,033   | 5,401   |
| Provision for credit losses on impaired loans (1)                              | 177     | 177     | 172     | 174     | na      | na      | na      | na      |
| Provision for (recovery of) credit losses on performing loans (1)              | (2)     | 9       | (12)    | (33)    | na      | na      | na      | na      |
| Total provision for credit losses (1)  | 175     | 186     | 160     | 141     | 202     | 126     | 251     | 167     |
| Non-interest expense   | 3,224   | 3,386   | 3,562   | 3,441   | 3,375   | 3,286   | 3,284   | 3,385   |
| Income before provision for income taxes                                       | 2,133   | 1,979   | 1,563   | 1,735   | 1,505   | 1,794   | 1,498   | 1,849   |
| Provision for income taxes   | 438     | 443     | 317     | 762     | 278     | 407     | 250     | 361     |
| Reported net income (see below)  | 1,695   | 1,536   | 1,246   | 973     | 1,227   | 1,387   | 1,248   | 1,488   |
| Acquisition integration costs (2)  | 13      | 7       | 2       | 3       | 15      | 13      | 13      | 14      |
| Amortization of acquisition-related intangible assets (3)                      | 24      | 22      | 23      | 21      | 26      | 28      | 34      | 28      |
| Restructuring costs (4)  | -       | -       | 192     | -       | 41      | -       | -       | -       |
| Decrease in the collective allowance for credit losses (5)                     | -       | -       | -       | -       | -       | (54)    | -       | -       |
| U.S. net deferred tax asset revaluation (6)                                    | -       | -       | -       | 425     | -       | -       | -       | -       |
| Benefit from the remeasurement of an employee benefit liability (7)            | (203)   | -       | -       | -       | -       | -       | -       | -       |
| Adjusted net income (see below)  | 1,529   | 1,565   | 1,463   | 1,422   | 1,309   | 1,374   | 1,295   | 1,530   |
| <b>Operating group reported net income</b>                                     |         |         |         |         |         |         |         |         |
| Canadian P&C reported net income   | 675     | 642     | 590     | 647     | 624     | 613     | 530     | 744     |
| Amortization of acquisition-related intangible assets (3)                      | 1       | -       | 1       | -       | 1       | 1       | -       | 1       |
| Canadian P&C adjusted net income   | 676     | 642     | 591     | 647     | 625     | 614     | 530     | 745     |
| U.S. P&C reported net income   | 372     | 364     | 348     | 310     | 270     | 268     | 240     | 249     |
| Amortization of acquisition-related intangible assets (3)                      | 11      | 12      | 11      | 11      | 11      | 11      | 12      | 12      |
| U.S. P&C adjusted net income   | 383     | 376     | 359     | 321     | 281     | 279     | 252     | 261     |
| Wealth Management reported net income  | 219     | 291     | 296     | 266     | 175     | 269     | 254     | 269     |
| Amortization of acquisition-related intangible assets (3)                      | 10      | 10      | 11      | 10      | 14      | 15      | 21      | 15      |
| Wealth Management adjusted net income  | 229     | 301     | 307     | 276     | 189     | 284     | 275     | 284     |
| BMO Capital Markets reported net income  | 298     | 301     | 286     | 271     | 316     | 281     | 311     | 367     |
| Acquisition integration costs (2)  | 9       | 2       | -       | -       | -       | -       | -       | -       |
| Amortization of acquisition-related intangible assets (3)                      | 2       | -       | -       | -       | -       | 1       | 1       | -       |
| BMO Capital Markets adjusted net income  | 309     | 303     | 286     | 271     | 316     | 282     | 312     | 367     |
| Corporate Services reported net income   | 131     | (62)    | (274)   | (521)   | (158)   | (44)    | (87)    | (141)   |
| Acquisition integration costs (2)  | 4       | 5       | 2       | 3       | 15      | 13      | 13      | 14      |
| Restructuring costs (4)  | -       | -       | 192     | -       | 41      | -       | -       | -       |
| Decrease in the collective allowance for credit losses (5)                     | -       | -       | -       | -       | -       | (54)    | -       | -       |
| U.S. net deferred tax asset revaluation (6)                                    | -       | -       | -       | 425     | -       | -       | -       | -       |
| Benefit from the remeasurement of an employee benefit liability (7)            | (203)   | -       | -       | -       | -       | -       | -       | -       |
| Corporate Services adjusted net income   | (68)    | (57)    | (80)    | (93)    | (102)   | (85)    | (74)    | (127)   |
| Basic earnings per share (\$)  | 2.58    | 2.32    | 1.86    | 1.43    | 1.82    | 2.05    | 1.85    | 2.23    |
| Diluted earnings per share (\$)  | 2.57    | 2.31    | 1.86    | 1.43    | 1.81    | 2.05    | 1.84    | 2.22    |
| Adjusted diluted earnings per share (\$)                                       | 2.32    | 2.36    | 2.20    | 2.12    | 1.94    | 2.03    | 1.92    | 2.28    |
| Net interest margin on average earning assets (%)                              | 1.49    | 1.49    | 1.52    | 1.54    | 1.57    | 1.55    | 1.52    | 1.55    |
| PCL-to-average net loans and acceptances (annualized) (%)                      | 0.18    | 0.19    | 0.17    | 0.15    | 0.22    | 0.14    | 0.27    | 0.18    |
| PCL on impaired loans-to-average net loans and acceptances (annualized) (%)    | 0.18    | 0.18    | 0.18    | 0.19    | 0.22    | 0.22    | 0.27    | 0.18    |
| Effective tax rate (%)   | 20.6    | 22.4    | 20.3    | 43.9    | 18.5    | 22.7    | 16.7    | 19.5    |
| Adjusted effective tax rate (%)  | 19.7    | 22.4    | 21.2    | 19.5    | 19.3    | 22.5    | 17.1    | 19.8    |
| Canadian/U.S. dollar average exchange rate (\$)                                | 1.3047  | 1.3032  | 1.2858  | 1.2575  | 1.2621  | 1.2974  | 1.3412  | 1.3288  |

- (1) Effective the first quarter of 2018, the bank prospectively adopted IFRS 9, *Financial Instruments* (IFRS 9). Under IFRS 9, we refer to the provision for credit losses on impaired loans and the provision for credit losses on performing loans. Prior periods have not been restated. Changes in the provision for credit losses on performing loans under this methodology will not be considered an adjusting item. The provision for credit losses in prior periods is comprised of both specific and collective provisions. Refer to the Changes in Accounting Policies section on page 121 for further details.
- (2) Acquisition integration costs before tax are included in non-interest expense. BMO Capital Markets amounts of \$12 million in Q4-2018 and \$2 million in Q3-2018. Corporate Services amounts of \$6 million in each of Q4-2018 and Q3-2018, \$4 million in each of Q2-2018 and Q1-2018, \$24 million in Q4-2017, \$20 million in Q3-2017, \$21 million in Q2-2017 and \$22 million in Q1-2017.
- (3) Amortization of acquisition-related intangible assets before tax is charged to the non-interest expense of the operating groups. Canadian P&C amounts of \$1 million in Q4-2018, \$nil in Q3-2018, \$1 million in Q2-2018, \$nil in both Q1-2018 and Q4-2017, \$1 million in Q3-2017, \$nil in Q2-2017 and \$1 million in Q1-2017. U.S. P&C amounts of \$15 million in each of Q4-2018 and Q3-2018, \$14 million in Q2-2018, \$15 million in Q1-2018, and \$16 million in each of Q4-2017, Q3-2017, Q2-2017 and Q1-2017. Wealth Management amounts of \$13 million in each of Q4-2018, Q3-2018, Q2-2018 and Q1-2018, \$18 million in Q4-2017, \$17 million in Q3-2017, \$26 million in Q2-2017 and \$19 million in Q1-2017. BMO Capital Markets amounts of \$2 million in Q4-2018, \$nil in Q3-2018, \$1 million in Q2-2018, \$nil in each of Q1-2018 and Q4-2017, and \$1 million in each of Q3-2017, Q2-2017 and Q1-2017.
- (4) Restructuring charges before tax amounts included in non-interest expense in Corporate Services of \$260 million in Q2-2018 and \$59 million in Q4-2017.
- (5) In Q3-2017, the adjustment to the collective allowance for credit losses before tax amount of \$76 million was excluded from the Corporate Services adjusted provision for (recovery of) credit losses.
- (6) Charge due to the revaluation of our U.S. net deferred tax asset as a result of the enactment of the U.S. *Tax Cuts and Jobs Act*. For more information on the impact of the U.S. *Tax Cuts and Jobs Act*, see the Provision for Income Taxes section on page 42.
- (7) The current year included a benefit of \$203 million after-tax (\$277 million pre-tax) from the remeasurement of an employee benefit liability as a result of an amendment to our other employee future benefits plan for certain employees that was announced in the fourth quarter of 2018. This amount has been included in Corporate Services in non-interest expense.
- Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 27.  
Certain comparative figures have been reclassified to conform with the current period's presentation.  
na - not applicable

### 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 27.

## Review of Fourth Quarter 2018 Performance

Reported net income was \$1,695 million for the fourth quarter of 2018, an increase of \$468 million or 38% from the prior year. Adjusted net income was \$1,529 million, up \$220 million or 17% from the prior year. Adjusted results for the quarter exclude a benefit of \$277 million (\$203 million after-tax) from the remeasurement of an employee benefit liability, and the amortization of acquisition-related intangible assets and acquisition integration costs recorded in non-interest expense. A full list of adjusting items is included in the Non-GAAP Measures section on page 27.

Reported EPS of \$2.57 was up \$0.76 or 42% from the prior year. Adjusted EPS of \$2.32 was up \$0.38 or 19%. Results reflect strong growth in U.S. P&C, good performance in Canadian P&C and a lower loss in Corporate Services, partially offset by lower income in BMO Capital Markets. Wealth Management results increased, largely reflecting less elevated reinsurance claims in the current year.

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 \$1,047 million and adjusted net income of \$1,059 million were both up 17% from the prior year, or 16% excluding the impact of the stronger U.S. dollar. Canadian P&C reported net income of \$675 million and adjusted net income of \$676 million both increased \$51 million or 8%, reflecting revenue growth and lower provisions for credit losses, partially offset by higher expenses. On a Canadian dollar basis, U.S. P&C reported net income of \$372 million increased 37%, and adjusted net income of \$383 million increased 36%. On a U.S. dollar basis, U.S. P&C reported net income of \$285 million increased \$71 million or 33%, and adjusted net income of \$294 million increased \$71 million or 31% from the prior year, due to good revenue growth and lower taxes from the benefit of U.S. tax reform and a favourable U.S. tax item, partially offset by higher expenses and higher provisions for credit losses. The benefit of U.S. tax reform was approximately \$28 million in reported net income and \$29 million in adjusted net income in the quarter. Wealth Management reported net income of \$219 million increased \$44 million or 25%, and adjusted net income of \$229 million increased \$40 million or 21%. Net income in the current quarter was impacted by elevated reinsurance claims and a legal provision. Traditional wealth reported net income of \$192 million was unchanged and adjusted net income of \$202 million decreased \$4 million or 2%, as business growth and lower taxes were more than offset by a legal provision and higher expenses. Insurance net income of \$27 million was below trend but increased \$44 million from last year, primarily due to less elevated reinsurance claims in the current year, with this partially offset by unfavourable market movements in the current quarter relative to favourable market movements in the prior year. BMO Capital Markets reported net income of \$298 million decreased \$18 million or 6%, and adjusted net income of \$309 million decreased \$7 million or 2%, as higher Investment and Corporate Banking revenue and lower taxes were more than offset by higher expenses and lower Trading Products revenue. Corporate Services reported net income for the quarter was \$131 million, compared with a net loss of \$158 million in the prior year. The adjusted net loss for the quarter was \$68 million, compared with an adjusted net loss of \$102 million in the prior year. Adjusted results exclude a benefit of \$203 million after-tax from the remeasurement of an employee benefit liability in the current year and a restructuring charge in the prior year, as well as acquisition integration costs in both periods. Adjusted results increased, mainly due to higher revenue excluding the teb adjustment and lower expenses. Reported results increased due to the impact of the adjusting items and the other drivers noted above.

Total revenue of \$5,922 million increased \$267 million or 5% from the fourth quarter a year ago. Total revenue, net of CCPB, of \$5,532 million increased \$450 million or 9%, or 8% excluding the impact of the stronger U.S. dollar. Canadian P&C revenue increased 4% due to higher balances across most products, increased non-interest revenue and higher margins. U.S. P&C revenue increased 11% on a Canadian dollar basis, and increased 8% on a U.S. dollar basis, mainly due to higher deposit revenue and increased loan volumes, net of loan spread compression. Traditional wealth revenue increased 3% due to business growth from higher deposit and loan revenue, net new client assets and higher equity markets on average, partially offset by a legal provision in the current year and the impact of the divestiture of a non-core business in the prior year. Insurance revenue, net of CCPB, of \$79 million increased \$36 million from the prior year, primarily due to less elevated reinsurance claims in the current year, with this partially offset by unfavourable market movements in the current quarter relative to favourable market movements in the prior year. BMO Capital Markets revenue increased 1%, and was relatively unchanged excluding the impact of the stronger U.S. dollar. Investment and Corporate Banking revenue increased, mainly due to higher corporate banking-related revenue, while underwriting and advisory revenue decreased slightly from a strong quarter a year ago. Trading Products revenue decreased, primarily due to softer interest rate trading and lower new equity issuances, partially offset by the impact of the acquisition of KGS-Alpha in the quarter. Corporate Services revenue increased due to a lower group teb adjustment and higher revenue excluding teb.

Net interest income of \$2,669 million increased \$134 million or 5% from the prior year, or 4% excluding the impact of the stronger U.S. dollar. Net interest income, excluding trading, increased \$187 million or 7%, largely due to higher deposit and loan volumes in the P&C businesses. Average earning assets of \$711.7 billion increased \$69.1 billion or 11%, or 9% excluding the impact of the stronger U.S. dollar, due to loan growth, higher securities, higher securities borrowed or purchased under resale agreements and increased cash resources. BMO's overall net interest margin decreased 8 basis points, or 7 basis points on an excluding trading basis, primarily driven by lower spreads in BMO Capital Markets, mainly due to higher volumes of lower spread assets.

Net non-interest revenue of \$2,863 million increased \$316 million or 12%. Excluding trading revenue, net non-interest revenue increased \$141 million or 6%, with increases in most non-interest revenue categories.

Gross insurance revenue decreased \$144 million from the prior year, due to increases in long-term interest rates decreasing the fair value of investments in the current year, compared with decreases in long-term interest rates increasing the fair value of investments in the prior year and weaker equity markets in the current year, partially offset by 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 \$175 million, a decrease of \$27 million from the prior year. The provision for credit losses on impaired loans of \$177 million decreased \$25 million, primarily due to lower provisions in the P&C businesses and net recoveries in both BMO Capital Markets and Corporate Services, compared with provisions in the prior year. There was a decrease in credit losses on performing loans of \$2 million, as net recoveries of credit losses in Canadian P&C, BMO Capital Markets and Corporate Services were largely offset by provisions in U.S. P&C.

Insurance claims, commissions and changes in policy benefit liabilities were \$390 million in the fourth quarter of 2018, a decrease of \$183 million from the fourth quarter of 2017, due to the impact of increases in long-term interest rates decreasing the fair value of policy benefit liabilities in the current quarter, compared with decreases in long-term interest rates increasing the fair value of policy benefit liabilities in the prior

year, less elevated reinsurance claims in the current year and the impact of weaker equity markets in the current year, partially offset by higher annuity sales. The changes related to the fair value of policy benefit liabilities and annuity sales were largely offset in revenue.

Reported non-interest expense of \$3,224 million decreased \$151 million or 4% from the fourth quarter in the prior year. Adjusted non-interest expense of \$3,452 million increased \$194 million or 6%, or 5% excluding the impact of the stronger U.S. dollar, largely reflecting higher employee-related expenses, including an acquisition, higher technology costs and a gain on sale of an office building in the prior year. Adjusted non-interest expense excludes a benefit of \$277 million pre-tax in the current quarter from the remeasurement of an employee benefit liability, a restructuring charge of \$59 million in the prior year and acquisition integration costs and the amortization of acquisition-related intangible assets in both periods.

The provision for income taxes of \$438 million increased \$160 million from the fourth quarter of 2017. The effective tax rate for the quarter was 20.6%, compared with 18.5% in the prior year. The adjusted provision for income taxes of \$376 million increased \$63 million from the prior year. The adjusted effective tax rate was 19.7% in the fourth quarter of 2018, compared with 19.3% in the prior year. The higher reported and adjusted effective tax rates in the current quarter relative to the fourth quarter of 2017 were primarily due to lower tax-exempt income from securities and changes in earnings mix, partially offset by a favourable U.S. tax item and the benefit of U.S. tax reform. On a teq basis, the reported effective tax rate for the quarter was 23.0%, compared with 27.1% in the prior year and the adjusted effective tax rate for the quarter was 22.5%, compared with 27.2% in the prior year.

Adjusted results in this section are non-GAAP and are discussed in the Non-GAAP Measures section on page 27.

## 2017 Financial Performance Review

The preceding discussions in the MD&A focused on our performance in fiscal 2018. This section summarizes our performance in fiscal 2017 relative to fiscal 2016. As noted on page 24, certain prior-year data has been reclassified to conform with the presentation in 2018, including restatements resulting from transfers between operating groups. Further information on these restatements is provided on page 44.

### Net Income

Net income of \$5,350 million increased \$719 million or 16% in 2017, and adjusted net income of \$5,508 million increased \$488 million or 10% from 2016. Adjusted net income excludes a decrease in the collective allowance in 2017 and a negative cumulative accounting adjustment in 2016, as well as restructuring costs, the amortization of acquisition-related intangible assets and acquisition integration costs in both years. The impact of the weaker U.S. dollar on net income was not significant. Reported and adjusted net income growth reflected the benefits of good performance in Canadian P&C, Wealth Management and BMO Capital Markets. Corporate Services results were also higher, while results in U.S. P&C were relatively flat compared with 2016.

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, reflecting a \$168 million after-tax gain on the sale of Moneris US and a \$35 million after-tax loss on the sale of a portion of the U.S. indirect auto loan portfolio; elevated insurance claims of \$112 million in our reinsurance business, largely resulting from the impact of hurricanes Irma, Maria and Harvey; and the 2016 write-down of an equity investment net of a gain on its subsequent sale.

### Return on Equity

Return on equity (ROE) was 13.3% and adjusted ROE was 13.7% in 2017, 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 an increase of \$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 an increase in retained earnings, partially offset by lower accumulated other comprehensive income. The reported return on tangible common equity (ROTCE) was 16.3%, compared with 15.3% in 2016, and adjusted ROTCE was 16.5% in 2017, compared with 16.1% in 2016.

### Revenue

Revenue, net of commissions and changes in policy benefit liabilities (CCPB), increased \$1,178 million or 6% to \$20,722 million in 2017. Adjusted revenue, net of CCPB, which excludes a negative cumulative accounting adjustment recorded in 2016 in non-interest revenue, increased \$1,094 million or 6% to \$20,722 million in 2017. Results were driven by good performance in Canadian P&C, Wealth Management and BMO Capital Markets.

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

Insurance claims, commissions and changes in policy benefit liabilities were \$1,538 million in 2017, a decrease of \$5 million from \$1,543 million in 2016, with increases in long-term interest rates reducing the fair value of policy benefit liabilities in 2017, compared with reductions in long-term interest rates increasing the fair value of policy benefit liabilities in 2016. This was 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.

### Provision for Credit Losses

The provision for credit losses (PCL) was \$746 million in 2017, a decrease from \$771 million in 2016. There was a \$76 million pre-tax decrease in the collective allowance in 2017, largely as a result of positive portfolio migration, which reduced the total provision for credit losses.

### Non-Interest Expense

Non-interest expense increased \$289 million or 2% to \$13,330 million in 2017. Adjusted non-interest expense increased \$447 million or 4% to \$13,035 million in 2017. Adjusted non-interest expense excludes restructuring costs, the amortization of acquisition-related intangible assets and acquisition integration costs in both years. Reported and adjusted expenses increased, primarily due to higher employee-related expenses and an increase in technology costs, partially offset by our focus on disciplined expense management.

## Provision for Income Taxes

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<sup>(1)</sup> 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 differed from the statutory rate primarily because of tax-exempt income from securities.

## Canadian P&C

Reported net income of \$2,511 million increased \$294 million or 13% during the year and adjusted net income of \$2,514 million, which excludes the amortization of acquisition-related intangible assets, increased \$295 million or 13% from 2016. Revenue increased \$454 million or 7% to \$7,443 million due to increased non-interest revenue, including the gain on sale of Moneris US in 2017, and higher balance across most products, partially offset by lower margins. The gain on the sale of Moneris US contributed approximately 8% to net income growth and 3% to revenue growth in 2017. The provision for credit losses decreased \$23 million or 5% to \$483 million, reflecting lower commercial and consumer provisions. Non-interest expense was \$3,622 million, up \$122 million or 4% from 2016, reflecting continued investment in the business, including a focus on our digital strategy and select sales force investments.

## U.S. P&C

Reported net income of \$1,027 million decreased \$24 million during the year, and adjusted net income of \$1,073 million decreased \$28 million from 2016, due to the weaker U.S. dollar which decreased net income by 1% in 2017. Adjusted net income excludes the amortization of acquisition-related intangible assets. All amounts in the following paragraph are on a U.S. dollar basis.

Reported net income of \$787 million and adjusted net income of \$823 million in 2017 were both relatively flat compared with the prior year. Revenue of \$3,535 million increased \$55 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 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 2017. The provision for credit losses of \$221 million increased \$33 million or 18% from 2016, reflecting higher commercial provisions, partially offset by lower consumer provisions. Non-interest expense of \$2,253 million increased \$54 million or 2% during the year, and adjusted non-interest expense of \$2,204 million increased \$57 million or 3% from 2016, mainly due to higher technology investments and marketing costs.

## Wealth Management

Reported net income of \$967 million increased \$192 million or 25% from 2016. Adjusted net income of \$1,032 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 \$729 million increased \$177 million or 32% from 2016. Adjusted net income in traditional wealth of \$794 million increased \$141 million or 22%, primarily due to higher income related to an increase in assets under management resulting from improved equity markets and the accumulation of net new client assets, growth in deposit and loan balances, which were up 11% and 10%, respectively, and the benefits of productivity initiatives. Traditional wealth also included a write-down of an equity investment net of a gain on its subsequent sale in 2016 that had a positive impact of 7% on reported net income, 6% on adjusted net income growth, and 1% on revenue growth in 2017. Net income in insurance of \$238 million increased \$15 million or 7%, as the benefits from favourable market movements in 2017 relative to unfavourable movements in 2016 and business growth were largely offset by elevated claims of \$112 million in our reinsurance business in 2017, largely resulting from the impact of hurricanes Irma, Maria and Harvey. Revenue, net of CCPB, of \$4,676 million increased \$310 million or 7%, due to the factors noted above. The provision for credit losses was \$8 million, compared with \$9 million in 2016. Non-interest expense was \$3,351 million, compared with \$3,337 million in 2016, and adjusted non-interest expense was \$3,271 million, compared with \$3,211 million in 2016, reflecting higher revenue-based costs, partially offset by the impact of the weaker British pound and U.S. dollar, and divestitures.

## BMO Capital Markets

Reported net income of \$1,275 million increased \$40 million or 3% from the prior year. Adjusted net income of \$1,277 million, which excludes the amortization of acquisition-related intangible assets, increased \$41 million or 3%, due to increased revenue and lower loan loss provisions, partially offset by higher expenses. The impact of the weaker U.S. dollar was not significant. Revenue of \$4,569 million increased \$255 million or 6%, due to higher levels of client activity in investment banking and loan growth, as well as solid performance in our Trading Products business. The provision for credit losses of \$44 million decreased \$37 million from the prior year, largely due to a decrease in new provisions, primarily in the oil and gas sector. Non-interest expense increased \$204 million or 8% to \$2,778 million due to continued investment in the business and higher employee-related costs.

## Corporate Services

Corporate Services reported net loss was \$430 million in 2017, compared with a reported net loss of \$647 million in 2016. The adjusted net loss was \$388 million in 2017, compared with an adjusted net loss of \$412 million in 2016. Adjusted net loss excludes a decrease in the collective allowance in 2017 and a negative cumulative accounting adjustment in 2016, as well as restructuring costs and acquisition integration costs in both years. Adjusted net loss decreased due to higher revenue excluding teb adjustments, partially offset by lower credit recoveries. Reported net loss improved, mainly due to lower restructuring costs in 2017, the negative cumulative accounting adjustment in 2016, a decrease in the collective allowance in 2017, and the net impact of the drivers noted above.

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

# Financial Condition Review

## Summary Balance Sheet

(Canadian \$ in millions)  
As at October 31

|  | 2018           | 2017           | 2016           |
|--|----------------|----------------|----------------|
| <b>Assets</b>  |                |                |                |
| Cash and interest bearing deposits with banks            | 50,447         | 39,089         | 36,102         |
| Securities   | 180,935        | 163,198        | 149,985        |
| Securities borrowed or purchased under resale agreements | 85,051         | 75,047         | 66,646         |
| Net loans  | 383,991        | 358,507        | 357,518        |
| Derivative instruments                                   | 26,204         | 28,951         | 39,183         |
| Other assets   | 47,420         | 44,788         | 38,501         |
| <b>Total assets</b>                                      | <b>774,048</b> | <b>709,580</b> | <b>687,935</b> |
| <b>Liabilities and Shareholders' Equity</b>              |                |                |                |
| Deposits   | 522,051        | 479,792        | 470,281        |
| Derivative instruments                                   | 24,411         | 27,804         | 38,227         |
| Securities lent or sold under repurchase agreements      | 66,684         | 55,119         | 40,718         |
| Other liabilities  | 108,393        | 97,482         | 91,942         |
| Subordinated debt  | 6,782          | 5,029          | 4,439          |
| Shareholders' equity                                     | 45,727         | 44,354         | 42,304         |
| Non-controlling interest in subsidiaries                 | -              | -              | 24             |
| <b>Total liabilities and shareholders' equity</b>        | <b>774,048</b> | <b>709,580</b> | <b>687,935</b> |

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

## Overview

Total assets of \$774.0 billion increased \$64.5 billion from October 31, 2017. The stronger U.S. dollar increased assets by \$6.5 billion, excluding the impact on derivative assets. Total liabilities of \$728.3 billion increased \$63.1 billion from October 31, 2017. The stronger U.S. dollar increased liabilities by \$6.3 billion, excluding the impact on derivative liabilities. Shareholders' equity increased \$1.4 billion from October 31, 2017.

## Cash and Interest Bearing Deposits with Banks

Cash and interest bearing deposits with banks increased \$11.4 billion, or \$10.6 billion excluding the impact of the stronger U.S. dollar, due to higher balances held with central banks.

## Securities

(Canadian \$ in millions)  
As at October 31

|                             | 2018           | 2017           | 2016           |
|-----------------------------|----------------|----------------|----------------|
| Trading                     | 99,697         | 99,069         | 84,458         |
| FVTPL (1)                   | 11,611         | na             | na             |
| FVOCI - Debt and equity (2) | 62,440         | na             | na             |
| Available-for-sale          | na             | 54,075         | 55,663         |
| Amortized cost (3)          | 6,485          | na             | na             |
| Held-to-maturity            | na             | 9,094          | 8,965          |
| Other                       | 702            | 960            | 899            |
| <b>Total securities</b>     | <b>180,935</b> | <b>163,198</b> | <b>149,985</b> |

(1) Comprised of \$2,828 million mandatorily measured at fair value and \$8,783 million designated at fair value.

(2) Includes allowances for credit losses on FVOCI debt securities of \$2 million (na at October 31, 2017).

(3) Net of allowances for credit losses of \$1 million (na at October 31, 2017).

na - Not applicable due to IFRS 9 adoption.

Securities increased \$17.7 billion, or \$16.0 billion excluding the impact of the stronger U.S. dollar, as a result of liquidity management activities and higher balances in BMO Capital Markets reflecting the acquisition.

## Securities Borrowed or Purchased Under Resale Agreements

Securities borrowed or purchased under resale agreements increased \$10.0 billion, or \$9.2 billion excluding the impact of the stronger U.S. dollar, driven by higher liquid asset levels in Corporate Services and higher balances in BMO Capital Markets.

## Net Loans

(Canadian \$ in millions)  
As at October 31

|  | 2018           | 2017           | 2016           |
|--|----------------|----------------|----------------|
| Residential mortgages                  | 119,620        | 115,258        | 112,277        |
| Non-residential mortgages              | 14,017         | 11,744         | 11,376         |
| Consumer instalment and other personal | 63,225         | 61,944         | 64,680         |
| Credit cards                           | 8,329          | 8,071          | 8,101          |
| Businesses and governments             | 180,439        | 163,323        | 163,009        |
| <b>Gross loans</b>                     | <b>385,630</b> | <b>360,340</b> | <b>359,443</b> |
| Allowance for credit losses            | (1,639)        | (1,833)        | (1,925)        |
| <b>Total net loans</b>                 | <b>383,991</b> | <b>358,507</b> | <b>357,518</b> |

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

Net loans increased \$25.5 billion, or \$22.7 billion excluding the impact of the stronger 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 part due to the purchase of a mortgage portfolio in U.S. P&C.

Table 7 on page 132 of the Supplemental Information provides a comparative summary of loans by geographic location and product. Table 9 on page 133 provides a comparative summary of net loans in Canada by province and industry. Loan quality is discussed on page 91 and further details on loans are provided in Notes 4, 6 and 24 on pages 157, 164 and 201 of the consolidated financial statements.

### Derivative Financial Assets

Derivative financial assets decreased \$2.7 billion, primarily due to a decrease in the fair value of foreign exchange contracts partially offset by an increase in the fair value of commodity and equity contracts.

### Other Assets

Other assets include customers' liability under acceptances, premises and equipment, goodwill and intangible assets, current and deferred tax asset, accounts receivable and prepaid expenses. Other assets increased \$2.6 billion, primarily due to a \$2.0 billion increase in customers' liability under acceptances.

### Deposits

| (Canadian \$ in millions)<br>As at October 31 | 2018           | 2017    | 2016    |
|---|----------------|---------|---------|
| Banks   | 27,907         | 28,205  | 31,489  |
| Businesses and governments                    | 313,300        | 283,276 | 275,905 |
| Individuals                                   | 180,844        | 168,311 | 162,887 |
| <b>Total deposits</b>                         | <b>522,051</b> | 479,792 | 470,281 |

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

Deposits increased \$42.3 billion, or \$37.2 billion excluding the impact of the stronger U.S. dollar, reflecting higher levels of customer and wholesale deposits. Deposits by businesses and governments increased \$26.7 billion, reflecting higher wholesale funding for loan and liquid asset growth and growth in customer balances. Deposits by individuals increased \$11.3 billion. Deposits by banks decreased \$0.8 billion. Further details on the composition of deposits are provided in Note 13 on page 178 of the consolidated financial statements and in the Liquidity and Funding Risk section on page 100.

### Derivative Financial Liabilities

Derivative liabilities decreased \$3.4 billion, due to a decline in the fair value of foreign exchange and equity contracts, partially offset by an increase in the fair value of commodity and interest rate contracts.

### Securities Lent or Sold Under Repurchase Agreements

Securities lent or sold under repurchase agreements increased \$11.6 billion, or \$10.8 billion excluding the impact of the stronger U.S. dollar, driven by activity in BMO Capital Markets, including the acquisition.

### Other Liabilities

Other liabilities primarily include securities sold but not yet purchased, securitization and structured entities' liabilities, acceptances and Federal Home Loan Bank (FHLB) advances. Other liabilities increased \$10.9 billion, primarily due to a \$4.3 billion increase in FHLB advances and securitization and structured entities liabilities to fund loan and liquid asset growth, a \$3.6 billion increase in securities sold but not yet purchased and a \$2.0 billion increase in acceptances. Further details on the composition of other liabilities are provided in Note 14 on page 179 of the consolidated financial statements.

### Subordinated Debt

Subordinated debt increased \$1.8 billion from the prior year, as new issuances exceeded a redemption. Further details on the composition of subordinated debt are provided in Note 15 on page 181 of the consolidated financial statements.

### Equity

| (Canadian \$ in millions)<br>As at October 31 | 2018          | 2017   | 2016   |
|---|---------------|--------|--------|
| Share capital                                 |               |        |        |
| Preferred shares                              | 4,340         | 4,240  | 3,840  |
| Common shares                                 | 12,929        | 13,032 | 12,539 |
| Contributed surplus                           | 300           | 307    | 294    |
| Retained earnings                             | 25,856        | 23,709 | 21,205 |
| Accumulated other comprehensive income        | 2,302         | 3,066  | 4,426  |
| <b>Total shareholders' equity</b>             | <b>45,727</b> | 44,354 | 42,304 |
| Non-controlling interest in subsidiaries      | -             | -      | 24     |
| <b>Total equity</b>                           | <b>45,727</b> | 44,354 | 42,328 |

Total equity increased \$1.4 billion due to a \$2.1 billion increase in retained earnings, partially offset by a \$0.8 billion decrease in accumulated other comprehensive income. Retained earnings increased as a result of net income in the current year, partially offset by dividends and common shares repurchased for cancellation. Accumulated other comprehensive income decreased, primarily due to the impact of higher interest rates.

Share capital was unchanged, as an increase in preferred shares was offset by a decrease in common shares. Preferred shares increased due to a new issuance, net of redemptions. Common shares decreased due to the repurchase of shares for cancellation, partially offset by the issuance of shares under the Stock Option Plan. Our Consolidated Statement of Changes in Equity on page 146 provides a summary of items that increase or reduce shareholders' equity, while Note 16 on page 182 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.

# 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 comprehensive Internal Capital Adequacy Assessment Process (ICAAP).

ICAAP is an integrated process that involves the application of stress testing and other tools to evaluate capital adequacy on both a regulatory and an economic capital basis. The results of this process are used in the establishment of capital targets and the 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 conducted in order to assess the impact of various stress conditions on BMO's risk profile and capital requirements. The capital management 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, and updates the plan 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 in support of 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 frameworks related to capital and risk management, as well as 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 set out 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 that ends in 2022. In addition to the minimum capital requirements, OSFI also expects domestic systemically important banks (D-SIBs) to hold Pillar 1 and Pillar 2 buffers, which are meant to be used as a normal first step in periods of stress. The Pillar 1 buffers include a Capital Conservation Buffer of 2.5%, a D-SIB Common Equity Tier 1 surcharge of 1%, and the Countercyclical Buffer (which can range from 0% to 2.5%, depending on the bank's exposure to jurisdictions that have activated the buffer). The Domestic Stability Buffer is a Pillar 2 buffer and is currently set at 1.5%. OSFI's capital requirements are summarized in the following table.

| (% of risk-weighted assets) | Minimum capital requirements | Pillar 1 Capital Buffers (1) | Domestic Stability Buffer (2) | OSFI capital requirements including capital buffers | BMO Capital and Leverage Ratios as at October 31, 2018 |
|-----------------------------|------------------------------|------------------------------|-------------------------------|---|--|
| Common Equity Tier 1 Ratio  | 4.5%                         | 3.5%                         | 1.5%                          | 9.5%  | 11.3%  |
| Tier 1 Capital Ratio        | 6.0%                         | 3.5%                         | 1.5%                          | 11.0%   | 12.9%  |
| Total Capital Ratio         | 8.0%                         | 3.5%                         | 1.5%                          | 13.0%   | 15.2%  |
| Leverage Ratio              | 3.0%                         | na                           | na                            | 3.0%  | 4.2%   |

- (1) The minimum 4.5% CET1 Ratio requirement is augmented by 3.5% in Pillar 1 Capital Buffers, which can absorb losses during periods of stress. The Pillar 1 Capital Buffers include a 2.5% Capital Conservation Buffer, a 1.0% Common Equity Tier 1 Surcharge for D-SIBs and a Countercyclical Buffer as prescribed by OSFI (immaterial for the fourth quarter of 2018). 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 requires all D-SIBs to maintain a Domestic Stability Buffer (DSB) against Pillar 2 risks associated with systemic vulnerabilities. The DSB can range from 0% to 2.5% of total RWA and is currently set at 1.5%. Breaches of the DSB will not result in a bank being subject to automatic constraints on capital distributions.
- na - not applicable

## Regulatory Capital Ratios

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

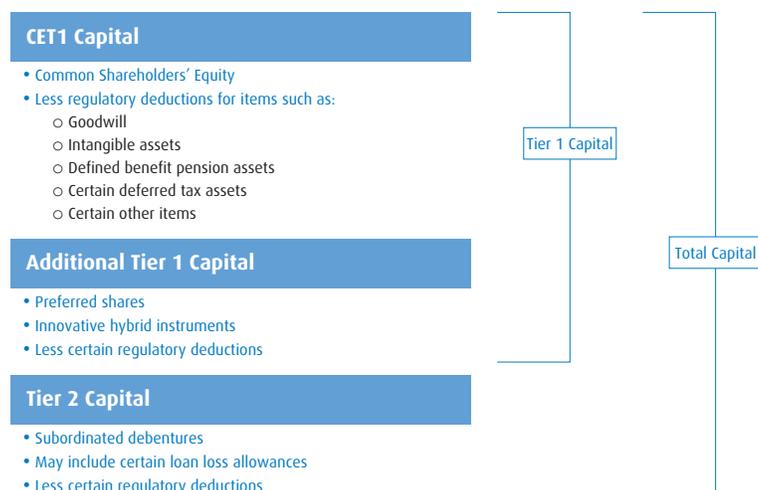
The **Tier 1 Capital Ratio** reflects Tier 1 capital divided by Tier 1 capital RWA.

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, will be fully phased out by 2022.

Canada's Bank Recapitalization (Bail-In) Regime became effective on September 23, 2018. Eligible senior debt (described below) issued after this date is subject to statutory conversion requirements. Canada Deposit Insurance Corporation has the power to trigger the conversion of bail-in debt into common shares. This statutory conversion supplements NVCC securities, which must be converted, in full, prior to the conversion of bail-in debt.

## 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 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, as 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 in order to quantify and differentiate risks appropriately to reflect changes in economic and credit conditions. Credit RWA related to 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, 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 Standardized Approach (covering RWA and allowances) is higher than the result of a similar calculation under the more risk-sensitive modelled approach. The capital floor was operative for the bank in 2017 and in the first quarter of 2018, and a floor adjustment was reflected in our total RWA for those periods. We have not had a floor-based RWA adjustment since the revised floor calculation, as outlined below, became effective in the second quarter of 2018.

In accordance with guidance from OSFI, the credit valuation adjustment (CVA) risk capital charge for Canadian banks has been phasing in since the first quarter of 2014. In 2017 and 2018, the CVA risk capital charge applicable to CET1 was 72% and 80% of the fully implemented charge, respectively. The charge will be fully phased in by 2019.

## Capital Regulatory Developments

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

In October 2018, OSFI issued the updated version of the CAR Guideline for implementation in the first quarter of 2019. The most significant revisions include the domestic implementation of the Standardized Approach for counterparty credit risk (SA-CCR) and revised capital requirements for bank exposures to central counterparties, as well as a revised securitization framework. The update provides for transitional arrangements under which certain aspects of the revised securitization framework will not apply until fiscal 2020 or 2021. These changes are expected to modestly increase the amount of capital we are required to hold upon implementation. The revised CAR Guideline also incorporates the changes to the capital floor, announced by OSFI in January 2018, which include a shift to the Basel II Standardized Approach and a reduced floor factor transitioning from 70% in the second quarter of fiscal 2018 and 72.5% in the third quarter to 75% from the fourth quarter onward. In October 2018, OSFI issued the final version of the Leverage Requirements (LR) Guideline for implementation in the first quarter of 2019 to align with the changes related to counterparty credit risk and the securitization framework in the revised CAR Guideline. In November 2018, OSFI issued revisions to the Leverage Ratio Disclosure Requirements Guideline, which reflect the changes to the LR and CAR Guidelines, effective for the first quarter of 2019.

In June 2018, OSFI published details on the Domestic Stability Buffer (DSB), which it expects to be maintained by D-SIBs against Pillar 2 risks associated with systemic vulnerabilities. The DSB, which is met with CET1 capital, will range between 0% and 2.5% of a bank's total RWA and is currently set at 1.5%.

In April 2018, the Government of Canada published the final regulations on Canada's Bank Recapitalization (Bail-In) Regime, which became effective on September 23, 2018. The Bail-In Regime is consistent with the international standards developed by the Financial Stability Board, but is tailored to the Canadian context. Bail-in debt includes senior unsecured debt, issued directly by the bank on or after September 23, 2018, which has an original term greater than 400 days and is marketable, subject to certain exceptions. Some or all of this debt may be statutorily converted into common shares of the bank under the Bail-In Regime if the bank enters resolution. In conjunction with the regulations, OSFI released its final Total Loss Absorbing Capacity (TLAC) guideline for D-SIBs, which establishes minimum standards for a risk-based TLAC ratio and TLAC leverage ratio that come into effect on November 1, 2021. In August 2018, OSFI set the minimum requirements as a risk-based TLAC ratio of 21.5% RWA and a TLAC leverage ratio of 6.75%. In addition, D-SIBs will be expected to maintain buffers above the minimum TLAC ratios, including the DSB (currently 1.5% of total RWA) and any capital add-ons for idiosyncratic Pillar 2 risks. The D-SIBs' supervisory target risk-based TLAC ratio is expected to be 23.0% when the minimum requirements come into effect on November 1, 2021, inclusive of buffers as currently set. In May 2018, OSFI issued the final TLAC Disclosure Requirements Guideline effective for the first quarter of fiscal 2019.

In July 2018, OSFI issued for consultation a discussion paper on the proposed domestic implementation of the final Basel III reforms, which include a revised Standardized Approach for credit risk, constraints on the use of internal ratings-based approaches, revisions to the credit valuation adjustment (CVA) framework, a revised Standardized Approach for operational risk, revisions to the leverage ratio framework, and calibration of standardized output floors. The discussion paper sets out OSFI's preliminary views on the scope and timing of the implementation of the final Basel III reforms in Canada. While the BCBS outlined a five-year transition period for the RWA output floor from 50% in 2022 to 72.5% in 2027, OSFI's discussion paper proposes to set the output floor at 72.5% upon implementation of the reforms in the first quarter of 2022.

In March 2018, the BCBS issued a consultative document on revisions to the minimum capital requirements for market risk, commonly referred to as the fundamental review of the trading book. The consultative document proposes a number of revisions to the market risk standard published in January 2016, including a simplified alternative to the revised Standardized Approach. The implementation date of the revised market risk standard has been extended to January 1, 2022, allowing additional time for banks to develop the systems infrastructure needed to apply the standard and for BCBS to address certain outstanding issues.

## 2018 Regulatory Capital Review

BMO is well capitalized, with capital ratios that exceed OSFI's published requirements for large Canadian banks, including the 1.5% DSB. Our CET1 Ratio was 11.3% at October 31, 2018, compared with 11.4% at October 31, 2017. The CET1 Ratio decreased from the end of fiscal 2017 as higher CET1 capital from retained earnings growth, net of share repurchases, was more than offset by higher RWA, including an acquisition.

Our Tier 1 Capital and Total Capital Ratios were 12.9% and 15.2%, respectively, at October 31, 2018, compared with 13.0% and 15.1%, respectively, at October 31, 2017. The decrease in the Tier 1 Capital Ratio was mainly due to the factors impacting the CET1 Ratio discussed above. The increase in the Total Capital Ratio was mainly due to the issuances of subordinated notes, net of redemptions, partially offset by the factors impacting the Tier 1 Ratio.

The impact of foreign exchange movements on capital ratios was largely offset. BMO's investments in foreign operations are primarily denominated in U.S. dollars, and the foreign exchange impact of U.S.-dollar-denominated RWA capital deductions may result in variability in the bank's capital ratios. BMO may manage the impact of foreign exchange movements on its capital ratios and did so during 2018. Any such activities could also impact our book value and return on equity.

BMO's Leverage Ratio was 4.2% at October 31, 2018, down from 4.4% at October 31, 2017, due to higher leverage exposures driven mainly by business growth.

While the ratios discussed above reflect the bank's consolidated capital base, BMO conducts business through a variety of corporate structures, including subsidiaries. A framework is in place such that capital and funding are managed appropriately at the subsidiary level.

As a U.S. 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 support operations throughout periods of economic and financial stress and have robust, forward-looking capital planning processes that address their unique risks. DFAST is a forward-looking exercise complementary to CCAR and conducted by the FRB to assess whether the financial companies that it supervises have sufficient capital to absorb losses and support operations during adverse economic conditions. In June 2018, the FRB announced its decision not to object to BFC's capital plan as evaluated under the 2018 CCAR assessment. Results under the DFAST supervisory severely adverse scenario indicate that the capital ratios for BFC and its bank subsidiary BMO Harris Bank N.A. are above well-capitalized levels, as disclosed in their results in June 2018. BFC's own mid-cycle company-run stress tests (under DFAST) also indicate that the capital ratios for BFC are above well-capitalized levels, as disclosed in their results in October 2018.

### Regulatory Capital <sup>(1)</sup>

(Canadian \$ in millions)  
As at October 31

|  | 2018          | 2017          |
|--|---------------|---------------|
| <b>Common Equity Tier 1 capital: instruments and reserves</b>  |               |               |
| Directly issued qualifying common share capital plus related stock surplus   | 13,229        | 13,339        |
| Retained earnings  | 25,856        | 23,709        |
| Accumulated other comprehensive income (and other reserves)  | 2,302         | 3,066         |
| Goodwill and other intangibles (net of related tax liability)  | (8,261)       | (7,885)       |
| Other common equity Tier 1 capital deductions  | (405)         | (1,596)       |
| <b>Common Equity Tier 1 capital (CET1)</b>   | <b>32,721</b> | <b>30,633</b> |
| <b>Additional Tier 1 capital: instruments</b>  |               |               |
| Directly issued qualifying Additional Tier 1 instruments plus related stock surplus  | 4,050         | 3,650         |
| Directly issued capital instruments subject to phase-out from Additional Tier 1  | 740           | 1,040         |
| Additional Tier 1 instruments (and CET1 instruments not otherwise included) issued by subsidiaries and held by third parties (amount allowed in group AT1) | -             | -             |
| <i>of which: instruments issued by subsidiaries subject to phase-out</i>   | -             | -             |
| <b>Total regulatory adjustments applied to Additional Tier 1 capital</b>   | <b>(291)</b>  | <b>(215)</b>  |
| <b>Additional Tier 1 capital (AT1)</b>   | <b>4,499</b>  | <b>4,475</b>  |
| <b>Tier 1 capital (T1 = CET1 + AT1)</b>  | <b>37,220</b> | <b>35,108</b> |
| <b>Tier 2 capital: instruments and provisions</b>  |               |               |
| Directly issued qualifying Tier 2 instruments plus related stock surplus   | 6,639         | 3,976         |
| Directly issued capital instruments subject to phase-out from Tier 2 capital   | 143           | 1,053         |
| Tier 2 instruments (and AT1 instruments not included) issued by subsidiaries and held by third parties (amount allowed in group Tier 2)                    | -             | -             |
| <i>of which: instruments issued by subsidiaries subject to phase-out</i>   | -             | -             |
| General allowance  | 235           | 509           |
| <b>Total regulatory adjustments to Tier 2 capital</b>  | <b>(121)</b>  | <b>(50)</b>   |
| <b>Tier 2 capital (T2)</b>   | <b>6,896</b>  | <b>5,488</b>  |
| <b>Total capital (TC = T1 + T2)</b>  | <b>44,116</b> | <b>40,596</b> |

(1) Non-qualifying Tier 1 and Tier 2 capital instruments are 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 \$32.7 billion and \$37.2 billion, respectively, at October 31, 2018, up from \$30.6 billion and \$35.1 billion, respectively, at October 31, 2017. CET1 capital increased, largely driven by retained earnings growth net of share repurchases. The increase in Tier 1 capital since October 31, 2017 was mainly due to the factors impacting CET1 capital.

Total capital was \$44.1 billion at October 31, 2018, up from \$40.6 billion at October 31, 2017, attributable to the growth in Tier 1 capital discussed above, and the issuances of subordinated notes, net of redemptions.

## Changes in Risk-Weighted Assets

Total CET 1 Capital RWA were \$289.2 billion at October 31, 2018, up from \$269.5 billion at October 31, 2017. Credit Risk RWA were \$240.5 billion at October 31, 2018, up from \$219.8 billion at October 31, 2017. The increase was largely due to business growth and foreign exchange impacts, partially offset by positive asset quality changes. As noted above, the impact of foreign exchange movements is largely offset in the CET1 Ratio. Market Risk RWA were \$13.5 billion at October 31, 2018, up from \$8.4 billion at October 31, 2017, largely attributable to business growth, mainly driven by an acquisition, and market variables, partially offset by methodology and policy changes. Operational Risk RWA were \$35.2 billion at October 31, 2018, up from \$32.8 billion at October 31, 2017, primarily due to growth in the bank's average gross income. There was no capital floor RWA adjustment at October 31, 2018, down from \$8.4 billion at October 31, 2017.

| (Canadian \$ in millions)<br>As at October 31                     | 2018    | 2017    |
|---|---------|---------|
| Credit Risk   |         |         |
| Wholesale   |         |         |
| Corporate, including specialized lending                          | 112,394 | 100,421 |
| Corporate small and medium-sized enterprises                      | 39,496  | 35,246  |
| Sovereign   | 3,323   | 1,627   |
| Bank  | 4,790   | 5,892   |
| Retail  |         |         |
| Residential mortgages, excluding home equity line of credit       | 9,527   | 7,984   |
| Home equity line of credit  | 4,846   | 5,426   |
| Qualifying revolving retail                                       | 5,452   | 5,465   |
| Other retail, excluding small and medium-sized enterprises        | 12,078  | 11,258  |
| Retail small and medium-sized enterprises                         | 7,264   | 7,582   |
| Equity  | 1,971   | 1,626   |
| Trading book  | 9,693   | 9,542   |
| Securitization  | 2,295   | 2,476   |
| Other credit risk assets – non-counterparty managed assets        | 16,776  | 15,631  |
| Scaling factor for credit risk assets under AIRB Approach (1)     | 10,595  | 9,648   |
| Total Credit Risk   | 240,500 | 219,824 |
| Market Risk   | 13,532  | 8,448   |
| Operational Risk  | 35,205  | 32,773  |
| CET1 Capital Risk-Weighted Assets before Capital floor            | 289,237 | 261,045 |
| Basel I Capital Floor (2)   | -       | 8,421   |
| CET1 Capital Risk-Weighted Assets                                 | 289,237 | 269,466 |
| Tier 1 Capital Risk-Weighted Assets before CVA and Capital floor  | 289,237 | 261,045 |
| Additional CVA adjustment, prescribed by OSFI, for Tier 1 Capital | 183     | 290     |
| Basel I Capital Floor (2)   | -       | 8,131   |
| Tier 1 Capital Risk-Weighted Assets                               | 289,420 | 269,466 |
| Total Capital Risk-Weighted Assets before CVA and Capital floor   | 289,237 | 261,045 |
| Additional CVA adjustment, prescribed by OSFI, for Total Capital  | 367     | 522     |
| Basel I Capital Floor (2)   | -       | 7,899   |
| Total Capital Risk-Weighted Assets                                | 289,604 | 269,466 |

(1) The scaling factor is applied to 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. OSFI revised its capital floor calculation effective second quarter of fiscal 2018 as discussed in the Regulatory Capital Developments section.

## 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, 2018)

| BMO Financial Group                                  |                                 |                       |                     |                    |
|--|---------------------------------|-----------------------|---------------------|--------------------|
| Operating Groups                                     | Personal and Commercial Banking | BMO Wealth Management | BMO Capital Markets | Corporate Services |
| <b>Economic Capital by Risk Type (%)</b>             |                                 |                       |                     |                    |
| Credit   | 78%                             | 29%                   | 69%                 | 55%                |
| Market   | 5%                              | 23%                   | 14%                 | 25%                |
| Operational/Other                                    | 17%                             | 48%                   | 17%                 | 20%                |
| <b>RWA by Risk Type</b><br>(Canadian \$ in millions) |                                 |                       |                     |                    |
| Credit   | 158,975                         | 12,990                | 57,286              | 11,249             |
| Market   | -                               | 37                    | 13,495              | -                  |
| Operational  | 19,338                          | 6,042                 | 9,825               | -                  |

## Capital Management Activities

On June 1, 2018, we renewed our normal course issuer bid (NCIB) effective for one year. Under this NCIB, we may purchase up to 20 million of our common shares for cancellation. The NCIB is a regular part of BMO's capital management strategy. 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 2018, we repurchased and cancelled 10 million of our common shares as part of the NCIB at an average cost of \$99.05 per share, totalling \$991 million. Of these common shares, 7 million were purchased on the TSX and 3 million were purchased pursuant to a specific share repurchase program. Specific share repurchases were made from an arm's-length third-party seller at a discount to the prevailing market price of our common shares on the TSX at the time of the purchases.

During 2018, BMO issued approximately 1.5 million common shares through the exercise of stock options.

During 2018, 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, 2018  | Issuance or redemption date | Number of shares | Amount    |
|--|-----------------------------|------------------|-----------|
| <b>Common shares issued</b>  |                             |                  |           |
| Stock options exercised  |                             | 1.5              | \$ 99     |
| <b>Tier 1 Capital (1)</b>  |                             |                  |           |
| Issuance of Non-Cumulative 5-Year Rate Reset Class B Preferred Shares, Series 44   | September 17, 2018          | 16               | \$ 400    |
| Redemption of Non-Cumulative 5-Year Rate Reset Class B Preferred Shares, Series 16 | August 25, 2018             | (6.3)            | \$ (157)  |
| Redemption of Non-Cumulative Floating Rate Class B Preferred Shares, Series 17     | August 25, 2018             | (5.7)            | \$ (143)  |
| <b>Tier 2 Capital (1)</b>  |                             |                  |           |
| Issuance of 3.803% Subordinated Notes due 2032                                     | December 12, 2017           |                  | US\$1,250 |
| Issuance of 4.338% Subordinated Notes due 2028                                     | October 5, 2018             |                  | US\$ 850  |
| Redemption of Series F Medium-Term Notes, First Tranche                            | March 28, 2018              |                  | \$ (900)  |

(1) For further details on subordinated debt and share capital, see Notes 15 and 16 of the consolidated financial statements on pages 181 and 182, respectively.

If an NVCC trigger event were to occur, our NVCC capital instruments 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 2.87 billion BMO common shares, assuming no accrued interest and no declared and unpaid dividends.

On November 16, 2018, BMO Capital Trust II, a subsidiary of Bank of Montreal, announced its intention to redeem all of its \$450 million issued and outstanding BMO Tier 1 Notes – Series A on December 31, 2018.

Further details are provided in Notes 15 and 16 of the consolidated financial statements on pages 181 and 182, respectively.

## Outstanding Shares and NVCC Capital Instruments

| As at October 31, 2018          | Number of shares<br>or dollar amount<br>(in millions) | Dividends declared per share |         |         |
|---------------------------------|---|------------------------------|---------|---------|
|                                 |   | 2018                         | 2017    | 2016    |
| <b>Common shares</b>            | 639   | <b>\$ 3.78</b>               | \$ 3.56 | \$ 3.40 |
| <b>Class B Preferred shares</b> |   |                              |         |         |
| Series 14 (1)                   | -   | -                            | \$ 0.66 | \$ 1.31 |
| Series 15 (1)                   | -   | -                            | \$ 0.73 | \$ 1.45 |
| Series 16 (2)                   | -   | <b>\$ 0.64</b>               | \$ 0.85 | \$ 0.85 |
| Series 17 (2)                   | -   | <b>\$ 0.52</b>               | \$ 0.55 | \$ 0.53 |
| Series 25 (3)                   | \$ 236  | <b>\$ 0.45</b>               | \$ 0.45 | \$ 0.84 |
| Series 26 (3)                   | \$ 54   | <b>\$ 0.59</b>               | \$ 0.43 | \$ 0.10 |
| Series 27*                      | \$ 500  | <b>\$ 1.00</b>               | \$ 1.00 | \$ 1.00 |
| Series 29*                      | \$ 400  | <b>\$ 0.98</b>               | \$ 0.98 | \$ 0.98 |
| Series 31*                      | \$ 300  | <b>\$ 0.95</b>               | \$ 0.95 | \$ 0.95 |
| Series 33*                      | \$ 200  | <b>\$ 0.95</b>               | \$ 0.95 | \$ 0.95 |
| Series 35*                      | \$ 150  | <b>\$ 1.25</b>               | \$ 1.25 | \$ 1.25 |
| Series 36*                      | \$ 600  | <b>\$58.50</b>               | \$58.50 | \$65.03 |
| Series 38*                      | \$ 600  | <b>\$ 1.21</b>               | \$ 1.33 | -       |
| Series 40*                      | \$ 500  | <b>\$ 1.13</b>               | \$ 0.80 | -       |
| Series 42*                      | \$ 400  | <b>\$ 1.10</b>               | \$ 0.45 | -       |
| Series 44*                      | \$ 400  | -                            | -       | -       |
| <b>Medium-Term Notes</b>        |   |                              |         |         |
| Series H – First Tranche* (4)   | \$1,000   | <b>na</b>                    | na      | na      |
| Series H – Second Tranche* (4)  | \$1,000   | <b>na</b>                    | na      | na      |
| Series I – First Tranche* (4)   | \$1,250   | <b>na</b>                    | na      | na      |
| Series I – Second Tranche* (4)  | \$ 850  | <b>na</b>                    | na      | na      |
| 3.803% Subordinated Notes* (4)  | US\$1,250   | <b>na</b>                    | na      | na      |
| 4.338% Subordinated Notes* (4)  | US\$ 850  | <b>na</b>                    | na      | na      |
| <b>Stock options</b>            |   |                              |         |         |
| Vested                          | 3.8   |                              |         |         |
| Non-vested                      | 2.3   |                              |         |         |

\* Convertible into common shares

(1) Redeemed in May 2017.

(2) Redeemed in August 2018.

(3) In August 2016, approximately 2.2 million Series 25 Preferred Shares were converted into Series 26 Preferred Shares on a one-for-one basis.

(4) Note 15 of the consolidated financial statements on page 181 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, USD 3.803% Subordinated Notes and USD 4.338% Subordinated Notes.

na – not applicable

Note 16 of the consolidated financial statements on page 182 includes details on share capital.

## Dividends

Dividends declared per common share in fiscal 2018 totalled \$3.78. Annual dividends declared represented 50.9% of reported net income and 43.8% 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 3.9% annualized dividend yield based on the year-end closing share price. On December 4, 2018, BMO announced that the Board of Directors had declared a quarterly dividend on common shares of \$1.00 per share, up \$0.04 per share or 4% from the prior quarter and up \$0.07 per share or 8% from a year ago. The dividend is payable on February 26, 2019, to shareholders of record on February 1, 2019.

Common shareholders may elect to have their cash dividends reinvested in common shares of BMO in accordance with the Shareholder Dividend Reinvestment and Share Purchase Plan (DRIP). In fiscal 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 the pages on which these disclosures appear in our Annual Report or Supplementary Financial Information is provided on page 126.

### 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 in the recession, and our existing portfolio has performed well within our risk appetite.

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 of 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 for which our assessment indicates a higher level of credit risk. BMO has some exposure to leveraged finance loans, which represented 1.7% of our total assets, with \$13.5 billion outstanding at October 31, 2018 (1.8% and \$12.7 billion, respectively, in 2017). Of this amount, \$129 million or 1.0% of leveraged finance loans were classified as impaired (\$197 million or 1.6% in 2017).

### 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 three Canadian customer securitization vehicles and one U.S. customer securitization vehicle). We earn fees for providing services related to these customer securitization vehicles, including liquidity, distribution and financial arrangement fees for supporting the ongoing operations of the vehicles. These fees totalled approximately \$97 million in 2018 (\$104 million in 2017).

#### Canadian Customer Securitization Vehicles

The customer securitization vehicles we sponsor in Canada provide our customers with access to financing either from BMO or in the asset-backed commercial paper (ABCP) markets. Customers sell their assets either 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. None of the sellers are affiliated with BMO.

Our exposure to potential losses arises from our purchase of ABCP issued by the vehicles, any related derivative contracts we have entered into with the vehicles and the liquidity support we provide to the market-funded vehicles. 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 market-funded, while the 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 165 of the consolidated financial statements. No losses were recorded on any of BMO's exposures to these vehicles in 2018 and 2017.

The market-funded vehicles had a total of \$4.1 billion of ABCP outstanding at October 31, 2018 (\$3.8 billion in 2017). The ABCP issued by the market-funded vehicles is rated R-1(high) by DBRS and P1 by Moody's. BMO's purchases of ABCP, as distributing agent of ABCP issued by the market-funded vehicles, totalled \$12 million at October 31, 2018 (\$6 million in 2017).

BMO provided liquidity support facilities for the market-funded vehicles totalling \$5.6 billion at October 31, 2018 (\$5.0 billion in 2017).

This amount comprised part of our commitments outlined in Note 24 on page 201 of the consolidated financial statements. All of these facilities remain undrawn. The assets of each of these market-funded 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 82% (90% in 2017) of the aggregate assets of these vehicles.

#### U.S. Customer Securitization Vehicle

We sponsor one 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 165 of the consolidated financial statements. This market-funded 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. None of the sellers are affiliated with BMO.

Our exposure to potential losses arises from our purchase of 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, just 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 2018 and 2017.

The vehicle had US\$2.9 billion of ABCP outstanding at October 31, 2018 (US\$3.1 billion in 2017). The ABCP issued by 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 in 2017, BMO held US\$159 million of the vehicle's ABCP at October 31, 2018 (US\$185 million in 2017).

BMO provides a committed liquidity support facility to the vehicle, with the undrawn amount totalling US\$5.4 billion at October 31, 2018 (US\$5.2 billion in 2017). This amount comprised part of our commitments outlined in Note 24 on page 201 of the consolidated financial statements. The assets of this customer securitization vehicle consist primarily of exposure 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 74% (78% in 2017) 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 credit 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 \$163 billion at October 31, 2018 (\$147 billion in 2017). However, this amount is not representative of our likely credit exposure or the liquidity requirements for these instruments, as it does not take into account customer behaviour, which suggests that only a portion of our customers would 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 24 on page 201 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)

We carry out certain business activities through arrangements involving SEs, using them to raise capital, secure customer transactions or obtain sources of liquidity by securitizing certain of our financial assets. Note 6 on page 164 of our consolidated financial statements describes our loan securitization activities carried out through third-party programs. Under IFRS, we consolidate SEs if we control the entity.

Our interests in SEs are discussed in detail on page 76 in the BMO-Sponsored Securitization Vehicles section and in Note 7 on page 165 of the consolidated financial statements, which discusses our interests in both consolidated and unconsolidated SEs. We consolidate our securitization vehicles, U.S. customer securitization vehicles, and certain capital and funding vehicles. We do not consolidate our Canadian customer securitization vehicles, certain capital vehicles, various BMO managed funds and various other structured entities where we hold investments.

### 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 approximately \$25 billion at October 31, 2018 (\$24 billion in 2017). 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 would 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 24 on page 201 of the consolidated financial statements.

#### Caution

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

# 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 (1)

**Enterprise-Wide Risk Management** outlines our approach to managing key financial risks and other related risks that we face, as discussed in the following sections:

|     |                                      |     |                               |
|-----|--------------------------------------|-----|-------------------------------|
| 79  | Risks That May Affect Future Results | 109 | Operational Risk              |
| 81  | Risk Management Overview             | 111 | Model Risk                    |
| 82  | Framework and Risks                  | 112 | Legal and Regulatory Risk     |
| 87  | Credit and Counterparty Risk         | 114 | Business Risk                 |
| 95  | Market Risk                          | 115 | Strategic Risk                |
| 100 | Insurance Risk                       | 115 | Environmental and Social Risk |
| 100 | Liquidity and Funding Risk           | 116 | Reputation Risk               |

## 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, effectiveness, and efficiency in the management of risk.

## Priorities

- Make our processes simple and accelerate our delivery times to match the increasing pace of business.
- Continue to develop technology and analytics that underpin our risk processes, risk assessment and monitoring, and our cyber and anti-money laundering defences.
- Focus on our people and how we work together to enhance our culture.

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 2018 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 148 and Note 5 on page 164 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 27.

(1) Surjit Rajpal will retire at the end of January 2019. Patrick Cronin, previously Group Head, BMO Capital Markets, was appointed Chief Risk Officer, BMO Financial Group, effective November 1, 2018.

## Risks That May Affect Future Results

### Top and Emerging Risks That May Affect Future Results

BMO is exposed to a variety of evolving risks that have the potential to affect our business, the results of our operations and our financial condition. The essential tasks in our risk management process are 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, and combines 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 related to our exposure to certain events.

In 2018, particular attention was given to the following:

#### **Cyber Security, Information Security and Privacy Risk**

Information security is integral to BMO's business activities, brand and reputation. In the past year, cyber-attacks and privacy breaches have been significant concerns across all industries, including banking, making this a top risk for BMO. Given our pervasive use of the internet and our reliance on advanced digital technologies, we face common banking information security risks, including the threat of hacking, loss or exposure of customer or employee information, 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. We continue to increase our investments in defensive technology, talent and processes in order to prevent or detect and manage cyber security threats within BMO and at our service providers. These measures include benchmarking and review of best practices across the banking and cyber security industries, external review of incidents related to cyber security, 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 our third-party service providers to monitor their alignment with standards, and we actively participate in thought leadership forums to learn about emerging threats. We also work with information security and industry groups to bolster our internal resources and technology capabilities in order to improve our ability to remain resilient in a rapidly evolving threat landscape.

#### **Escalating Trade Conflicts**

Notwithstanding the recent trade agreement between the United States, Canada and Mexico, support for protectionism and rising anti-globalization sentiment in the United States and other countries may slow global growth. In particular, a protracted and wide-ranging trade conflict between the United States and China could adversely affect global economic growth, and could be especially problematic for commodity-producing countries, such as Canada.

Although it is difficult to predict and mitigate the potential economic and financial consequences of trade-related events, we actively monitor global and North American trends and continually assess our portfolio and business strategies in the context of those trends. 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 address and offset the consequences of possible adverse political and/or economic developments. In addition, we have the advantage of an integrated North American strategy across diverse industries and geographies.

Our credit exposure by geographic region is provided in Tables 7, 8 and 11 to 13 on pages 132 to 137 and in Note 4 on page 157 of the consolidated financial statements.

#### **Canadian Housing Market**

While recent resale market activity suggests that the Canadian housing market is stabilizing, there are a range of economic and regulatory developments that could continue to weight on sales activity and home prices. These developments include rising interest rates and the prospect of future rate hikes by the Bank of Canada, regulatory changes in Ontario and British Columbia that are intended to prevent the Greater Toronto Area (GTA) and Greater Vancouver Area (GVA) housing markets from overheating, as well as stricter mortgage rules introduced by OSFI that took effect at the beginning of 2018. Lower levels of sales activity, particularly in the GTA and GVA, would impact mortgage origination volumes and, if property values were to decline, would reduce the value of collateral backing of our loans. It is not possible to accurately predict the full impact of these recent changes and any potential future changes, but robust economic conditions in these regions, including sustained economic growth, low unemployment and population growth, support our expectation of continued low 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 the 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 even significant price declines and recessionary economic conditions would result in manageable losses, in part due to insurance coverage and to the significant equity built up in seasoned loans.

#### **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 less stringent regulatory requirements and oversight. New entrants may leverage new technologies, advanced data and analytical tools, lower costs to serve and/or faster processes in order to challenge traditional banks. These challenges could include new business models in retail payments, consumer and commercial lending and foreign exchange, as well as low-cost investment advisory services. Failure to keep pace with these new technologies and the competition they enable could 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 in order to keep pace with evolving customer expectations. This includes improving our mobile and internet banking capabilities, building new branch formats, and refining our credit decisioning, analytical and modelling data and tools, as well as bringing new and enhanced customer solutions to market. We further mitigate this risk by offering our customers access to banking services across different channels, focusing on improving customer trust and loyalty, and leveraging current and future partnerships with fintech companies in order to deliver a valued customer experience at a competitive cost and through 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.

### Geopolitical Risk

Despite an easing of tensions between the United States and North Korea, geopolitical risk remains elevated, as a result of strained relations among many countries, including between the United States and Russia, China and Iran, and ongoing disputes across the Middle East and North Africa. Heightened geopolitical risk can give rise to uncertainty in global investment, which may lead to market disruptions and a decrease in growth and trade. Our core banking portfolio has limited direct exposure outside North America; however, our core customers and our international strategy depend on continued growth and trade. To mitigate our exposure to geopolitical risk, we maintain a diversified portfolio which we continually monitor and test, in addition to contingency plans that we establish for possible adverse developments.

### Other Factors That May Affect Future Results

#### General Economic Conditions and Fiscal and Monetary Policies in the Countries in which We Conduct Business

Our earnings are affected by general economic conditions and the fiscal, monetary and other economic policies in place in Canada, the United States and other jurisdictions in which we conduct business. These policies and conditions 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 can have an impact on our earnings, the value of our investments, the credit quality of lending to our customers and our counterparty exposure, and the capital markets that we access. In the current environment of ongoing late-cycle growth and low unemployment, there is a heightened risk that inflation may exceed expectations, prompting faster than expected increases in interest rates. This in turn would increase the risk of a material slowdown in growth or a recession in our Canadian and U.S. markets. Conversely, 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 clients that have significant foreign earnings or input costs in CAD or USD. As BMO reports in Canadian dollars, the CAD/USD foreign exchange movements will impact our U.S. loan risk-weighted assets, and thus our capital ratio. The value of the Canadian dollar relative to USD will also affect the contribution of our U.S. operations to Canadian dollar profitability.

Hedging positions may be taken to manage interest rate exposures and partially offset the effects of CAD/USD exchange rate fluctuations on our financial results. Refer to the Foreign Exchange section on page 34, the Enterprise-Wide Capital Management section on page 69, and the Market Risk section on page 95 for a more complete discussion of our foreign exchange and interest rate risk exposures.

#### 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 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 our 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 and implement any necessary changes. We are currently working to restructure our European businesses in order to continue to service our European clients and counterparties while remaining compliant with new regulatory requirements, following the United Kingdom's announced intention to leave the European Union, effective March 29, 2019 (Brexit). In addition to changes in our client facing elements, we are addressing aspects of Brexit that impact our staff, suppliers and access to market infrastructure.

Failure to comply with applicable legal and regulatory requirements could result in litigation, financial losses, regulatory sanctions, enforcement actions, an inability to execute our business strategies, a decline in investor and customer confidence, and damage to our reputation. Refer to the Legal and Regulatory Risk and Enterprise-Wide Capital Management sections on pages 112 and 69, respectively, for a more complete discussion of our exposure to legal and regulatory risk.

#### Tax Legislation and Interpretations

Legislative changes and changes in tax policy, including their interpretation by taxing authorities and the courts, may impact our earnings. Tax laws, as well as interpretations 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 improve tax-related reporting. Refer to the Critical Accounting Estimates section on page 119 for further discussion of 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 reductions in 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.

### Environmental Events

We face risks arising from environmental events, such as drought, floods, wildfires, earthquakes, and hurricanes and other storms. These events could potentially disrupt our operations, impact our customers and counterparties, and result in reduced earnings and higher losses. Factors contributing to increased environmental risks include the impacts of climate change and continued intensification of development in areas of greater environmental sensitivity. Our business continuity management provides us with the capability to restore, maintain and manage critical operations and processes in the event of a business disruption. In addition, we also support the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD), and we are considering the integration of climate-related scenario analysis into our risk management and strategic processes. This includes evaluation of credit risk associated with assumptions around the global transition to a low carbon economy identified by the TCFD. The goal is to enhance our understanding of the evolving impact of risks associated with environmental events and climate change, together with possible mitigation strategies. Refer to the Environmental and Social Risk section on page 115 for a discussion of our support of the TCFD.

### 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 page 121, as well as in Note 1 on page 148 of the consolidated financial statements.

The application of IFRS requires management to make significant judgments and estimates that affect the carrying amounts of certain assets and liabilities, certain amounts reported in net income and other related disclosures. 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 117.

### Benchmark Interest Rate Reform

The London Interbank Offered Rate (LIBOR), Euro Interbank Offered Rate, Canadian Dollar Offered Rate and other rates and indices deemed to be benchmarks have been the subject of recent national and international regulatory guidance and proposals for reform. For example, in July 2017, the Financial Conduct Authority in the United Kingdom announced that it will no longer compel banks to participate in LIBOR after 2021.

Transition efforts in connection with these reforms are complex, with significant risks and challenges. Such reforms, and any future initiatives to regulate, reform or change the manner of administration of benchmarks, could result in adverse consequences for the return on, value and market for securities and other instruments with returns that are linked to any such benchmark, including those issued by BMO or its subsidiaries. Discontinuance of, or changes to, benchmark rates as a result of these developments, along with uncertainty about the timing and manner of implementation of such changes or discontinuances, may require adjustments to agreements in which current benchmark rates are referenced by us, our clients and other market participants, as well as to our systems and processes.

#### Caution

The Risks That May Affect Future Results section and the remainder of this Enterprise-Wide Risk Management section contain forward-looking statements. Please see the Caution Regarding 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 29. 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
- Diversify. Limit tail risk
- Maintain strong capital and liquidity
- Optimize risk return
- Protect our reputation

Our integrated and disciplined approach to risk management is fundamental to the success of our business. All elements of our risk management framework function 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 in order to achieve prudent and measured risk-taking that is integrated with our business strategy.

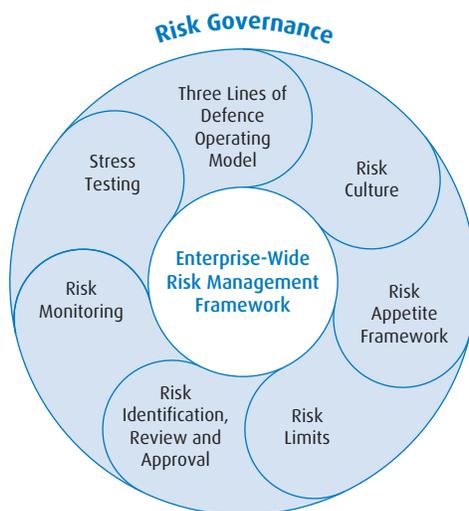
## Framework and Risks

### Culture and Conduct Framework

Our ethical culture influences how we conduct ourselves, enabling us to deliver positive outcomes for our customers and contribute to the orderly operation of financial markets. Misconduct is behaviour that falls short of legal, professional, internal conduct and ethical standards. Our management approach to culture and conduct is centred on the key themes of our people, customers and markets. We manage and mitigate the potential for misconduct through various risk management processes and procedures using their information and insights to develop an enterprise perspective.

### Enterprise-Wide Risk Management Framework

Our enterprise-wide risk management framework assists the bank in managing its risk-taking activities and ensuring they remain within our risk appetite.



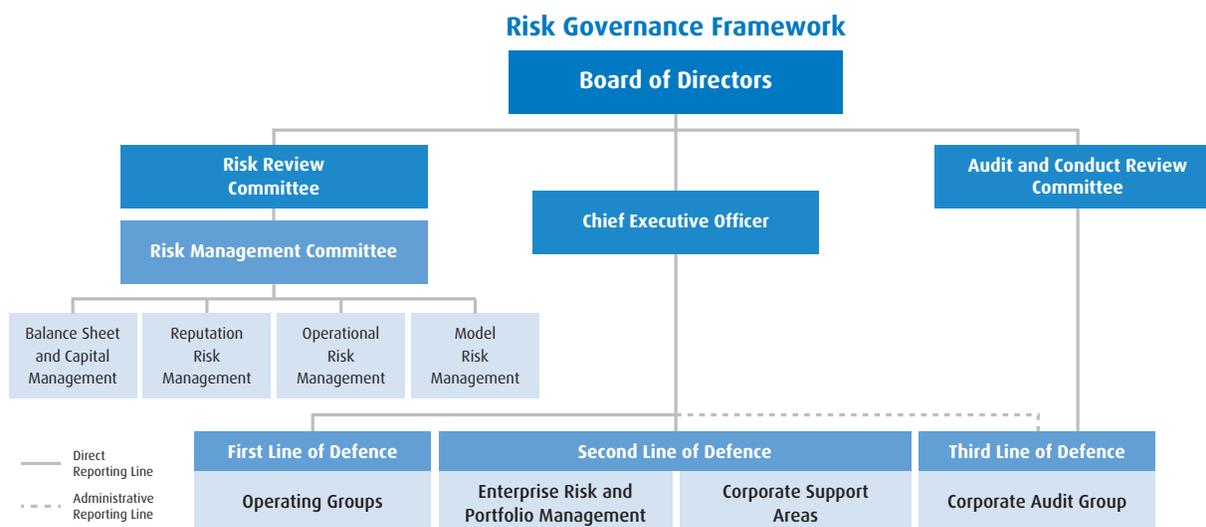
These risk framework elements are discussed in more detail in the sections that follow.

### 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 and counterparty, 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 in order to provide oversight and guide our risk-taking activities. In each of our operating groups, management, as the first line of defence, is responsible for governance activities and controls, and the implementation and operation of risk management processes and procedures that provide effective risk management. Enterprise Risk and Portfolio Management, as the primary second line of defence, oversees the implementation and operation of our risk management processes and procedures with a view to effectively aligning outcomes with our overall risk management framework. Individual governance committees establish and monitor further risk limits, consistent with and in furtherance of Board-approved limits.

The diagram below outlines our risk governance framework, including both the direct and administrative reporting lines.



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 of 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 auditors' 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 Enterprise Risk and Portfolio Management.

**Chief Risk Officer (CRO)** reports directly to the CEO and is head of ERPMM 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 Chief Financial Officer (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 (ERPMM)**, 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. ERPMM 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 risk 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 ERPMM. Individual governance committees and ERPMM establish and monitor further risk 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 call 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 effectiveness 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 certain 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 seek to balance risks and opportunities and optimize risk-adjusted returns. Each member of our senior management plays a critical role in fostering a strong risk culture among all employees by effectively communicating this responsibility, by the example of their own actions and by establishing and enforcing compensation plans and other incentives that are designed to encourage and reward appropriate 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" approach to risk management 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 added 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 support our risk culture.

Certain elements of our risk culture are embedded across the enterprise, and these include:

- **Risk appetite** – promotes a clear understanding of the most prevalent risks that our businesses face, shapes and informs business strategies to align them 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. Our risk culture also 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 of our enterprise-wide risk management framework and do not encourage excessive risk-taking. Our risk managers have input into the design of incentive programs that may have an effect on risk-taking, and provide input into the performance assessment of employees who take material risks or who are responsible for losses or events that give rise to 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 role 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 that 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 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, thereby supporting 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, managed and monitored
- 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 setting and maintaining 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, standards and internal 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 while also adhering 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 also 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, as well as limits on value at risk and stress related to trading and underwriting activities
- Insurance Risk – limits on policy exposures 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
- 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 then delegates overall authority for these limits to the CEO. The CEO in turn 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 under which 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 that is 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 and regulatory, accounting, tax or reputation risk are reviewed by the Reputation Risk Management Committee or the Trading Products Risk Committee, as appropriate, and are also reviewed through our operational risk management process if they involve structural or operational complexity that may give rise to 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 based on the initiative's investment spend and inherent risk.
- **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 that the enterprise currently faces, along with associated metrics. 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 they 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 involves 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, are 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 into our enterprise and group risk appetite statements and embedded in our management processes. To evaluate our risks, we regularly test a range of scenarios, which vary in frequency, severity and complexity, in our portfolios and businesses 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 Committee. This committee is comprised of business, risk and finance executives, and is accountable for reviewing and challenging enterprise-wide 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 utilized 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. 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 that 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 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 assess 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 a similar focus on the effective application of our risk management processes and procedures. These risk types are shown below, with risk types that lend themselves to management by way of quantitative analysis presented above those risks primarily managed through more qualitative techniques. Details on each of these risk types are provided starting on page 87.



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, 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 that all material credit risks to which the enterprise is exposed are identified, measured, managed, monitored and reported. The RRC has oversight of the management of all material risks that we face, 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 (both notional and capital-based), 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. With limited exceptions, credit officers in ERPM approve all credit transactions and are accountable for providing an objective independent assessment of the lending recommendations and risks assumed by the lending officers. All of these skilled and experienced individuals in the first and second lines of defence 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 discretionary lending 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 acceptable lending standards within the enterprise risk appetite, as well as compliance with 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 no less frequently than annually. The frequency of review increases in accordance with the likelihood and size of potential credit losses, and deteriorating higher-risk situations are 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, and more frequently where appropriate, 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, provisions for credit losses, negative credit migration and significant emerging credit risk issues. This facilitates the RRC and senior management committees to effect any measures they may decide to take.

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 also subject to the credit oversight, limit framework and approval processes 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 exposure to CCR, we often use a regulated central counterparty (CCP) that intermediates between counterparties for contracts in financial markets. CCPs aim to mitigate risk through the use of margin requirements (both initial and variation) and a default management process, including a default fund and other resources. Our exposures to CCPs are subject to the same credit risk governance, monitoring and rating framework we apply to all other corporate accounts.

Material presented in a blue-tinted font above is an integral part of the 2018 annual consolidated financial statements (see page 78).

## 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 trading counterparties, we may enter into legally enforceable netting agreements for on-balance sheet credit exposures, when 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.

Collateral for our derivatives trading counterparty exposures is primarily comprised of cash and high-quality liquid securities (U.S. and Canadian treasury securities, U.S. agency securities, Canadian provincial government securities and certain high-quality European sovereign 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, frequently 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 another party exceeds an agreed threshold. Collateral transferred can include an independent initial margin and/or variation margin. Credit Support Annexes contain, among other things, provisions setting out acceptable types of collateral and a method for their valuation (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.

Many G20 jurisdictions are implementing new regulations that require certain counterparties with significant OTC derivatives exposures to post or collect prescribed types and amounts of collateral for uncleared OTC derivatives transactions. For additional discussion, see Legal and Regulatory Risk – Derivatives Reform on page 114.

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.

On a periodic basis, collateral is subject to 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 commercial real estate collateral, a full external appraisal of the property is typically obtained at the time of loan origination, unless the exposure 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.

When a commercial loan is determined to be impaired, a thorough review of collateral is conducted and updated external appraisals or valuations may be obtained. Quarterly reviews are then completed and collateral positions are reviewed and updated as deemed appropriate.

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. We may use an external service provided by Canada Mortgage and Housing Corporation or an automated valuation model provided by our appraisal management company to assist with determining either the current value of a property or the necessity of a full property appraisal.

For insured mortgages in Canada with a high LTV ratio (greater than 80%), we determine the value of the property through the default insurer.

### 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 segment (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, 2018 was to individual consumers, comprising \$238,400 million (\$223,962 million in 2017).

### Wrong-way Risk

Wrong-way risk occurs when our exposure to a counterparty or the magnitude of our potential loss is highly correlated with the counterparty's probability of default. There is specific wrong-way risk, which arises when the credit quality of the counterparty and the market risk factors affecting collateral or other risk mitigants 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 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 level 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.

Material presented in a blue-tinted font above is an integral part of the 2018 annual consolidated financial statements (see page 78).

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 primarily use the AIRB approach to determine credit RWA in our portfolios, including portfolios of our subsidiary BMO Financial Corp. Exposures under AIRB capital treatment account for 94% of total EAD of Wholesale and Retail portfolios, and the remaining is under the Standardized Approach. Waivers and exemptions to existing AIRB models are subject to OSFI's approval. The risk-weighted assets determined through this and other advanced approaches are currently subject to a Basel II standardized floor, as well as regulatory floor factor reductions. The Basel III Standardized Approach is currently being used for regulatory capital calculations related to the acquired Marshall & Ilsley Corporation and BMO Transportation Finance portfolios, and for certain other exposures that are considered to be immaterial. We continue to transition all material exposures in these portfolios to the AIRB Approach. For securitization exposures, we apply the Basel Hierarchy of Approaches, including the Supervisory Formula Approach (SFA) and External Credit Assessment (ECA), as well as an internal credit assessment under our standard credit risk management practices.

Our regulatory capital and economic capital frameworks both 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 calculated exposure, net of collateral.
- Capital is calculated based on exposures that, where applicable, have been redistributed to a more favourable PD band, LGD 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, 2018 and 2017, 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)      |         |
|---------------------------|----------------|---------|-----------------------|---------|-----------------|-------|-------------------------------|--------|-------------------------|---------|----------------|---------|
|                           | 2018           | 2017    | 2018                  | 2017    | 2018            | 2017  | 2018                          | 2017   | 2018                    | 2017    | 2018           | 2017    |
| Financial institutions    | <b>102,552</b> | 89,681  | <b>21,741</b>         | 19,457  | <b>1,649</b>    | 1,474 | <b>5,016</b>                  | 4,137  | <b>177,094</b>          | 139,187 | <b>308,052</b> | 253,936 |
| Governments               | <b>44,552</b>  | 36,829  | <b>2,118</b>          | 2,243   | <b>1</b>        | -     | <b>667</b>                    | 682    | <b>8,401</b>            | 10,626  | <b>55,739</b>  | 50,380  |
| Manufacturing             | <b>22,580</b>  | 19,737  | <b>13,490</b>         | 12,258  | <b>10</b>       | 9     | <b>1,396</b>                  | 1,360  | -                       | -       | <b>37,476</b>  | 33,364  |
| Real estate               | <b>31,534</b>  | 26,991  | <b>8,170</b>          | 6,472   | <b>1</b>        | -     | <b>820</b>                    | 829    | -                       | -       | <b>40,525</b>  | 34,292  |
| Retail trade              | <b>19,961</b>  | 18,242  | <b>3,617</b>          | 3,410   | -               | -     | <b>559</b>                    | 523    | -                       | -       | <b>24,137</b>  | 22,175  |
| Service industries        | <b>39,067</b>  | 34,723  | <b>12,666</b>         | 11,207  | <b>1</b>        | 1     | <b>2,389</b>                  | 2,831  | -                       | -       | <b>54,123</b>  | 48,762  |
| Wholesale trade           | <b>14,659</b>  | 11,440  | <b>4,531</b>          | 4,675   | <b>2</b>        | 1     | <b>436</b>                    | 481    | -                       | -       | <b>19,628</b>  | 16,597  |
| Oil and gas               | <b>9,131</b>   | 8,185   | <b>10,410</b>         | 7,706   | -               | -     | <b>1,804</b>                  | 1,496  | -                       | -       | <b>21,345</b>  | 17,387  |
| Individual                | <b>190,688</b> | 180,612 | <b>47,586</b>         | 43,223  | -               | -     | <b>126</b>                    | 127    | -                       | -       | <b>238,400</b> | 223,962 |
| Others (2)                | <b>35,617</b>  | 35,523  | <b>18,197</b>         | 15,709  | <b>88</b>       | 3     | <b>6,474</b>                  | 6,617  | -                       | -       | <b>60,376</b>  | 57,852  |
| Total exposure at default | <b>510,341</b> | 461,963 | <b>142,526</b>        | 126,360 | <b>1,752</b>    | 1,488 | <b>19,687</b>                 | 19,083 | <b>185,495</b>          | 149,813 | <b>859,801</b> | 758,707 |

(1) Credit exposure excluding equity, securitization, trading book and other assets such as non-significant investments, goodwill, deferred tax asset 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 111 to 112 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, auto loans and small business loans. These loans are managed in pools of homogeneous risk exposures for risk rating purposes. 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 risk based on individual loan characteristics. BMO has a range of internally developed PD, LGD and EAD models for each of the major retail portfolios. The major product lines within each of the retail risk areas are modelled separately, so that the risk-based parameters capture the distinct nature of each product. The models, in general, are designed based on internal data recorded over a period of more than seven years, and adjustments are made at the parameter level to account for any uncertainty. The retail parameters are tested and calibrated on an annual basis, if required, to incorporate additional data points in the parameter estimation process, ensuring that the most recent experience is incorporated. Our largest retail portfolios are the Canadian mortgage, Canadian home equity line of credit and Canadian retail credit card portfolio.

PD is the probability that an entity and/or credit facility will default within the next 12 months and is expressed as a percentage between 0% and 100%. The rating philosophy aligns each exposure to a homogenous PD pool with a current view of its default risk over the next 12 months and incorporates a future outlook beyond the 12-month period by calibrating the PD estimates to reflect long-run historical experience.

LGD is the amount of economic loss that BMO anticipates it may incur on a credit facility or pool as a result of default. BMO uses the economic LGD calculation, which discounts future recovery payments to the time of default, including collection costs. For capital purposes, the estimates are calibrated to reflect a downturn scenario.

EAD is the portion of a credit facility that is anticipated to be outstanding upon the occurrence of default. It is defined as the balance at default divided by the credit limit at the beginning of the year. The credit conversion factor (CCF), the undrawn factor, is the ratio of the additional amount drawn during the period from the beginning of the year to default over the undrawn amount at the beginning of the year. For non-revolving products, such as mortgages, EAD is equal to 100% of the current outstanding balance and has no undrawn component. For capital purposes, EAD and CCF estimates are calibrated to reflect a downturn scenario.

### 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, Bank and Sovereign)

Within our wholesale portfolios, we utilize an enterprise-wide risk rating framework that is applied to all our sovereign, bank, corporate and commercial counterparties. One key element of this framework is the assignment of appropriate borrower or counterparty risk ratings (BRRs). BMO has a range of internally designed general and sector-specific BRR models, as well as portfolio-level LGD and EAD models for each of the corporate, commercial, bank and sovereign portfolios.

The BRR models capture the key financial and non-financial characteristics of the borrowers and generate a borrower-level rating that reflects the ranking ordering of the default risk. The models are primarily designed by using internal data, supplemented with judgment as necessary, for low default portfolios. BRRs are assessed and assigned at the time of loan origination, and reassessed when borrowers request changes to credit facilities or when events trigger a review, such as an external rating change or covenant breach. BRRs are reviewed no less frequently than annually, and more frequent reviews are conducted for borrowers with less acceptable risk ratings. 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 rating within an asset class to reflect the long-run average of one-year default rates. PD estimates are updated annually and recalibrated, as required, to ensure alignment with long-run default rates over the economic cycle, supplemented by external benchmarking, as necessary.

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 model captures the priority of claim, collateral, product and sector characteristics of the credit facility extended to a borrower, and generates a facility-level LGD estimate.

An EAD estimate is the portion of a credit facility that is anticipated to be outstanding upon the occurrence of default. The model captures the facility type, sector and facility utilization rate characteristics of the credit facility extended to a borrower and generates a facility-level EAD estimate. The EAD credit conversion factor is calculated for eligible facilities by comparing usage amounts at time of default and one year prior to default. The authorization and drawn amounts, one year prior to default, are used to split each facility into its respective drawn and undrawn portions, where applicable.

LGD and EAD models have been developed for each asset class using internal data from a period of more than seven years that includes at least one full economic cycle, and results are benchmarked using external data, when necessary. For capital purposes, the models are calibrated to reflect a downturn scenario. The LGD and EAD estimates are updated annually and recalibrated as required by comparing the estimates to observed historical experience.

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 |
|---------------------------|--|--------------------------------------|
| <b>Acceptable</b>         |  |                                      |
| 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+                            |
| <b>Watchlist</b>          |  |                                      |
| P-1 to P-3                | B2 to Ca                                     | B to CC                              |
| <b>Default / Impaired</b> |  |                                      |
| T1, D-1 to D-4            | C  | C to D                               |

Material presented in a blue-tinted font above is an integral part of the 2018 annual consolidated financial statements (see page 78).

## Credit Quality Information

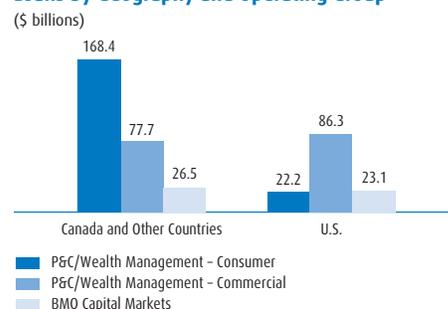
### Portfolio Review

Total enterprise-wide credit risk exposures were \$860 billion at October 31, 2018, comprised of \$445 billion in Canada, \$347 billion in the United States and \$68 billion in other jurisdictions.

This represents an increase of \$101 billion or 13% from the prior year.

BMO's loan book continues to be well-diversified by industry and geographic region. Gross loans and acceptances increased \$27 billion or 7% from the prior year to \$404 billion at October 31, 2018. The geographic mix of our Canadian and U.S. portfolios represented 65.1% and 32.5% of total loans, respectively, compared with 66.3% and 30.6% in 2017. Our loan portfolio is well-diversified, with the consumer loan portfolio representing 47.3% of the total portfolio, a decrease from 49.2% in 2017, and business and government loans representing 52.7% of the total portfolio, up from 50.8% in 2017.

### Loans by Geography and Operating Group



### 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          |                |
|--|----------------|----------------|------------------------|----------------|---------------|---------------|----------------|----------------|
|  | 2018           | 2017           | 2018                   | 2017           | 2018          | 2017          | 2018           | 2017           |
| Canada   |                |                |                        |                |               |               |                |                |
| Consumer   | 54,375         | 55,568         | 109,991                | 106,023        | 4,199         | 4,349         | 168,565        | 165,940        |
| Commercial and corporate (excluding real estate) | 57,530         | 49,693         | 16,438                 | 14,699         | 1,750         | 1,367         | 75,718         | 65,759         |
| Commercial real estate                           | 7,397          | 6,226          | 10,143                 | 8,997          | 1,275         | 1,453         | 18,815         | 16,676         |
| United States                                    | 33,688         | 33,382         | 71,928                 | 61,394         | 25,955        | 20,947        | 131,571        | 115,723        |
| Other countries                                  | 8,628          | 11,184         | 624                    | 920            | 294           | 684           | 9,546          | 12,788         |
| <b>Total</b>                                     | <b>161,618</b> | <b>156,053</b> | <b>209,124</b>         | <b>192,033</b> | <b>33,473</b> | <b>28,800</b> | <b>404,215</b> | <b>376,886</b> |

The following table presents net loans and acceptances by interest rate sensitivity:

| (Canadian \$ in millions)  | 2018           | 2017           |
|----------------------------|----------------|----------------|
| Fixed rate                 | 193,661        | 190,254        |
| Floating rate              | 190,330        | 168,253        |
| Non-interest sensitive (1) | 18,585         | 16,546         |
| <b>Total</b>               | <b>402,576</b> | <b>375,053</b> |

(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 of the Supplemental Information section on pages 132 to 138. Details of our credit exposures are presented in Note 4 on page 157 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 \$662 million in 2018 decreased 11% from \$746 million in 2017. Detailed discussions of our PCL, including historical trends in PCL, are provided on page 40, in Table 15 on page 138 and in Note 4 on page 157 of the consolidated financial statements.

### Gross Impaired Loans (GIL)

Total GIL of \$1,936 million in 2018 decreased 13% from \$2,220 million in 2017, with the largest decrease in impaired loans in service industries and the oil and gas sector. GIL as a percentage of gross loans and acceptances also decreased to 0.48%, compared with 0.59% in 2017.

Factors contributing to the change in GIL are outlined in the table below. Loans classified as impaired during the year decreased to \$2,078 million from \$2,193 million in 2017, driven by lower impaired loan formations in the transportation and services industries. On a geographic basis, Canada accounted for the majority of impaired loan formations, comprising 55.7% of total formations in 2018, compared with 44.6% in 2017. Detailed breakdowns of impaired loans by geographic region and industry can be found in Table 11 of the Supplemental Information section on page 134 and in Note 4 on page 157 of the consolidated financial statements.

**Changes in Gross Impaired Loans and Acceptances** <sup>(1)</sup>

(Canadian \$ in millions, except as noted)  
For the year ended October 31

|   | 2018           | 2017    | 2016  |
|---|----------------|---------|-------|
| <b>GIL, beginning of year</b>                           | <b>2,220</b>   | 2,383   | 2,004 |
| Classified as impaired during the year                  | <b>2,078</b>   | 2,193   | 2,512 |
| Transferred to not impaired during the year             | <b>(708)</b>   | (607)   | (577) |
| Net repayments  | <b>(1,051)</b> | (1,017) | (875) |
| Amounts written off                                     | <b>(618)</b>   | (618)   | (694) |
| Recoveries of loans and advances previously written off | -              | -       | -     |
| Disposals of loans                                      | <b>(11)</b>    | (46)    | (34)  |
| Foreign exchange and other movements                    | <b>26</b>      | (68)    | 47    |
| <b>GIL, end of year</b>                                 | <b>1,936</b>   | 2,220   | 2,383 |
| GIL as a % of gross loans and acceptances               | <b>0.48</b>    | 0.59    | 0.64  |

(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 an allowance for credit losses (ACL) at a level that we consider appropriate to absorb credit-related losses on our loans and other credit instruments. As at October 31, 2018, our ACL was \$1,870 million, a decrease of \$126 million from the prior year. The decrease was due to a \$70 million reduction in ACL related to the adoption of IFRS 9, a \$38 million net recovery in the allowance for performing loans and the impact of the weaker U.S. dollar. The ACL is comprised of an allowance for impaired loans of \$397 million and an allowance for performing loans of \$1,473 million, which also includes an allowance for impaired loans of \$27 million and an allowance for performing loans of \$204 million related to undrawn commitments and letters of credit that are considered other credit instruments and recorded in other liabilities. The allowance for impaired loans decreased \$23 million from \$420 million in the prior year. Our coverage ratio remains adequate, with ACL on impaired loans as a percentage of GIL of 19.1%, compared with 17.7% in 2017.

Further details on the continuity in ACL by each product type can be found in Tables 12 and 13 of the Supplemental Information section on page 136 and 137 and in Note 4 on page 157 of the consolidated financial statements.

## European Exposures

Some European countries have experienced credit concerns in recent years, and exposure to this region has been a 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 country of ultimate risk. Our exposure to European countries, as at October 31, 2018, 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 with the funded amount, in the table on page 94.

### European Exposure by Country and Counterparty <sup>(1)</sup>

| (Canadian \$ in millions)<br>As at October 31, 2018 |              | Funded lending <sup>(2)</sup> |            | Securities <sup>(3)(4)</sup> |               | Repo-style transactions and derivatives <sup>(5)(6)</sup> |            |            |            | Total net exposure |
|---|--------------|-------------------------------|------------|------------------------------|---------------|---|------------|------------|------------|--------------------|
| Country   | Total        | Bank                          | Corporate  | Sovereign                    | Total         | Bank  | Corporate  | Sovereign  | Total      |                    |
| <b>GIIPS</b>  |              |                               |            |                              |               |   |            |            |            |                    |
| Greece  | -            | -                             | -          | -                            | -             | -   | -          | -          | -          | -                  |
| Ireland <sup>(7)</sup>                              | 5            | -                             | 44         | -                            | 44            | -   | 138        | -          | 138        | 187                |
| Italy   | 15           | -                             | -          | -                            | -             | 1   | -          | -          | 1          | 16                 |
| Portugal  | -            | -                             | -          | -                            | -             | -   | -          | -          | -          | -                  |
| Spain   | 301          | -                             | -          | -                            | -             | 26  | -          | -          | 26         | 327                |
| <b>Total - GIIPS</b>                                | <b>321</b>   | <b>-</b>                      | <b>44</b>  | <b>-</b>                     | <b>44</b>     | <b>27</b>   | <b>138</b> | <b>-</b>   | <b>165</b> | <b>530</b>         |
| <b>Eurozone (excluding GIIPS)</b>                   |              |                               |            |                              |               |   |            |            |            |                    |
| France  | 136          | 6                             | 1          | 165                          | 172           | 33  | 24         | 11         | 68         | 376                |
| Germany   | 461          | 229                           | 41         | 4,755                        | 5,025         | 6   | 5          | -          | 11         | 5,497              |
| Netherlands   | 298          | 503                           | 3          | -                            | 506           | 18  | 50         | -          | 68         | 872                |
| Other <sup>(8)</sup>                                | 186          | -                             | 2          | 175                          | 177           | 4   | 74         | 19         | 97         | 460                |
| <b>Total - Eurozone (excluding GIIPS)</b>           | <b>1,081</b> | <b>738</b>                    | <b>47</b>  | <b>5,095</b>                 | <b>5,880</b>  | <b>61</b>   | <b>153</b> | <b>30</b>  | <b>244</b> | <b>7,205</b>       |
| <b>Rest of Europe</b>                               |              |                               |            |                              |               |   |            |            |            |                    |
| Norway  | 323          | 313                           | 1          | -                            | 314           | 1   | 3          | -          | 4          | 641                |
| Sweden  | 28           | 204                           | 3          | 298                          | 505           | 5   | -          | -          | 5          | 538                |
| Switzerland   | 244          | -                             | -          | -                            | -             | 7   | 44         | 49         | 100        | 344                |
| United Kingdom                                      | 942          | 31                            | 642        | 3,934                        | 4,607         | 93  | 114        | 26         | 233        | 5,782              |
| Other <sup>(8)</sup>                                | 29           | 125                           | -          | -                            | 125           | 6   | -          | 1          | 7          | 161                |
| <b>Total - Rest of Europe</b>                       | <b>1,566</b> | <b>673</b>                    | <b>646</b> | <b>4,232</b>                 | <b>5,551</b>  | <b>112</b>  | <b>161</b> | <b>76</b>  | <b>349</b> | <b>7,466</b>       |
| <b>Total - All of Europe <sup>(9)</sup></b>         | <b>2,968</b> | <b>1,411</b>                  | <b>737</b> | <b>9,327</b>                 | <b>11,475</b> | <b>200</b>  | <b>452</b> | <b>106</b> | <b>758</b> | <b>15,201</b>      |
| As at October 31, 2017                              |              | Funded lending <sup>(2)</sup> |            | Securities <sup>(3)</sup>    |               | Repo-style transactions and derivatives <sup>(5)(6)</sup> |            |            |            | Total net exposure |
| Country   | Total        | Bank                          | Corporate  | Sovereign                    | Total         | Bank  | Corporate  | Sovereign  | Total      |                    |
| <b>Total - GIIPS</b>                                | <b>151</b>   | <b>-</b>                      | <b>1</b>   | <b>-</b>                     | <b>1</b>      | <b>19</b>   | <b>46</b>  | <b>-</b>   | <b>65</b>  | <b>217</b>         |
| <b>Total - Eurozone (excluding GIIPS)</b>           | <b>1,120</b> | <b>247</b>                    | <b>133</b> | <b>1,188</b>                 | <b>1,568</b>  | <b>84</b>   | <b>85</b>  | <b>28</b>  | <b>197</b> | <b>2,885</b>       |
| <b>Total - Rest of Europe</b>                       | <b>2,081</b> | <b>479</b>                    | <b>77</b>  | <b>572</b>                   | <b>1,128</b>  | <b>243</b>  | <b>63</b>  | <b>13</b>  | <b>319</b> | <b>3,528</b>       |
| <b>Total - All of Europe <sup>(9)</sup></b>         | <b>3,352</b> | <b>726</b>                    | <b>211</b> | <b>1,760</b>                 | <b>2,697</b>  | <b>346</b>  | <b>194</b> | <b>41</b>  | <b>581</b> | <b>6,630</b>       |

(1) BMO has the following indirect exposures to Europe as at October 31, 2018:

- Collateral of €229 million to support trading activity in securities (€33 million from GIIPS) and €93 million of cash collateral held.
- Guarantees of \$1.5 billion (\$86 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 \$162 million, with no net single-name\* CDS exposure to GIIPS countries as at October 31, 2018 (\*includes a net position of \$110 million (bought protection) on a CDS Index, of which 18% is comprised of GIIPS domiciled entities).

(5) Repo-style transactions are primarily with bank counterparties for which BMO holds collateral (\$26.0 billion for Europe as at October 31, 2018).

(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 \$23 million as at October 31, 2018.

(8) Other Eurozone exposure includes 6 countries with less than \$300 million net exposure. Other European exposure is distributed across 3 countries as at October 31, 2018.

(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 <sup>(9)</sup>

| (Canadian \$ in millions)<br>Country        | Lending <sup>(2)</sup>                |              |           |                        |              |                        |              |
|---|---------------------------------------|--------------|-----------|------------------------|--------------|------------------------|--------------|
|   | Funded lending as at October 31, 2018 |              |           | As at October 31, 2018 |              | As at October 31, 2017 |              |
|   | Bank                                  | Corporate    | Sovereign | Commitments            | Funded       | Commitments            | Funded       |
| <b>GIIPS</b>                                |                                       |              |           |                        |              |                        |              |
| Greece                                      | -                                     | -            | -         | -                      | -            | -                      | -            |
| Ireland <sup>(7)</sup>                      | -                                     | 5            | -         | 5                      | 5            | 103                    | 6            |
| Italy                                       | 13                                    | 2            | -         | 15                     | 15           | 27                     | 27           |
| Portugal                                    | -                                     | -            | -         | -                      | -            | -                      | -            |
| Spain                                       | 295                                   | 6            | -         | 318                    | 301          | 149                    | 118          |
| <b>Total – GIIPS</b>                        | <b>308</b>                            | <b>13</b>    | <b>-</b>  | <b>338</b>             | <b>321</b>   | <b>279</b>             | <b>151</b>   |
| <b>Eurozone (excluding GIIPS)</b>           |                                       |              |           |                        |              |                        |              |
| France                                      | 136                                   | -            | -         | 186                    | 136          | 152                    | 107          |
| Germany                                     | 301                                   | 160          | -         | 522                    | 461          | 488                    | 358          |
| Netherlands                                 | 148                                   | 150          | -         | 443                    | 298          | 756                    | 554          |
| Other <sup>(8)</sup>                        | 100                                   | 86           | -         | 313                    | 186          | 247                    | 101          |
| <b>Total – Eurozone (excluding GIIPS)</b>   | <b>685</b>                            | <b>396</b>   | <b>-</b>  | <b>1,464</b>           | <b>1,081</b> | <b>1,643</b>           | <b>1,120</b> |
| <b>Rest of Europe</b>                       |                                       |              |           |                        |              |                        |              |
| Norway                                      | 39                                    | 284          | -         | 687                    | 323          | 287                    | 153          |
| Sweden                                      | 28                                    | -            | -         | 87                     | 28           | 195                    | 49           |
| Switzerland                                 | 27                                    | 217          | -         | 303                    | 244          | 156                    | 99           |
| United Kingdom                              | 19                                    | 923          | -         | 1,638                  | 942          | 2,285                  | 1,746        |
| Other <sup>(8)</sup>                        | 4                                     | 25           | -         | 548                    | 29           | 66                     | 34           |
| <b>Total – Rest of Europe</b>               | <b>117</b>                            | <b>1,449</b> | <b>-</b>  | <b>3,263</b>           | <b>1,566</b> | <b>2,989</b>           | <b>2,081</b> |
| <b>Total – All of Europe <sup>(9)</sup></b> | <b>1,110</b>                          | <b>1,858</b> | <b>-</b>  | <b>5,065</b>           | <b>2,968</b> | <b>4,911</b>           | <b>3,352</b> |

Refer to footnotes in the table on page 93.

## 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 risk related to BMO, we are exposed to risk as a member for our contribution to a default fund, and we may be called on to make additional contributions, or to provide other support in the event another member defaults. As part of BMO's preparations, we are closely monitoring the implications of the United Kingdom's exit from the European Union (Brexit) and the potential impact on CCPs in both jurisdictions.

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 <sup>(Notional amounts)</sup>

| (Canadian \$ in millions)               | Over-the-Counter Derivatives |                  |                   |                  |                  |                  |
|---|------------------------------|------------------|-------------------|------------------|------------------|------------------|
|   | Non-centrally cleared        |                  | Centrally cleared |                  | Total            |                  |
|   | 2018                         | 2017             | 2018              | 2017             | 2018             | 2017             |
| As at October 31                        |                              |                  |                   |                  |                  |                  |
| <b>Interest Rate Contracts</b>          |                              |                  |                   |                  |                  |                  |
| Swaps                                   | 453,976                      | 479,177          | 3,378,021         | 2,723,188        | 3,831,997        | 3,202,365        |
| Forward rate agreements                 | 10,031                       | 1,442            | 401,542           | 193,700          | 411,573          | 195,142          |
| Purchased options                       | 35,023                       | 29,107           | -                 | -                | 35,023           | 29,107           |
| Written options                         | 48,721                       | 37,247           | -                 | -                | 48,721           | 37,247           |
| <b>Total interest rate contracts</b>    | <b>547,751</b>               | <b>546,973</b>   | <b>3,779,563</b>  | <b>2,916,888</b> | <b>4,327,314</b> | <b>3,463,861</b> |
| <b>Foreign Exchange Contracts</b>       |                              |                  |                   |                  |                  |                  |
| Cross-currency swaps                    | 92,916                       | 85,586           | -                 | -                | 92,916           | 85,586           |
| Cross-currency interest rate swaps      | 455,232                      | 434,210          | -                 | -                | 455,232          | 434,210          |
| Forward foreign exchange contracts      | 438,754                      | 370,762          | 33,569            | 31,946           | 472,323          | 402,708          |
| Purchased options                       | 21,093                       | 23,812           | 375               | -                | 21,468           | 23,812           |
| Written options                         | 23,622                       | 29,023           | 396               | 78               | 24,018           | 29,101           |
| <b>Total foreign exchange contracts</b> | <b>1,031,617</b>             | <b>943,393</b>   | <b>34,340</b>     | <b>32,024</b>    | <b>1,065,957</b> | <b>975,417</b>   |
| <b>Commodity Contracts</b>              |                              |                  |                   |                  |                  |                  |
| Swaps                                   | 24,366                       | 18,713           | -                 | -                | 24,366           | 18,713           |
| Purchased options                       | 6,182                        | 7,080            | -                 | -                | 6,182            | 7,080            |
| Written options                         | 4,233                        | 4,905            | -                 | -                | 4,233            | 4,905            |
| <b>Total commodity contracts</b>        | <b>34,781</b>                | <b>30,698</b>    | <b>-</b>          | <b>-</b>         | <b>34,781</b>    | <b>30,698</b>    |
| <b>Equity Contracts</b>                 | <b>53,107</b>                | <b>63,528</b>    | <b>-</b>          | <b>-</b>         | <b>53,107</b>    | <b>63,528</b>    |
| <b>Credit Default Swaps</b>             |                              |                  |                   |                  |                  |                  |
| Purchased                               | 1,448                        | 1,640            | 1,599             | 1,018            | 3,047            | 2,658            |
| Written                                 | 23                           | 114              | 420               | 334              | 443              | 448              |
| <b>Total credit default swaps</b>       | <b>1,471</b>                 | <b>1,754</b>     | <b>2,019</b>      | <b>1,352</b>     | <b>3,490</b>     | <b>3,106</b>     |
| <b>Total</b>                            | <b>1,668,727</b>             | <b>1,586,346</b> | <b>3,815,922</b>  | <b>2,950,264</b> | <b>5,484,649</b> | <b>4,536,610</b> |

## 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 that ensures 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, 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 and the review of position concentrations, notional values and trading losses.

**Value at Risk (VaR)** measures 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. VaR is calculated 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.

**Stressed Value at Risk (SVaR)** measures 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, with model inputs calibrated to historical data from a period of significant financial stress. SVaR is calculated 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.

**Incremental Risk Charge (IRC)** complements the VaR and SVaR metrics and represents an estimate of the default and migration risks of non-securitization products held in the trading book with exposure to interest rate risk, measured over a one-year horizon at a 99.9% confidence level.

A consistent set of VaR and SVaR models is used for both management and regulatory purposes across all BMO Financial Group legal entities in which trading and/or underwriting activities are conducted.

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 validation team. 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 risk 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.

VaR, SVaR, IRC and stress testing should not 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 and are subject to confidence levels, and the estimates could be exceeded under unforeseen market conditions. 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. The bank's VaR model is back-tested daily, and the one-day 99% confidence level VaR at the local and consolidated BMO levels is compared with the estimated daily profit and loss (P&L) that would be recorded if the portfolio composition remained unchanged. If this 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 senior management and reported to our regulators.

Material presented in a blue-tinted font above is an integral part of the 2018 annual consolidated financial statements (see page 78).

Although it is a valuable indicator of risk, as with any model-driven metric, VaR has limitations. Among these limitations is the assumption that all positions can be liquidated within the assumed 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 VaR calculations are based upon portfolio positions at the close of business and do not reflect the impact of intra-day trading activity.

### Monitoring and Control of Trading and Underwriting Market Risk

A comprehensive set of limits is applied to these metrics, and these limits are subject to regular monitoring and reporting, with any breach of the limits escalated to the appropriate level of management. 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

Average Total Trading VaR increased year-over-year, driven by increased equity exposures from client facilitation activities, increased credit exposure from the acquisition of KGS-Alpha, and a general increase in the volatility of historical market data used in the calculation. Changes in total trading SVaR are also attributable to an increase in client facilitation activities, as well as the acquisition and a related increase in certain types of inventory with price behaviour that was particularly volatile during the historical period used to compute SVaR.

### Total Trading Value at Risk (VaR) Summary <sup>(1)(2)</sup>

| As at or for the year ended October 31<br>(pre-tax Canadian \$ equivalent in millions) | 2018        |             |             |             | 2017     |         |      |      |
|--|-------------|-------------|-------------|-------------|----------|---------|------|------|
|  | Year-end    | Average     | High        | Low         | Year-end | Average | High | Low  |
| Commodity VaR  | 0.7         | 0.9         | 13.6        | 0.3         | 0.9      | 0.9     | 1.7  | 0.4  |
| Equity VaR   | 4.4         | 4.4         | 7.8         | 2.9         | 3.3      | 3.1     | 8.5  | 2.2  |
| Foreign exchange VaR   | 0.5         | 0.6         | 2.2         | 0.1         | 0.3      | 0.8     | 3.1  | 0.1  |
| Interest rate VaR  | 6.1         | 5.9         | 8.7         | 3.6         | 5.0      | 6.1     | 11.4 | 3.9  |
| Credit VaR   | 7.4         | 2.6         | 7.4         | 1.5         | 1.9      | 2.3     | 4.1  | 1.5  |
| Diversification  | (8.3)       | (6.8)       | nm          | nm          | (5.9)    | (7.0)   | nm   | nm   |
| <b>Total Trading VaR</b>   | <b>10.8</b> | <b>7.6</b>  | <b>17.5</b> | <b>4.7</b>  | 5.5      | 6.2     | 10.0 | 4.3  |
| <b>Total Trading SVaR</b>  | <b>56.3</b> | <b>26.8</b> | <b>56.3</b> | <b>16.6</b> | 24.6     | 20.5    | 34.6 | 13.4 |

(1) One-day measure using a 99% confidence interval. Benefits are presented in brackets and losses are presented as positive numbers.

(2) Stressed VaR is produced weekly and at month end.

nm - not meaningful

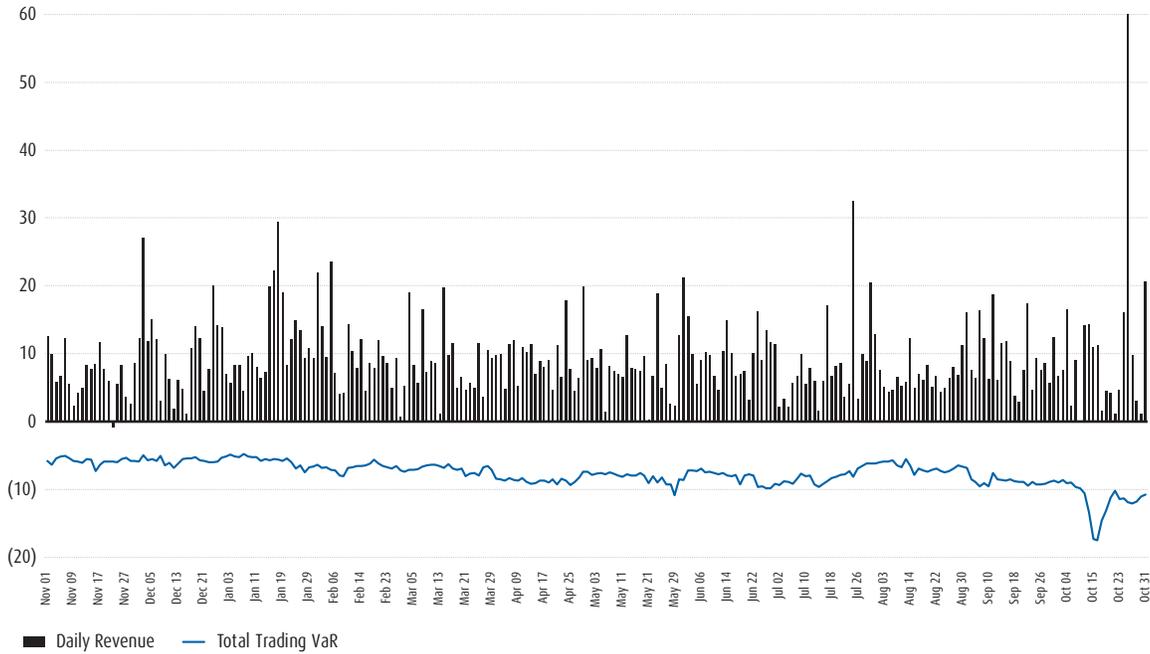
## Trading Net Revenue

The charts below present daily net revenues plotted against Total Trading VaR, along with a representation of daily net revenue distribution. In 2018, we incurred net trading losses on one day totalling \$0.8 million. The loss occurred on November 22, 2017, and did not exceed VaR.

### Trading Net Revenues versus Value at Risk

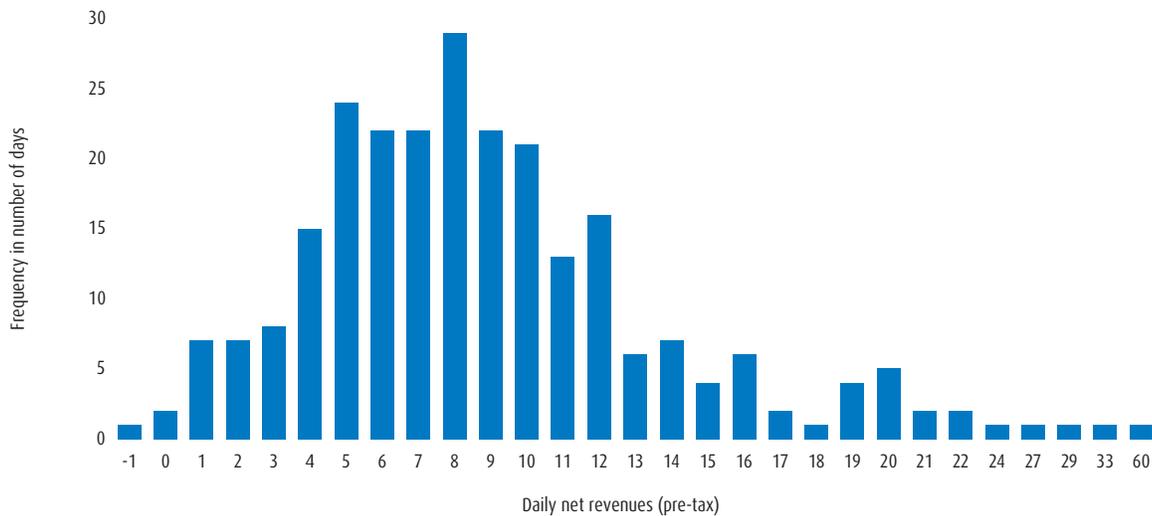
(pre-tax basis and in millions of Canadian dollars)

November 1, 2017 to October 31, 2018 (\$ millions)



### Frequency Distribution of Daily Net Revenues

November 1, 2017 to October 31, 2018 (\$ 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 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 market value, cash flows and earnings 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 arising from 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, which is described in more detail on page 111.

Structural interest rate earnings and economic value sensitivity to an immediate parallel increase or decrease of 100 basis points in the yield curve is disclosed in the following table.

There were no 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, 2017, 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, 2017, 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. The structural earnings exposures to falling interest rates decreased relative to October 31, 2017, primarily owing to the increased extent to which certain deposits can reprice lower following the increase in market rates during the year. The structural earnings benefit to rising interest rates primarily reflects the benefit of widening deposit spreads as interest rates rise and was relatively unchanged year-over-year.

## Structural Interest Rate Sensitivity (1)

| (Pre-tax Canadian \$ equivalent in millions) | As at October 31, 2018     |  | As at October 31, 2017     |  |
|--|----------------------------|--|----------------------------|--|
|  | Economic value sensitivity | Earnings sensitivity over the next 12 months | Economic value sensitivity | Earnings sensitivity over the next 12 months |
| 100 basis point increase                     | (1,079.2)                  | 136.5  | (957.8)                    | 136.9  |
| 100 basis point decrease                     | 626.5                      | (304.1)                                      | 78.6                       | (433.4)                                      |

(1) Losses are presented in brackets and benefits are presented as positive numbers.

### Insurance Market Risk

Insurance market risk includes interest rate and equity market risk arising from BMO's insurance business activities. A 100 basis point increase in interest rates at October 31, 2018 would result in an increase in earnings before tax of \$37 million (\$52 million at October 31, 2017). A 100 basis point decrease in interest rates at October 31, 2018 would result in a decrease in earnings before tax of \$37 million (\$50 million at October 31, 2017). On an unhedged basis, a 10% decrease in equity market values at October 31, 2018 would result in a decrease in earnings before tax of \$44 million (\$40 million at October 31, 2017). A 10% increase in equity market values at October 31, 2018 would result in an increase in earnings before tax of \$42 million (\$40 million at October 31, 2017). During the quarter, a hedging program was put in place that will limit the decrease in earnings before tax due to decreases in equity market values to a maximum of \$34 million in a quarter. The impact on earnings from insurance market risk is reflected in insurance claims, commissions and changes in policy benefit liabilities on the Consolidated Statement of Income and the corresponding change in the fair value of our policy benefit liabilities is reflected in Other Liabilities on the Consolidated Balance Sheet. Insurance market risk 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 could 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 2018 fiscal year. Please see the Enterprise-Wide Capital Management section on page 69 for further discussion.

Transaction risk represents the impact that fluctuations in the Canadian/U.S. dollar exchange rate could 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, although no hedges were executed in the year. If future results are consistent with results in 2018, 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 \$14 million, in the absence of hedging transactions. Refer to the Foreign Exchange section on page 34 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, 2018     |                 |                     |                            | As at October 31, 2017     |                 |                     |                            | Main risk factors for non-traded risk balances |
|--|----------------------------|-----------------|---------------------|----------------------------|----------------------------|-----------------|---------------------|----------------------------|--|
|  | Subject to market risk     |                 |                     |                            | Subject to market risk     |                 |                     |                            |  |
|  | Consolidated Balance Sheet | Traded risk (1) | Non-traded risk (2) | Not subject to market risk | Consolidated Balance Sheet | Traded risk (1) | Non-traded risk (2) | Not subject to market risk |  |
| <b>Assets Subject to Market Risk</b>                     |                            |                 |                     |                            |                            |                 |                     |                            |  |
| Cash and cash equivalents                                | 42,142                     | -               | 42,142              | -                          | 32,599                     | -               | 32,599              | -                          | Interest rate                                  |
| Interest bearing deposits with banks                     | 8,305                      | 250             | 8,055               | -                          | 6,490                      | 346             | 6,144               | -                          | Interest rate                                  |
| Securities   | 180,935                    | 99,561          | 81,374              | -                          | 163,198                    | 90,449          | 72,749              | -                          | Interest rate, credit spread, equity           |
| Securities borrowed or purchased under resale agreements | 85,051                     | -               | 85,051              | -                          | 75,047                     | -               | 75,047              | -                          | Interest rate                                  |
| Loans (net of allowance for credit losses)               | 383,991                    | -               | 383,991             | -                          | 358,507                    | -               | 358,507             | -                          | Interest rate, foreign exchange                |
| Derivative instruments                                   | 26,204                     | 24,401          | 1,803               | -                          | 28,951                     | 27,359          | 1,592               | -                          | Interest rate, foreign exchange                |
| Customers' liability under acceptances                   | 18,585                     | -               | 18,585              | -                          | 16,546                     | -               | 16,546              | -                          | Interest rate                                  |
| Other assets   | 28,835                     | -               | 13,829              | 15,006                     | 28,242                     | -               | 12,927              | 15,315                     | Interest rate                                  |
| <b>Total Assets</b>                                      | <b>774,048</b>             | <b>124,212</b>  | <b>634,830</b>      | <b>15,006</b>              | <b>709,580</b>             | <b>118,154</b>  | <b>576,111</b>      | <b>15,315</b>              |  |
| <b>Liabilities Subject to Market Risk</b>                |                            |                 |                     |                            |                            |                 |                     |                            |  |
| Deposits   | 522,051                    | 15,309          | 506,742             | -                          | 479,792                    | 13,674          | 466,118             | -                          | Interest rate, foreign exchange                |
| Derivative instruments                                   | 24,411                     | 21,380          | 3,031               | -                          | 27,804                     | 26,122          | 1,682               | -                          | Interest rate, foreign exchange                |
| Acceptances  | 18,585                     | -               | 18,585              | -                          | 16,546                     | -               | 16,546              | -                          | Interest rate                                  |
| Securities sold but not yet purchased                    | 28,804                     | 28,804          | -                   | -                          | 25,163                     | 25,163          | -                   | -                          | -  |
| Securities lent or sold under repurchase agreements      | 66,684                     | -               | 66,684              | -                          | 55,119                     | -               | 55,119              | -                          | Interest rate                                  |
| Other liabilities  | 61,004                     | -               | 60,881              | 123                        | 55,773                     | -               | 55,415              | 358                        | Interest rate                                  |
| Subordinated debt  | 6,782                      | -               | 6,782               | -                          | 5,029                      | -               | 5,029               | -                          | Interest rate                                  |
| <b>Total Liabilities</b>                                 | <b>728,321</b>             | <b>65,493</b>   | <b>662,705</b>      | <b>123</b>                 | <b>665,226</b>             | <b>64,959</b>   | <b>599,909</b>      | <b>358</b>                 |  |

(1) Primarily comprised of balance sheet items that are subject to the trading and underwriting risk management framework and recorded at fair value through profit or loss.

(2) Primarily comprised of balance sheet items that are subject to the structural balance sheet and insurance risk management framework.

Certain comparative 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 2018 annual consolidated financial statements (see page 78).

## Insurance Risk

**Insurance risk** is the potential for loss as a result of actual experience differing 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 of 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 addresses 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 as the first line of defence, and has the primary responsibility for managing insurance risk. Second-line-of-defence oversight is provided by the CRO, BMO Insurance, who reports to the Head of Market Risk and CRO, BMO Capital Markets. Internal risk committees, the boards of directors of the BMO Insurance subsidiaries and senior management provide senior governance and review. In particular, the Risk Committee, 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 our BMO Insurance 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 transactions that transfer insurance risk from BMO Insurance to independent reinsurance companies are also used to mitigate our exposure to insurance risk by diversifying risk and limiting claims. Our reinsurance business, in turn, assumes property catastrophe and other reinsurance risks from independent reinsurers in various jurisdictions worldwide in order to diversify our geographic reinsurance exposures in accordance with our BMO Insurance risk management framework.

## 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. The Corporate Treasury group is responsible for identifying, assessing, managing, monitoring, mitigating and reporting on 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 Risk and Portfolio 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 Risk Management Committee (RMC) and Balance Sheet and Capital Management Committee (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 Risk Review Committee (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 counterparty liability diversification, 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 designed to 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 2018 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, which are informed by the legal and regulatory requirements that apply to each entity, are in place for key legal entities, 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.

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 inform and 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.

### 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 government debt 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-dollar- 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 \$242.6 billion at October 31, 2018, compared with \$213.8 billion at October 31, 2017. The increase in unencumbered liquid assets was primarily due to higher cash and securities balances and the impact of the stronger U.S. dollar. Net unencumbered liquid assets are primarily held at the parent bank level, at our U.S. bank entity BMO Harris Bank, 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 soundness 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 24 on page 201 of the consolidated financial statements for further information on pledged assets.

## Liquid Assets

| (Canadian \$ in millions)   | As at October 31, 2018                     |                                    |                        |                   |                             | 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) | Net unencumbered assets (3) |
| Cash and cash equivalents   | 42,142                                     | –                                  | 42,142                 | 1,655             | 40,487                      | 31,164                      |
| Deposits with other banks   | 8,305                                      | –                                  | 8,305                  | –                 | 8,305                       | 6,490                       |
| Securities and securities borrowed or purchased under resale agreements   |  |                                    |                        |                   |                             |                             |
| Sovereigns / Central banks / Multilateral development banks   | 146,514                                    | 26,530                             | 173,044                | 94,886            | 78,158                      | 59,414                      |
| NHA mortgage-backed securities and U.S. agency mortgage-backed securities and collateralized mortgage obligations | 31,966                                     | 314                                | 32,280                 | 12,513            | 19,767                      | 18,719                      |
| Corporate and other debt  | 23,671                                     | 10,773                             | 34,444                 | 6,472             | 27,972                      | 22,414                      |
| Corporate equity  | 63,835                                     | 21,416                             | 85,251                 | 42,446            | 42,805                      | 52,616                      |
| Total securities and securities borrowed or purchased under resale agreements                                     | 265,986                                    | 59,033                             | 325,019                | 156,317           | 168,702                     | 153,163                     |
| NHA mortgage-backed securities (reported as loans at amortized cost) (4)  | 27,865                                     | –                                  | 27,865                 | 2,747             | 25,118                      | 22,940                      |
| Total liquid assets   | 344,298                                    | 59,033                             | 403,331                | 160,719           | 242,612                     | 213,757                     |
| Other eligible assets at central banks (not included above) (5)   | 64,029                                     | –                                  | 64,029                 | 660               | 63,369                      | 64,776                      |
| Undrawn credit lines granted by central banks   | –  | –                                  | –                      | –                 | –                           | –                           |
| Total liquid assets and other sources   | 408,327                                    | 59,033                             | 467,360                | 161,379           | 305,981                     | 278,533                     |

(1) The carrying values outlined in this table are consistent with the carrying values reported in BMO's balance sheet as at October 31, 2018.

(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, National Housing Authority (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 bank's loan portfolio, including incremental securitization, covered bond issuances and Federal Home Loan Bank (FHLB) advances. In July 2018, the Bank of Canada announced that it was increasing the haircuts applied to non-mortgage loans that could be used to access its Standing Liquidity Facility effective August 2018, reducing the amount of funds the bank could access from the Bank of Canada in a period of stress. The impact of this change is reflected as at October 31, 2018. This change does not materially impact the bank.

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

## Asset Encumbrance

| (Canadian \$ in millions)<br>As at October 31, 2018 | Encumbered (2)         |                       |                  | Net unencumbered       |                             |
|---|------------------------|-----------------------|------------------|------------------------|-----------------------------|
|   | Total gross assets (1) | Pledged as collateral | Other encumbered | Other unencumbered (3) | Available as collateral (4) |
| Cash and deposits with other banks                  | 50,447                 | -                     | 1,655            | -                      | 48,792                      |
| Securities (5)                                      | 352,884                | 127,211               | 31,853           | 10,580                 | 183,240                     |
| Loans and acceptances                               | 356,126                | 73,553                | 660              | 218,544                | 63,369                      |
| Other assets  |                        |                       |                  |                        |                             |
| Derivative instruments                              | 26,204                 | -                     | -                | 26,204                 | -                           |
| Customers' liability under acceptances              | 18,585                 | -                     | -                | 18,585                 | -                           |
| Premises and equipment                              | 1,986                  | -                     | -                | 1,986                  | -                           |
| Goodwill  | 6,373                  | -                     | -                | 6,373                  | -                           |
| Intangible assets                                   | 2,272                  | -                     | -                | 2,272                  | -                           |
| Current tax assets                                  | 1,515                  | -                     | -                | 1,515                  | -                           |
| Deferred tax asset                                  | 2,037                  | -                     | -                | 2,037                  | -                           |
| Other assets  | 14,652                 | 2,509                 | -                | 12,143                 | -                           |
| Total other assets                                  | 73,624                 | 2,509                 | -                | 71,115                 | -                           |
| Total assets  | 833,081                | 203,273               | 34,168           | 300,239                | 295,401                     |

| (Canadian \$ in millions)<br>As at October 31, 2017 | Encumbered (2)         |                       |                  | Net unencumbered       |                             |
|---|------------------------|-----------------------|------------------|------------------------|-----------------------------|
|   | Total gross assets (1) | Pledged as collateral | Other encumbered | Other unencumbered (3) | Available as collateral (4) |
| Cash and deposits with other banks                  | 39,089                 | -                     | 1,435            | 3                      | 37,651                      |
| Securities (5)                                      | 313,955                | 109,835               | 28,017           | 9,692                  | 166,411                     |
| Loans and acceptances                               | 333,066                | 63,438                | 393              | 204,459                | 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 asset                                  | 2,865                  | -                     | -                | 2,865                  | -                           |
| Other assets  | 13,570                 | 3,739                 | -                | 9,831                  | -                           |
| Total other assets                                  | 73,739                 | 3,739                 | -                | 70,000                 | -                           |
| Total assets  | 759,849                | 177,012               | 29,845           | 284,154                | 268,838                     |

(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 \$10.6 billion as at October 31, 2018, 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 bank's loan portfolio, such as 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).

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

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, 2018, was 145%. 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 down from 152% last year. HQLA and net cash outflows both increased; however, the ratio between them changed year-over-year. 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 such a 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 102.

## Liquidity Coverage Ratio

|   | For the quarter ended October 31, 2018      |   |
|---|---|---|
|   | Total unweighted value<br>(average) (1) (2) | Total weighted value<br>(average) (2) (3) |
| (Canadian \$ in billions, except as noted)  |   |   |
| <b>High-Quality Liquid Assets</b>   |   |   |
| Total high-quality liquid assets (HQLA)   | *   | 155.0                                     |
| <b>Cash Outflows</b>  |   |   |
| Retail deposits and deposits from small business customers, of which:                   | 167.3                                       | 10.3                                      |
| Stable deposits   | 91.3  | 2.7                                       |
| Less stable deposits  | 76.0  | 7.6                                       |
| Unsecured wholesale funding, of which:  | 152.2                                       | 84.1                                      |
| Operational deposits (all counterparties) and deposits in networks of cooperative banks | 60.3  | 15.0                                      |
| Non-operational deposits (all counterparties)   | 60.8  | 38.0                                      |
| Unsecured debt  | 31.1  | 31.1                                      |
| Secured wholesale funding   | *   | 19.2                                      |
| Additional requirements, of which:  | 134.8                                       | 29.6                                      |
| Outflows related to derivatives exposures and other collateral requirements             | 8.0   | 4.4                                       |
| Outflows related to loss of funding on debt products                                    | 2.7   | 2.7                                       |
| Credit and liquidity facilities   | 124.1                                       | 22.5                                      |
| Other contractual funding obligations   | 0.8   | -   |
| Other contingent funding obligations  | 385.1                                       | 6.6                                       |
| Total cash outflows   | *   | 149.8                                     |
| <b>Cash Inflows</b>   |   |   |
| Secured lending (e.g. reverse repos)  | 136.5                                       | 21.0                                      |
| Inflows from fully performing exposures   | 8.8   | 5.2                                       |
| Other cash inflows  | 16.7  | 16.7                                      |
| Total cash inflows  | 162.0                                       | 42.9                                      |
|   |   | <b>Total adjusted value (4)</b>           |
| Total HQLA  |   | 155.0                                     |
| Total net cash outflows   |   | 106.9                                     |
| Liquidity Coverage Ratio (%)  |   | 145                                       |
| For the quarter ended October 31, 2017  |   |   |
|   |   | <b>Total adjusted value (4)</b>           |
| Total HQLA  |   | 130.3                                     |
| Total net cash outflows   |   | 85.8                                      |
| Liquidity Coverage Ratio (%)  |   | 152                                       |

\* 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 2018.

(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.

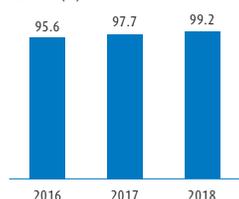
(4) Adjusted values are calculated based on total weighted values after applicable caps, as defined by the LAR Guideline.

## Funding Strategy

Our funding philosophy requires that secured and unsecured wholesale funding used to support loans and less liquid assets must have 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 largely with wholesale term funding.

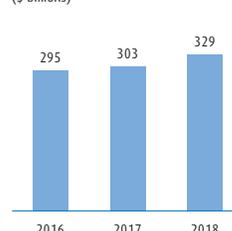
BMO maintains a large and stable base of customer deposits that, in combination with our strong capital base, is a source of strength. It supports the maintenance of a sound liquidity position and reduces our reliance on wholesale funding. Customer deposits totalled \$329.2 billion at October 31, 2018, up from \$303.1 billion in 2017, due to strong deposit growth and the impact of the stronger U.S. dollar. BMO also receives non-marketable deposits from corporate and institutional customers in support of certain trading activities. These deposits totalled \$29.5 billion as at October 31, 2018, unchanged from October 31, 2017.

**Customer Deposits and Capital-to-Customer Loans Ratio (%)**



Our large customer base and strong capital position reduce our reliance on wholesale funding.

**Customer Deposits (\$ billions)**



Customer deposits provide a strong funding base.

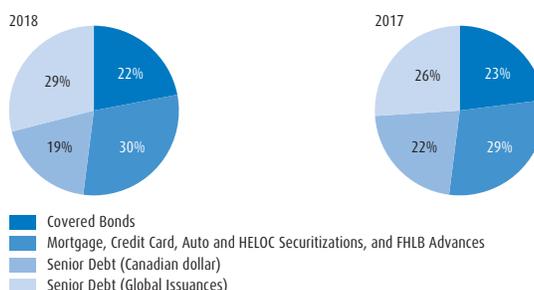
Material presented in a blue-tinted font above is an integral part of the 2018 annual consolidated financial statements (see page 78).

Total wholesale funding outstanding, largely consisting of negotiable marketable securities, was \$203.3 billion at October 31, 2018, with \$63.2 billion sourced as secured funding and \$140.1 billion sourced as unsecured funding. Wholesale funding outstanding increased \$22.8 billion, or \$20.5 billion excluding the impact of the stronger U.S. dollar. The mix and maturities of BMO's wholesale term funding are outlined in the table below. Additional information on deposit maturities can be found on page 107. BMO maintains a sizeable portfolio of unencumbered liquid assets, totalling \$242.6 billion as at October 31, 2018 and \$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 101.

In April 2018, the Government of Canada published the final regulations on Canada's Bank Recapitalization (Bail-In) Regime, which became effective on September 23, 2018. Bail-in debt includes senior unsecured debt issued directly by the bank on or after September 23, 2018 that has an original term greater than 400 days and is marketable, subject to certain exceptions. BMO is required to meet minimum TLAC ratio requirements by November 1, 2021. We do not expect a material impact to our funding plan as a result of Canada's Bail-In Regime and TLAC requirements. For more information on Canada's Bail-In Regime and TLAC requirements, please see Regulatory Developments under Capital Management on page 71.

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.

**Wholesale Capital Market Term Funding Composition (%)**



BMO's wholesale funding plan seeks to ensure sufficient funding capacity is available to execute our business strategies. The funding plan considers expected maturities, as well as asset and liability growth projected for our businesses in our forecasting and planning processes, 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 <sup>(1)</sup>

| (Canadian \$ in millions)                    | As at October 31, 2018 |               |               |                |                           | As at October 31, 2017 |               |                | Total          |
|--|------------------------|---------------|---------------|----------------|---------------------------|------------------------|---------------|----------------|----------------|
|  | 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          |                |
| Deposits from banks                          | 4,706                  | 185           | 71            | 8              | 4,970                     | -                      | 7             | 4,977          | 3,962          |
| Certificates of deposit and commercial paper | 13,727                 | 23,434        | 17,794        | 11,059         | 66,014                    | 2,304                  | -             | 68,318         | 60,640         |
| Bearer deposit notes                         | 227                    | 270           | 79            | -              | 576                       | -                      | -             | 576            | 2,815          |
| Asset-backed commercial paper (ABCP)         | 1,051                  | 1,691         | 640           | 204            | 3,586                     | -                      | -             | 3,586          | 3,722          |
| Senior unsecured medium-term notes           | -                      | 1,317         | 1,400         | 4,816          | 7,533                     | 12,836                 | 35,384        | 55,753         | 48,089         |
| Senior unsecured structured notes (2)        | -                      | -             | -             | -              | -                         | 18                     | 3,675         | 3,693          | 3,002          |
| Covered bonds and securitizations            |                        |               |               |                |                           |                        |               |                |                |
| Mortgage and HELOC securitizations           | -                      | 1,018         | 473           | 1,122          | 2,613                     | 3,154                  | 12,436        | 18,203         | 17,935         |
| Covered bonds                                | -                      | 2,235         | -             | 1,490          | 3,725                     | 5,816                  | 15,722        | 25,263         | 23,225         |
| Other asset-backed securitizations (3)       | 1,058                  | -             | -             | 168            | 1,226                     | 1,452                  | 4,252         | 6,930          | 5,160          |
| Subordinated debt                            | -                      | -             | -             | -              | -                         | -                      | 6,841         | 6,841          | 5,028          |
| Other (4)                                    | -                      | 4,971         | -             | -              | 4,971                     | -                      | 4,214         | 9,185          | 6,935          |
| <b>Total</b>                                 | <b>20,769</b>          | <b>35,121</b> | <b>20,457</b> | <b>18,867</b>  | <b>95,214</b>             | <b>25,580</b>          | <b>82,531</b> | <b>203,325</b> | <b>180,513</b> |
| Of which:                                    |                        |               |               |                |                           |                        |               |                |                |
| Secured                                      | 2,109                  | 9,915         | 1,113         | 2,984          | 16,121                    | 10,422                 | 36,624        | 63,167         | 56,977         |
| Unsecured                                    | 18,660                 | 25,206        | 19,344        | 15,883         | 79,093                    | 15,158                 | 45,907        | 140,158        | 123,536        |
| <b>Total (5)</b>                             | <b>20,769</b>          | <b>35,121</b> | <b>20,457</b> | <b>18,867</b>  | <b>95,214</b>             | <b>25,580</b>          | <b>82,531</b> | <b>203,325</b> | <b>180,513</b> |

(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 on page 107, and also 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) Refers to FHLB advances.

(5) Total wholesale funding consists of Canadian-dollar-denominated funding of \$49.2 billion and U.S.-dollar-denominated and other foreign-currency-denominated funding of \$154.1 billion as at October 31, 2018.

## 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. In February 2018, OSFI announced a revised target NSFR implementation date of January 2020 for Canadian deposit-taking institutions, given the progress made to date on implementation at the international level.

## 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 starting on page 167 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. Moody's, Standard & Poor's (S&P), Fitch and DBRS have a stable outlook on BMO.

On April 19, 2018, following the finalization of the Bail-In Regime in Canada, DBRS changed the trend to Stable from Negative on the long-term issuer ratings, senior debt ratings and deposit ratings of Bank of Montreal; ratings of legacy subordinated debt were downgraded by one notch for all Canadian domestic systemically important banks.

On July 16, 2018, Moody's took various actions on its ratings of Canadian banks following the introduction of a bank resolution framework. The actions included an upgrade to the ratings for BMO's senior unsecured debt and junior subordinated bank debt (NVCC). The outlook was changed to Stable from Negative.

On August 14, 2018, S&P upgraded its stand-alone credit profile on BMO to 'a' from 'a-', to reflect improvements in its assessment of BMO's risk position. S&P affirmed its 'A+/A-1' long-term and short-term issuer credit ratings on BMO and its operating subsidiaries, and the outlook remains Stable. At the same time, S&P raised its ratings on BMO's subordinated debt and additional Tier 1 instruments by one notch, reflecting improvements in the bank's stand-alone creditworthiness.

All of the rating agencies have also assigned provisional ratings to senior unsecured debt subject to the Bail-In Regime. Moody's, S&P, Fitch and DBRS have assigned provisional ratings of A2, A-, AA- and AA (low) respectively.

As at October 31, 2018

| Rating agency | Short-term debt | Senior debt (1) | Long-term deposits / Legacy senior debt (2) | Subordinated debt (NVCC) | Outlook |
|---------------|-----------------|-----------------|---|--------------------------|---------|
| Moody's       | P-1             | A2              | Aa2   | Baa1                     | Stable  |
| S&P           | A-1             | A-              | A+  | BBB+                     | Stable  |
| Fitch         | F1+             | AA-             | AA-   | A+                       | Stable  |
| DBRS          | R-1 (high)      | AA (low)        | AA  | A (low)                  | Stable  |

(1) Subject to conversion under the Bank Recapitalization (Bail-In) Regime. Defined as "Junior Senior Unsecured" by Moody's, "Bail-In Eligible Senior Debt" by S&P, "Senior Unsecured" by Fitch, and "Bail-In-able Senior Debt" by DBRS.

(2) Long-term deposits / Legacy senior debt includes senior debt issued prior to September 23, 2018, and senior debt issued on or after September 23, 2018, that is excluded from the Bank Recapitalization (Bail-In) Regime. Defined as "Senior Unsecured" by Moody's and S&P, "Senior Preferred" by Fitch, and "Legacy Senior" by DBRS.

We are required to deliver collateral to certain counterparties in the event of a downgrade to our current credit rating. The incremental collateral required is based on mark-to-market exposure, collateral valuations and collateral threshold arrangements, as applicable. As at October 31, 2018, we would be required to provide additional collateral to counterparties totalling \$112 million, \$361 million and \$502 million under a one-notch, two-notch and three-notch downgrade, respectively.

## 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.

|  |              |               |               |               |                |              |              |              |             | 2018    |
|--|--------------|---------------|---------------|---------------|----------------|--------------|--------------|--------------|-------------|---------|
| (Canadian \$ in millions)                                | 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   |
| <b>On-Balance Sheet Financial Instruments</b>            |              |               |               |               |                |              |              |              |             |         |
| <b>Assets</b>  |              |               |               |               |                |              |              |              |             |         |
| Cash and cash equivalents                                | 41,162       | -             | -             | -             | -              | -            | -            | -            | 980         | 42,142  |
| Interest bearing deposits with banks                     | 4,964        | 1,717         | 1,037         | 457           | 112            | 18           | -            | -            | -           | 8,305   |
| Securities   | 4,522        | 4,283         | 5,049         | 7,749         | 4,943          | 11,854       | 32,480       | 56,004       | 54,051      | 180,935 |
| Securities borrowed or purchased under resale agreements | 67,804       | 12,732        | 2,490         | 1,781         | 191            | 53           | -            | -            | -           | 85,051  |
| Loans  |              |               |               |               |                |              |              |              |             |         |
| Residential mortgages                                    | 1,782        | 1,848         | 4,343         | 6,306         | 4,769          | 24,522       | 64,636       | 11,414       | -           | 119,620 |
| Consumer instalment and other personal                   | 607          | 440           | 1,026         | 1,143         | 943            | 5,414        | 19,910       | 9,812        | 23,930      | 63,225  |
| Credit cards   | -            | -             | -             | -             | -              | -            | -            | -            | 8,329       | 8,329   |
| Business and government                                  | 13,088       | 5,921         | 7,126         | 6,779         | 6,218          | 19,543       | 75,099       | 12,247       | 48,435      | 194,456 |
| Allowance for credit losses                              | -            | -             | -             | -             | -              | -            | -            | -            | (1,639)     | (1,639) |
| Total loans and acceptances, net of allowance            | 15,477       | 8,209         | 12,495        | 14,228        | 11,930         | 49,479       | 159,645      | 33,473       | 79,055      | 383,991 |
| Other Assets   |              |               |               |               |                |              |              |              |             |         |
| Derivative instruments                                   | 2,040        | 3,385         | 1,645         | 1,012         | 807            | 3,407        | 6,074        | 7,834        | -           | 26,204  |
| Customers' liability under acceptances                   | 16,529       | 1,988         | 65            | 3             | -              | -            | -            | -            | -           | 18,585  |
| Other  | 1,740        | 506           | 189           | 26            | 6              | 17           | 20           | 4,824        | 21,507      | 28,835  |
| Total other assets                                       | 20,309       | 5,879         | 1,899         | 1,041         | 813            | 3,424        | 6,094        | 12,658       | 21,507      | 73,624  |
| Total Assets   | 154,238      | 32,820        | 22,970        | 25,256        | 17,989         | 64,828       | 198,219      | 102,135      | 155,593     | 774,048 |

|   |              |               |               |               |                |              |              |              |             | 2018    |
|---|--------------|---------------|---------------|---------------|----------------|--------------|--------------|--------------|-------------|---------|
| (Canadian \$ in millions)                           | 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   |
| <b>Liabilities and Equity</b>                       |              |               |               |               |                |              |              |              |             |         |
| <b>Deposits (1)</b>                                 |              |               |               |               |                |              |              |              |             |         |
| Banks   | 16,966       | 6,032         | 1,200         | 227           | 106            | -            | -            | -            | 3,376       | 27,907  |
| Business and government                             | 23,524       | 32,231        | 22,713        | 15,893        | 8,629          | 22,418       | 48,684       | 12,932       | 126,276     | 313,300 |
| Individuals   | 2,582        | 6,455         | 7,953         | 7,619         | 10,536         | 11,736       | 16,327       | 2,582        | 115,054     | 180,844 |
| Total deposits                                      | 43,072       | 44,718        | 31,866        | 23,739        | 19,271         | 34,154       | 65,011       | 15,514       | 244,706     | 522,051 |
| Other liabilities                                   |              |               |               |               |                |              |              |              |             |         |
| Derivative instruments                              | 1,499        | 2,456         | 1,616         | 913           | 639            | 3,831        | 6,335        | 7,122        | -           | 24,411  |
| Acceptances   | 16,529       | 1,988         | 65            | 3             | -              | -            | -            | -            | -           | 18,585  |
| Securities sold but not yet purchased               | 28,804       | -             | -             | -             | -              | -            | -            | -            | -           | 28,804  |
| Securities lent or sold under repurchase agreements | 63,496       | 2,249         | 8             | 931           | -              | -            | -            | -            | -           | 66,684  |
| Current tax liabilities                             | -            | -             | -             | -             | -              | -            | -            | -            | 50          | 50      |
| Deferred tax liabilities                            | -            | -             | -             | -             | -              | -            | -            | -            | 74          | 74      |
| Securitization and structured entities' liabilities | 1,044        | 1,084         | 475           | 512           | 588            | 4,912        | 13,398       | 3,038        | -           | 25,051  |
| Other   | 8,548        | 5,568         | 44            | 34            | 184            | 789          | 4,455        | 1,905        | 14,302      | 35,829  |
| Total other liabilities                             | 119,920      | 13,345        | 2,208         | 2,393         | 1,411          | 9,532        | 24,188       | 12,065       | 14,426      | 199,488 |
| Subordinated debt                                   | -            | -             | -             | -             | -              | -            | -            | 6,782        | -           | 6,782   |
| Total Equity  | -            | -             | -             | -             | -              | -            | -            | -            | 45,727      | 45,727  |
| Total Liabilities and Equity                        | 162,992      | 58,063        | 34,074        | 26,132        | 20,682         | 43,686       | 89,199       | 34,361       | 304,859     | 774,048 |

(1) Deposits payable on demand and payable after notice have been included under no maturity.

|                                      |              |               |               |               |                |              |              |              |             | 2018    |
|--------------------------------------|--------------|---------------|---------------|---------------|----------------|--------------|--------------|--------------|-------------|---------|
| (Canadian \$ in millions)            | 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   |
| <b>Off-Balance Sheet Commitments</b> |              |               |               |               |                |              |              |              |             |         |
| Commitments to extend credit (1)     | 1,472        | 3,610         | 6,892         | 9,620         | 11,345         | 21,056       | 84,295       | 3,144        | -           | 141,434 |
| Backstop liquidity facilities        | -            | -             | -             | -             | -              | -            | 5,627        | -            | -           | 5,627   |
| Operating leases                     | 34           | 70            | 99            | 101           | 100            | 358          | 770          | 1,210        | -           | 2,742   |
| Securities lending                   | 4,939        | -             | -             | -             | -              | -            | -            | -            | -           | 4,939   |
| Purchase obligations                 | 56           | 388           | 153           | 155           | 158            | 615          | 186          | 82           | -           | 1,793   |

(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.

Material presented in a blue-tinted font above is an integral part of the 2018 annual consolidated financial statements (see page 78).

2017

| (Canadian \$ in millions)                                | 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   |
|--|--------------|---------------|---------------|---------------|----------------|--------------|--------------|--------------|-------------|---------|
| <b>On-Balance Sheet Financial Instruments</b>            |              |               |               |               |                |              |              |              |             |         |
| <b>Assets</b>  |              |               |               |               |                |              |              |              |             |         |
| Cash and cash equivalents                                | 31,641       | -             | -             | -             | -              | -            | -            | -            | 958         | 32,599  |
| Interest bearing deposits with banks                     | 3,784        | 1,579         | 626           | 319           | 182            | -            | -            | -            | -           | 6,490   |
| 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   |
| Business and government                                  | 13,379       | 7,352         | 6,454         | 6,169         | 5,059          | 17,948       | 63,614       | 11,380       | 43,712      | 175,067 |
| Allowance for credit losses                              | -            | -             | -             | -             | -              | -            | -            | -            | (1,833)     | (1,833) |
| Total loans and acceptances, net of allowance            | 14,941       | 9,274         | 12,069        | 15,230        | 12,545         | 42,025       | 150,006      | 28,800       | 73,617      | 358,507 |
| 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  |
| Other  | 1,340        | 475           | 129           | 17            | 11             | 11           | 131          | 4,431        | 21,697      | 28,242  |
| Total other assets                                       | 17,220       | 6,486         | 1,813         | 1,246         | 1,317          | 3,283        | 7,557        | 13,120       | 21,697      | 73,739  |
| Total Assets   | 129,125      | 33,492        | 22,794        | 23,881        | 17,918         | 53,032       | 180,405      | 94,535       | 154,398     | 709,580 |

2017

| (Canadian \$ in millions)                           | 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   |
|---|--------------|---------------|---------------|---------------|----------------|--------------|--------------|--------------|-------------|---------|
| <b>Liabilities and Equity</b>                       |              |               |               |               |                |              |              |              |             |         |
| Deposits (1)  |              |               |               |               |                |              |              |              |             |         |
| Banks   | 12,462       | 9,321         | 2,633         | 496           | 25             | -            | -            | -            | 3,268       | 28,205  |
| Business and government                             | 23,917       | 25,224        | 19,112        | 12,897        | 10,806         | 16,522       | 42,707       | 15,712       | 116,379     | 283,276 |
| 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       | 232,828     | 479,792 |
| 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        | 13,143      | 32,361  |
| Total other liabilities                             | 107,009      | 10,379        | 3,946         | 2,129         | 2,290          | 8,160        | 18,851       | 14,140       | 13,501      | 180,405 |
| 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. Certain comparative figures have been reclassified to conform with the current year's presentation.

2017

| (Canadian \$ in millions)            | 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   |
|--------------------------------------|--------------|---------------|---------------|---------------|----------------|--------------|--------------|--------------|-------------|---------|
| <b>Off-Balance Sheet Commitments</b> |              |               |               |               |                |              |              |              |             |         |
| 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.

## 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, liquidity and funding risk, market risk, strategic and reputation risk.

Operational risk is inherent in all of our business and banking activities and can lead to significant impacts on our business and financial results, including financial loss, restatements and damage to our reputation. Like other financial services organizations that operate in multiple jurisdictions, BMO is exposed to a variety of operational risks arising 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 to risks related to outsourcing and 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 also inherent in the processes and controls we use to manage our risks. There is the possibility that errors will occur, as well as the possibility of a 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 the accuracy and completeness of any information provided by, and any other representations made by customers and counterparties. While we conduct appropriate due diligence on such customer information and, where practicable and economically feasible, engage valuation experts and other experts or sources of information to assist with assessing the value of collateral and other customer risks, our financial results may be adversely impacted if the information provided by customers or counterparties is materially misleading and this 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 a three-lines-of-defence approach in managing operational risk. Operational risk is managed by the operating groups and corporate functions as the first line of defence. This is overseen by ERPM Operational Risk Management (ORM), along with Corporate Support areas for specialized risks, 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 internal controls and limits, and identifies opportunities to strengthen our processes.

### Operational Risk Governance

The Operational Risk Committee (ORC), a sub-committee of the RMC, is the primary governance committee exercising oversight of 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. The documentation that gives effect to these governing principles is reviewed on a regular basis to ensure it incorporates sound practices and is 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 and support timely and comprehensive reporting capabilities in order 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 business units, and Corporate Support areas providing additional governance and oversight in certain 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 to be 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. In addition, the ORMF defines the processes by which ORM, as the second line of defence, develops, supports, monitors, assesses and communicates with 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 across 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 set out 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 provides 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 Assessments (PRAs) and ORM reviews take a deeper view by identifying key risks and controls in our critical business processes, which may span multiple business and functional units. PRAs and ORM reviews 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 specific metrics related to their material operational risks. 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. In these assessments, internal loss data is analyzed and benchmarked against available external data. Material trends are regularly reported to the ORC, RMC and RRC so that preventative or corrective action can 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 prepares us 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 when required by law, regulation or contractual agreement, and when 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 reliance on the internet and our pervasive use of advanced digital technologies to process data, we face common banking information security risks, including the threat of potential data loss, hacking, loss or exposure of customer or employee information, 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. We have increased our investments in defensive technology, talent and processes in order to prevent or detect and manage cyber security threats within BMO operations and at our service providers. These measures include benchmarking and review of best practices across peer companies and other industries, third party assessments of our controls, evaluation of the effectiveness of our key controls and development of new controls, as needed, with ongoing investments in both technology and human resources. We also work with information security and software suppliers to bolster our internal resources and technology capabilities in order to improve our ability to remain resilient in a rapidly evolving threat landscape.

### Anti-Money Laundering

Compliance with all Anti-Money Laundering, Anti-Terrorist Financing (AML/ATF) and Sanctions Measures is an essential part of safeguarding BMO, our customers and the communities in which we operate. BMO is committed to managing AML/ATF and sanctions risks prudently, and complying with all legal and regulatory requirements. Risks related to non-compliance with these requirements can include enforcement actions, legal actions and damage to our reputation. Our AML/ATF and sanctions program promotes effective governance and oversight across all BMO businesses, so that we are able to take appropriate 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 and sanctions risks, and is carried out by employees who use analytics, technology and their professional expertise in order 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, in conjunction with the Standardized Approach in certain areas, regulatory capital requirements for managing operational risk. The AMA Capital Model employs 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 that include operating group, business activity and event type. Minimum enterprise operational risk capital is determined at a specific upper confidence limit of the enterprise total loss distribution. 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. Scenario analyses are also conducted 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. We are monitoring regulatory capital developments on the replacement of AMA with a new Standardized Measurement Approach.

## 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.

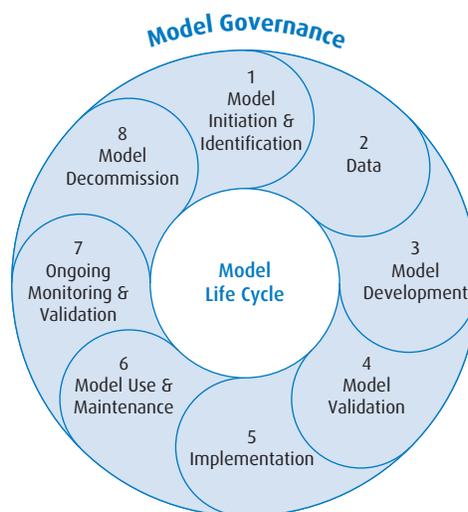
Models are quantitative tools that apply statistical, economic and other quantitative techniques and assumptions to process input data and generate quantitative estimates. BMO uses models ranging from very simple models that produce straightforward estimates to highly sophisticated models that value complex transactions or generate 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 assess 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 and limitations, while controlling and mitigating 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 in order to provide reasonable results.

### Model Risk Management

Risk is inherent in models because model results are estimates that rely on data and statistical techniques to simulate reality or provide forecasts of future outcomes. Model risk also arises from the potential for 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 the limits of 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 group and the Model Governance group 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, our model inventory, and the overall aggregation and assessment of model risk. The Model Risk Management Committee (MRMC), a sub-committee of the RMC, is a cross-functional group representing all key stakeholders across the enterprise. 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, in addition to 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 purpose and desired functionality of the models, and have overall responsibility for ensuring that each model complies with BMO’s framework and approved terms of use. Model developers act as agents of 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 a model’s 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 purpose without giving rise to material model risk. They provide observations as guidance for model owners, users and developers that may lead to remediation or mitigation of model issues. Approval from the Model Valuation group is required before a model can be used, unless an exception is obtained in accordance with the framework. 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 tool will not be subject to the framework, but nevertheless, the developers and users of such methodology or tool are expected to provide appropriate documentation and arrange for effective independent review and challenge by knowledgeable BMO employees and managers.

## Model Use and Monitoring

Model owners and users are accountable for the appropriate use of models in business decision-making, which includes having an understanding of the assumptions and limitations of the models, 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, periodic reviews and revaluation as appropriate. 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.

## 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 observed outcomes are measured against defined risk materiality thresholds. To ensure that variances remain within the defined 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, which helps to ensure that appropriate controls are in place in order to address identified issues and enhances a model's overall performance.

All models used within BMO are subject to validation and ongoing monitoring, and are used in accordance with our framework. The Framework applies to a wide variety of models, ranging from market, credit and operational risk models to stress testing, pricing and valuation and anti-money laundering models. We highlight a few key applications of this framework below:

**Credit Risk** – The Model Risk Guidelines include clear 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 PD credit risk models are subject to quarterly performance monitoring. This comprehensive monitoring involves prescribed tests and analyses that assess discriminatory power, calibration and population stability. Overall model performance assessment is based on all individual testing results, as well as other qualitative considerations, such as user feedback, performance trends and mitigants that are in place. 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. This ongoing validation is conducted annually to confirm that the models are performing as intended and continue to be fit for use, and the conclusions are reported to senior management.

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.

**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 results of the bank's internal VaR model are 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 and 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 is used to monitor the quality and accuracy of the internal VaR model results and assist 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 or 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 resulting from a failure to comply with laws or satisfy contractual obligations or regulatory requirements. This includes the risks of failure 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 manage our exposure to legal and regulatory risk prudently. The financial services industry is highly regulated, and we anticipate intense ongoing scrutiny from our supervisors and strict enforcement of legal and 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 BMO's General Counsel, our Legal and Compliance Group maintains enterprise-wide frameworks that identify, measure, manage, monitor and report on legal and regulatory issues. We identify applicable laws and regulations and potential risks, recommend mitigation strategies and actions, conduct internal investigations and oversee litigation and enforcement actions. We are 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. We are required to disclose material litigation to which we are party. Our disclosure controls and procedures are designed to

provide reasonable assurance that all relevant information is gathered and reported to senior management on a timely basis so that appropriate decisions can be made regarding public disclosure. In assessing the materiality of litigation, factors considered include a case-by-case assessment of specific facts and circumstances, our past experience and the opinions of legal experts. We are currently party to litigation involving certain of our insurance products, which has been the subject of recent media attention. The court will be asked to consider new regulations recently published by the Saskatchewan government confirming that such insurance products may not be used for the purpose sought by the plaintiff. We have concluded that this litigation is not material. Another area of focus is the oversight of fiduciary risk related to any of BMO's businesses that provide products or services giving rise to fiduciary duties, as well as policies and practices that address the responsibilities of a business to a customer (including service requirements and expectations, customer suitability determinations, and disclosure obligations and communications).

Safeguarding our customers, employees, information and assets from exposure to criminal risk is an important priority. Criminal risk is the potential for loss or harm resulting from a failure 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 a robust Criminal Risk Framework designed to prevent, detect, respond to and report on exposure to criminal risk using a three-lines-of-defence approach, as well as through enhanced centralized management and oversight. BMO has conducted a review of a previously announced cyber incident where fraudsters claimed to be in possession of personal and financial information of a limited number of customers. We are committed to protecting customer information and privacy, and we have worked directly with impacted customers to protect their accounts. Three related class actions have been filed against BMO on behalf of customers who allege their personal information was disclosed as a result of the cyber incident. At this time, only one of the three lawsuits is proceeding, with a certification motion scheduled for 2019. For additional information regarding BMO's operational risk management practices, including with respect to cyber security, please see Operational Risk in the Enterprise-Wide Risk Management section on page 109.

As governments globally seek to curb corruption and counter its negative effects on political stability, sustainable economic development, international trade and investment and 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. These include guidance on both identifying and avoiding corrupt practices and rigorously investigating allegations of corrupt activity.

Governments and regulators around the world continue to focus on anti-money laundering and related concerns, raising their expectations concerning the quality and efficacy of anti-money laundering programs and penalizing institutions that fail to meet these expectations. Under the direction of the Chief Anti-Money Laundering Officer, BMO's Anti-Money Laundering Office is responsible for the governance, oversight and assessment of principles and procedures designed to help ensure compliance with legal and regulatory requirements and internal risk parameters related to anti-money laundering, anti-terrorist financing and sanctions measures. For additional discussion regarding BMO's operational risk management practices with respect to anti-money laundering, please see the Anti-Money Laundering section on page 110.

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 Legal and Compliance units 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, Legal and Compliance assesses and analyzes the implications of regulatory changes. We devote substantial resources to the implementation of systems and processes required to comply with new regulations while also helping us meet the needs and demands of our customers. 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 damage to our reputation.

Our ethical culture influences how we conduct ourselves, enabling us to deliver positive outcomes for our customers and contribute to the orderly operation of financial markets. Misconduct is behaviour that falls short of legal, professional, internal conduct and ethical standards. Our management approach to culture and conduct is centred on the key themes of our people, customers and markets. We manage and mitigate the potential for misconduct through various risk management processes and procedures using their information and insights to develop an enterprise perspective.

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), which are discussed in further detail below. 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 100. For additional discussion of the impact of certain potential changes in fiscal policy and tax legislation on our results, please see Critical Accounting Estimates – Income Taxes and Deferred Tax Assets on page 119, Tax Legislation and Interpretations on page 80 and General Economic Conditions and Fiscal and Monetary Policies in the Countries in Which We Conduct Business on page 80.

**Bank Resolution and Bail-In** – In June 2016, legislation required to implement a Bank Recapitalization (Bail-In) Regime was passed by the Canadian government in order to enhance Canada's bank resolution capabilities, in line with international efforts in this area. Final regulations implementing the Bail-In Regime took effect in September 2018. The related total loss-absorbing capacity (TLAC) requirements take effect in November 2021. For additional discussion of the Bail-In Regime and TLAC requirements, please refer to the Enterprise-Wide Capital Management section starting on page 69 and the Liquidity and Funding Risk section starting on page 100.

**Housing Market Reforms** – In October 2017, OSFI published the final version of Guideline B-20 – Residential Mortgage Underwriting Practices and Procedures. The revised Guideline came 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 a focus on the minimum qualifying rate for uninsured mortgages, expectations related to loan-to-value (LTV) frameworks and limits, and restrictions on transactions designed to circumvent those LTV limits.

**Federal Financial Sector Legislation** – In October 2018, in connection with its previously tabled budget, the government of Canada introduced legislation: amending the *Bank Act* to strengthen the financial consumer protection framework, with enhancements in the areas of corporate governance, responsible business conduct, disclosure and customer redress; amending the *Financial Consumer Agency of Canada Act* to strengthen the mandate and powers of the Financial Consumer Agency of Canada; and enacting the *Pay Equity Act* to redress systemic gender-based discrimination by requiring federal public and private sector employers to establish and maintain a pay equity plan within set time frames. Implementing regulations are still required, regarding earlier amendments to the *Bank Act*, which would allow banks to undertake broader financial technology activities.

**U.S. Regulatory Reform** – In May 2018, the U.S. Congress passed the *Economic Growth, Regulatory Relief, and Consumer Protection Act* (EGRRCP), which made reforms to Dodd-Frank, including raising the threshold for heightened prudential standards, and changes to certain exemptions to restrictions on proprietary trading and the ownership and sponsorship of private investment funds by banks and their affiliates. The bank continues to monitor EGRRCP rulemaking activities by applicable agencies.

**Other Regulatory Initiatives Impacting Financial Services in Canada** – Federal and provincial regulators continue to focus on issues relating to consumer protection, including with respect to seniors and retail investors, OTC derivatives and advisor conduct. Recent amendments to federal privacy legislation set out privacy breach reporting requirements. For additional discussion regarding privacy, please see the Risks That May Affect Future Results – Top and Emerging Risks That May Affect Future Results – Cyber Security, Information Security and Privacy Risk section in the Enterprise-Wide Risk Management section on page 79.

**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, the European Union, Hong Kong, Singapore 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 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.

**United Kingdom and European Union Regulatory Reform** – The political and legislative processes continue with respect to the United Kingdom's (U.K.'s) withdrawal from the European Union (EU). The General Data Protection Regulation came into effect in the EU in May 2018, establishing guidelines for the collection, processing and management of personal information of individuals within the EU. Effective December 2019, the U.K.'s Prudential Regulation Authority and Financial Conduct Authority will extend the senior managers and certification regime to all regulated firms. The London Interbank Offered Rate (LIBOR), Euro Interbank Offered Rate and other rates and indices are the subject of national, international and other regulatory guidance and proposals for reform. For additional discussion regarding the impact of the United Kingdom's withdrawal from the EU and benchmark reform, please see Risks That May Affect Future Results – Other Factors That May Affect Future Results – Regulatory Requirements and Benchmark Interest Rate Reform, respectively, in the Enterprise-Wide Risk Management section on pages 80 and 81.

The General Counsel and the Chief Compliance Officer regularly report to the Audit and Conduct Review Committee (ACRC) of the Board and senior management on the effectiveness of our Enterprise Compliance Program. The Program uses a risk-based approach to identify, assess and manage compliance with applicable legal and regulatory requirements. The Program directs operating groups and Corporate Support areas to maintain compliance policies, procedures and controls that meet these requirements. Under the direction of the Chief Compliance Officer, we identify and report on gaps and deficiencies, and track 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 policies, standards and procedures. This is done in conjunction with our Code of Conduct training, which tests employees' knowledge and understanding of the behaviour required of 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 respond appropriately 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 from 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 limited 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 ERP, 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 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 involves 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 contribute to a deeper sense of responsibility that informs all aspects of our business strategy.

BMO's Sustainability Council, chaired by BMO's General Counsel, is comprised of senior leaders from business and Corporate Support areas across our organization, and provides oversight and leadership for our sustainability strategy.

The Sustainability Office is responsible for coordinating the development and maintenance of an enterprise-wide strategy that meets BMO's overarching environmental and social responsibilities. The Sustainability Office works in partnership with the lines of business and Corporate Support areas to manage environmental and social risk within our business, and works with external stakeholders to better understand the consequences and impacts of our operations and financing decisions.

BMO's Procurement and Corporate Real Estate groups are responsible for establishing environmental management processes. Within Corporate Real Estate, the Environmental Sustainability group is responsible for establishing and maintaining an operational environmental management system that is aligned with the framework set out in ISO 14001, and for setting objectives and targets that are related to aligning the bank's operations with its Environmental Policy.

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 risks for specific lines of business. To limit our potential 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. BMO has been a signatory to the Equator Principles since 2005 and applies its credit risk management framework to identify, assess and manage the environmental and social risk of transactions within its scope. We also apply environmental and social screening procedures 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-standing signatory to and participant in the Carbon Disclosure Project – a global initiative that gathers and publishes corporate disclosure on greenhouse gas emissions and climate change. We also support the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD), and we continue to investigate and assess climate-related risks and improve our climate-related disclosures.

BMO is a signatory to the United Nations Principles for Responsible Investment, a framework that encourages sustainable investing through the integration of ESG considerations into investment, decision-making and ownership practices. We are a partner in the Carbon Pricing Leadership Coalition, a voluntary initiative that supports the effective implementation of carbon pricing around the world.

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 publicly report under the United Kingdom *Modern Slavery Act 2015*, and our Supplier Code of Conduct reflects this legislation.

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 monitor and evaluate policy and legislative changes in the jurisdictions in which we operate. We publicly report on our environmental and social performance and targets in our annual Environmental, Social and Governance (ESG) Report and Public Accountability Statement (PAS), and on our website at [https://www.bmo.com/home/about/banking/corporate-responsibility/our-approach/reporting#esg\\_pas](https://www.bmo.com/home/about/banking/corporate-responsibility/our-approach/reporting#esg_pas). 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 can 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 and trust.

We manage risks to our reputation by considering the potential reputational impact of all business activities, including strategy development and implementation, transactions and initiatives, events or incidents impacting BMO, as well as day-to-day decision-making and conduct. We consider our reputation in everything that we do.

BMO's Code of Conduct is the foundation of our ethical culture and it provides employees with guidance on the behaviour that is expected of them, so that they can make the right choice in decisions that affect our customers and stakeholders. Continual reinforcement of the principles set out in the Code of Conduct minimizes risks to our reputation that may result from poor decisions or behaviour.

Our corporate governance practices and enterprise risk management framework have various controls in place that support the management of risks to our reputation. We seek to identify activities or events that could impact our reputation, including events with large-scale impact through the media or otherwise. Where we identify a potential risk to our reputation, we take steps to assess and manage that risk. Instances of significant or heightened exposure to reputation risk are escalated to BMO's Reputation Risk Management Committee for review. As misconduct can impact our reputation, the Chief Ethics and Conduct Officer is responsible for enterprise-wide reporting on our corporate culture and our employees' conduct, and reports on cases of misconduct to BMO's Reputation Risk Management Committee, as appropriate.

# 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 asset; goodwill, intangible assets; insurance-related liabilities; and provisions, including legal 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 structured entities (SEs). These judgments are discussed in Notes 6 and 7, respectively, on pages 164 and 165 of the consolidated financial statements. Note 17 on page 184 of the consolidated financial statements discusses the judgments made in determining the fair value of financial instruments. If actual results were to differ from our estimates, 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 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 148 of the consolidated financial statements.

### Allowance for Credit Losses

The allowance for credit losses (ACL) consists of allowances for impaired loans, which represent estimated losses related to impaired loans in the portfolio provided for but not yet written off, and allowances for performing loans, which is our best estimate of impairment in the existing portfolio for loans that have not yet been individually identified as impaired. Our approach to establishing and maintaining the allowance for performing loans is based on the requirements of IFRS, considering the guideline issued by OSFI. Under the IFRS 9 expected credit loss (ECL) methodology, an allowance is recorded for expected credit losses on financial assets regardless of whether there has been actual impairment. ECL is calculated on a probability-weighted basis, based on the economic scenarios described below, and is calculated for each exposure in the portfolio as 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. Where there has been a significant increase in credit risk, lifetime ECL is recorded; otherwise up to 12 months of ECL is recorded. Significant increase in credit risk is based on the change in PD between the reporting date and origination. We may apply experienced credit judgment to reflect factors not captured in the results produced by the ECL models. We have controls and processes in place to govern the ECL process including judgments and assumptions used in the determination of the allowance for performing loans. These judgments and assumptions will change over time, and the impact of the change will be recorded in future periods.

In establishing our allowance for performing loans, we attach probability weightings to three economic scenarios, which are representative of our view of forecast economic conditions – a base case scenario, which in our view represents the most probable outcome, and is described below, as well as benign and adverse scenarios, all developed by our Economics group. The adverse scenario is also described below given the focus on such a scenario at this point of the economic cycle. The allowance for performing loans is sensitive to changes in both economic forecasts and the probability weight assigned to each forecast scenario. Many of the factors have a high degree of interdependency, although there is no single factor to which loan impairment allowances as a whole are sensitive.

Our base case economic forecast depicts a Canadian economy that grows by a moderate 1.7% on average over the forecast period, similar to long-run potential growth, reducing the unemployment rate slightly to 5.6% in 2020. The U.S. economy grows moderately faster than Canada, averaging 2.1% over the forecast period, due to the near-term fiscal stimulus. If we assumed a 100% base case economic forecast and included the impact of loan migration by restaging with other assumptions held constant, including the application of experienced credit judgment, the allowance for performing loans would be approximately \$1,250 million as at October 31, 2018, compared with the reported allowance for performing loans of \$1,473 million.

Our adverse case economic forecast depicts a typical recession in Canada and the United States occurring in the first year of our forecast horizon that involves the economy contracting approximately 3% over five quarters and the unemployment rate rising more than 3 percentage points to 9.5% in Canada and 7.0% in the U.S. This is followed by a slow recovery initially, then more moderate growth towards the end of the projection period. If we assumed a 100% adverse economic forecast and included the impact of loan migration by restaging with other assumptions held constant, including the application of experienced credit judgment, the allowance for performing loans would be approximately \$2,650 million as at October 31, 2018, compared with the reported allowance for performing loans of \$1,473 million. Actual results in a recession will differ, as our portfolio will change through time due to migration, growth, risk mitigation actions and other factors. In addition, our allowance will reflect the three economic scenarios used in assessing the allowance, with weightings attached to adverse and benign scenarios often unequally weighted, and those weightings will change through time.

The following table shows the key economic variables we use to estimate our allowance for performing loans during the forecast period. The values shown represent the end of period national average values for the first 12 months and then the national average for the remaining horizon. While the values disclosed below are national variables, in our underlying models we use regional variables where considered appropriate.

| As at October 31, 2018                              | Benign scenario |                       | Base case scenario |                       | Adverse scenario |                       |
|---|-----------------|-----------------------|--------------------|-----------------------|------------------|-----------------------|
|   | First 12 months | Remaining horizon (1) | First 12 months    | Remaining horizon (1) | First 12 months  | Remaining horizon (1) |
| <b>Real gross domestic product growth rates (2)</b> |                 |                       |                    |                       |                  |                       |
| Canada  | 3.1%            | 2.4%                  | 1.8%               | 1.6%                  | (3.2)%           | 0.8%                  |
| United States                                       | 2.9%            | 1.9%                  | 2.4%               | 1.6%                  | (2.9)%           | 0.9%                  |
| <b>Corporate BBB 10-year spread</b>                 |                 |                       |                    |                       |                  |                       |
| Canada  | 2.0%            | 2.1%                  | 2.3%               | 2.3%                  | 4.7%             | 3.9%                  |
| United States                                       | 1.8%            | 2.0%                  | 2.2%               | 2.3%                  | 4.3%             | 3.5%                  |
| <b>Unemployment rates</b>                           |                 |                       |                    |                       |                  |                       |
| Canada  | 5.4%            | 5.2%                  | 5.6%               | 5.6%                  | 9.3%             | 9.3%                  |
| United States                                       | 3.2%            | 3.1%                  | 3.6%               | 3.7%                  | 6.7%             | 6.8%                  |
| <b>Housing price index</b>                          |                 |                       |                    |                       |                  |                       |
| Canada (3)  | 2.4%            | 2.6%                  | 1.4%               | 1.8%                  | (12.8)%          | (3.2)%                |
| United States (4)                                   | 5.1%            | 4.3%                  | 3.6%               | 3.0%                  | (7.3)%           | (1.2)%                |

(1) The remaining forecast period is two years.

(2) Real gross domestic product is based on year-over-year growth.

(3) In Canada, we use the HPI Benchmark Composite.

(4) In the United States, we use the National Case-Shiller House Price Index.

The ECL approach requires the recognition of credit losses based on up to 12 months of expected losses for performing loans (Stage 1) and the recognition of lifetime expected losses on performing loans that have experienced a significant increase in credit risk since origination (Stage 2). Under our current probability-weighted scenarios, if all our performing loans were in Stage 1, our models would generate an allowance for performing loans of approximately \$1,000 million, compared with the reported allowance for performing loans of \$1,473 million.

Our provision for credit losses in 2018 was \$662 million, comprised of \$700 million on impaired loans and a recovery of \$38 million on performing loans. Our total allowance for performing and impaired loans at October 31, 2018, was \$1,870 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 87, as well as in Note 4 on page 157 of the consolidated financial statements.

### Financial Instruments Measured at Fair Value

BMO records trading securities, fair value through profit and loss securities, fair value through other comprehensive income securities and derivatives and certain other assets and liabilities are designated under the fair value option at fair value. Fair value represents our estimate of the amount we would receive, or would be required to pay in the case of a liability, in an orderly transaction between willing parties at the measurement date. 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 with 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, 2018, as well as a sensitivity analysis of our Level 3 financial instruments, is disclosed in Note 17 on page 184 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 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 for which 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 in order 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 the discussion of positions categorized as Level 3 for financial reporting purposes and their inherent uncertainty.

### Valuation Adjustments

(Canadian \$ in millions)

As at October 31

|                | 2018       | 2017       |
|----------------|------------|------------|
| Credit risk    | 55         | 63         |
| Funding risk   | 19         | 15         |
| Liquidity risk | 79         | 33         |
| <b>Total</b>   | <b>153</b> | <b>111</b> |

Valuation adjustments increased in 2018, primarily due to the increased size of the trading book.

## 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 21 on page 194 of the consolidated financial statements.

## Impairment of Securities

We have investments in associates and joint ventures, which are classified as other securities. We review other securities at each quarter-end reporting period to identify and evaluate instruments that show indications of possible impairment.

For these equity securities, a significant or prolonged decline in the fair value of a security below its cost is objective evidence of impairment.

Debt securities measured at amortized cost or fair value through other comprehensive income (FVOCI) are assessed for impairment using the expected credit loss model. For securities determined to have low credit risk, the allowance for credit losses is measured at a 12-month expected credit loss.

Additional information regarding our accounting for debt securities measured at amortized cost or FVOCI and other securities, allowance for credit losses and the determination of fair value is included in Note 3 on page 153 and Note 17 on page 184 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. Our intention is to comply fully with tax laws. 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 do not knowingly do business with customers we believe are transacting with us to evade taxes. 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 Statement of Income or our Consolidated Statement of 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 assets will be realized. 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, the reduction in the U.S. federal tax rate from 35% to 21% as a result of the enactment of the U.S. *Tax Cuts and Jobs Act* (Act) resulted in a \$425 million one-time non-cash tax charge to our net income in 2018 and a corresponding reduction in our net deferred tax assets. In addition, U.S. tax reform increased our annual net income by approximately US\$100 million. Since its enactment, we have been monitoring the release of guidance to assist in interpreting the Act. Guidance on tax base broadening measures is expected to be released later in 2018, or early in 2019. We will reflect the impact, if any, in the period in which the applicable guidance is released.

In fiscal 2018, we were reassessed by the Canada Revenue Agency (CRA) for additional income taxes and interest in an amount of approximately \$169 million in respect of certain 2013 Canadian corporate dividends. In prior fiscal years, we were reassessed for additional income taxes and interest of approximately \$116 million and \$76 million, respectively, for certain 2012 and 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 raised by the CRA in its reassessments were prospectively addressed in the 2015 and 2018 Canadian federal budgets. In the future, it is possible that we may be reassessed for significant additional income taxes for similar activities in 2014 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 expense would negatively impact our net income.

Additional information regarding our accounting for income taxes is included in Note 22 on page 198 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 of our cash-generating units (CGUs) 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, 2018, 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 an intangible asset is determined to be impaired, we write it down to its 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 176 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.

Additional information on insurance-related liabilities is provided in Note 14 on page 179 of the consolidated financial statements, and information on insurance risk is provided on page 100.

## 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 estimate 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 amounts of the provisions.

Additional information regarding provisions is provided in Note 24 on page 201 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 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 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 164 of the consolidated financial statements.

In the normal course of business, BMO enters into arrangements with SEs. We are required to consolidate an SE if we determine that we control the SE. 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 165 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 2018

Effective November 1, 2017, we prospectively adopted IFRS 9 *Financial Instruments* (IFRS 9), which addresses impairment, classification and measurement, and hedge accounting. The impact on shareholders' equity at November 1, 2017 was an increase of \$70 million (\$44 million after-tax) related to the impairment requirements of the standard. Prior periods have not been restated.

### Impairment

IFRS 9 introduces a new single expected credit loss (ECL) impairment model for all financial assets and certain off-balance sheet loan commitments and guarantees. The ECL model results in an allowance for credit losses being recorded on financial assets, regardless of whether there has been an actual loss event. This differs from our previous 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.

### Classification and Measurement

IFRS 9 requires that we classify debt instruments based on our business model for managing the assets and the contractual cash flow characteristics of the asset. Equity instruments are measured at fair value through profit or loss unless we elect to measure at fair value through other comprehensive income.

### 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. Consistent with a policy choice allowed in IFRS 9, we have elected to continue to apply the existing hedge accounting rules.

Notes 1 and 28 on pages 148 and 207, respectively, of the consolidated financial statements, provide further details on the impact of the new standard.

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## 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 148 of the consolidated financial statements.

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## 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 27 on page 206 of the consolidated financial statements.

## 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 engagement team of the shareholders' auditors 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 a robust review process in place to monitor audit quality and oversee the work of the shareholders' auditors, including the lead audit partner, which includes:

- 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 the 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 chair of the ACRC 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 2018, 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, 2018 and 2017 were as follows:

| (Canadian \$ in millions)<br>Fees (1) | 2018        | 2017        |
|---------------------------------------|-------------|-------------|
| Audit fees                            | 18.2        | 19.1        |
| Audit-related fees (2)                | 2.2         | 2.5         |
| All other fees (3)                    | 2.1         | 2.1         |
| <b>Total</b>                          | <b>22.5</b> | <b>23.7</b> |

(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 2018 and 2017 relate to fees paid for accounting advice, specified procedures on our Proxy Circular and other specified procedures.

(3) All other fees for 2018 and 2017 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, 2018, 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, 2018.

## 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. 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 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, 2018.

At the request of Bank of Montreal's Audit and Conduct Review Committee, KPMG LLP (the 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, 2018, in accordance with the criteria established in the 2013 COSO Framework. This audit report appears on page 141.

## Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the year ended October 31, 2018 that have materially affected, or are reasonably likely to materially affect, the adequacy and effectiveness of our internal control over financial reporting.

## 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 116.

**Supplementary Financial Information:** A general index is provided, as well as a detailed Pillar 3 index (pages 34 to 35), 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 87 to 116.

A glossary of financial terms (including risk terminology) can be found on pages 210 to 211.

#### 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:** We outline BMO's plans to meet new regulatory ratios on pages 71 and 106.

### 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 82 to 87.

#### 6 Describe the bank's risk culture.

**Annual Report:** BMO's risk culture is described on page 84.

#### 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 and descriptions of key risks arising from the bank's business models and activities are provided on pages 82 to 83 and 85 to 87.

#### 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 page 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 73.

**Supplementary Financial Information:** Regulatory capital is disclosed on pages 36 and 38.

#### 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 36 to 37 and 40. A Main Features template can be found on BMO's website at [www.bmo.com](http://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 39.

#### 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.

**Supplementary Financial Information:** RWA by operating group is provided on page 39.

#### 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 pages 70 and 71.

Information about significant models used to determine RWA is provided on pages 88 to 91.

**Supplementary Financial Information:** A table showing RWA by model approach and by risk type is provided on page 40.

#### 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 45 and 51.

#### 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 46.

#### 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 111 to 112.

**Supplementary Financial Information:** A table showing estimated and actual loss parameters is provided on page 57. The results of IRB back-testing of probability of default per portfolio is provided on page 58.

## 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 100 to 105.

## Funding

### 19 Summarize encumbered and unencumbered assets in a table by balance sheet category.

**Annual Report:** An Asset Encumbrance table is provided on page 103.

**Supplementary Financial Information:** The Asset Encumbrance table by currency is provided on page 33.

### 20 Tabulate consolidated total assets, liabilities and off-balance sheet commitments by remaining contractual maturity.

**Annual Report:** A Contractual Maturities table is provided on pages 107 to 108.

### 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 104 to 105.

A table showing the composition and maturity of wholesale funding is provided on page 105.

## 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 99.

### 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 95 to 97.

Structural (non-trading) market risk exposures are described and quantified on pages 98 to 99.

### 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 111 to 112.

### 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 VaR for market risk management is described on pages 95 to 97.

## 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 87 to 94 and in Note 4 on pages 158 to 164 of the consolidated financial statements.

**Supplementary Financial Information:** Tables detailing credit risk information are provided on pages 18 to 29 and 41 to 56.

### 27 Describe the bank's policies related to impaired loans and renegotiated loans.

**Annual Report:** Impaired loan and renegotiated loan policies are described in Note 4 on pages 158 and 163, 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 acceptances, and allowance for credit losses are provided on pages 91 to 92 and Note 4 on pages 161 to 162 of the consolidated financial statements, respectively.

### 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 94 and qualitative disclosures are provided on page 88.

**Supplementary Financial Information:** Quantitative disclosures for derivative instruments are provided on page 30 and pages 49 to 53.

### 30 Provide a discussion of credit risk mitigation.

**Annual Report:** A discussion of BMO's credit and counterparty risk management is provided on pages 87 to 88. Collateral management discussions are provided on page 88 and in Note 8 on pages 168, 170 and 173 and in Note 24 on page 202 of the consolidated financial statements.

**Supplementary Financial Information:** Information on credit risk mitigation techniques is provided on page 43 and on collateral for counter-party credit risk is provided on page 52.

## Other Risks

### 31 Describe other risks and discuss how each is identified, governed, measured and managed.

**Annual Report:** Diagrams illustrating the risk governance process that supports BMO's risk culture and the risk types are provided on pages 82 and 87. Other risks are discussed on pages 109 to 116.

### 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 109 to 116.

# 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 27.

## Table 1: Shareholder Value and Other Statistical Information

| As at or for the year ended October 31                  | 2018          | 2017          | 2016          | 2015          | 2014          | 2013          | 2012          | 2011          | 2010          | 2009          |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Market Price per Common Share (\$)</b>               |               |               |               |               |               |               |               |               |               |               |
| High  | 109.00        | 104.15        | 87.92         | 84.39         | 85.71         | 73.90         | 61.29         | 63.94         | 65.71         | 54.75         |
| Low   | 93.60         | 83.58         | 68.65         | 64.01         | 67.04         | 56.74         | 53.15         | 55.02         | 49.78         | 24.05         |
| Close   | 98.43         | 98.83         | 85.36         | 76.04         | 81.73         | 72.62         | 59.02         | 58.89         | 60.23         | 50.06         |
| <b>Common Share Dividends</b>                           |               |               |               |               |               |               |               |               |               |               |
| Dividends declared per share (\$)                       | 3.78          | 3.56          | 3.40          | 3.24          | 3.08          | 2.94          | 2.82          | 2.80          | 2.80          | 2.80          |
| Dividend payout ratio (%)                               | 46.2          | 44.8          | 49.0          | 49.2          | 47.8          | 47.5          | 46.0          | 57.1          | 58.6          | 90.6          |
| Dividend yield (%)                                      | 3.8           | 3.6           | 4.0           | 4.3           | 3.8           | 4.0           | 4.8           | 4.8           | 4.6           | 5.6           |
| Dividends declared (\$ millions)                        | 2,424         | 2,312         | 2,191         | 2,087         | 1,991         | 1,904         | 1,820         | 1,690         | 1,571         | 1,530         |
| <b>Total Shareholder Return (%)</b>                     |               |               |               |               |               |               |               |               |               |               |
| Five-year average annual return                         | 10.5          | 15.5          | 12.5          | 9.5           | 15.5          | 17.0          | 4.2           | 1.9           | 5.9           | 1.8           |
| Three-year average annual return                        | 13.3          | 10.9          | 9.9           | 13.5          | 16.7          | 11.5          | 10.8          | 17.4          | 4.5           | (5.3)         |
| One-year return   | 3.3           | 20.2          | 17.0          | (3.0)         | 17.1          | 28.8          | 5.2           | 2.4           | 26.4          | 25.1          |
| <b>Common Share Information</b>                         |               |               |               |               |               |               |               |               |               |               |
| Number outstanding (in thousands)                       |               |               |               |               |               |               |               |               |               |               |
| End of year   | 639,330       | 647,816       | 645,761       | 642,583       | 649,050       | 644,130       | 650,730       | 639,000       | 566,468       | 551,716       |
| Average basic   | 642,930       | 649,650       | 644,049       | 644,916       | 645,860       | 648,476       | 644,407       | 591,403       | 559,822       | 540,294       |
| Average diluted   | 644,913       | 651,961       | 646,126       | 647,141       | 648,475       | 649,806       | 648,615       | 607,068       | 563,125       | 542,313       |
| Book value per share (\$)                               | 64.73         | 61.92         | 59.56         | 56.31         | 48.18         | 43.22         | 39.41         | 36.76         | 34.09         | 31.95         |
| Total market value of shares (\$ billions)              | 62.9          | 64.0          | 55.1          | 48.9          | 53.0          | 46.8          | 38.4          | 37.6          | 34.1          | 27.6          |
| Price-to-earnings multiple                              | 12.1          | 12.5          | 12.3          | 11.6          | 12.8          | 11.8          | 9.7           | 12.2          | 12.7          | 16.3          |
| Price-to-adjusted earnings multiple                     | 11.0          | 12.1          | 11.4          | 10.9          | 12.4          | 11.7          | 9.9           | 11.5          | 12.5          | 12.5          |
| Market-to-book value multiple                           | 1.52          | 1.60          | 1.43          | 1.35          | 1.70          | 1.66          | 1.47          | 1.49          | 1.77          | 1.57          |
| <b>Balances (\$ millions)</b>                           |               |               |               |               |               |               |               |               |               |               |
| Total assets  | 774,048       | 709,580       | 687,935       | 641,881       | 588,659       | 537,044       | 524,684       | 500,575       | 411,640       | 388,458       |
| Average assets  | 754,295       | 722,626       | 707,122       | 664,391       | 593,928       | 555,431       | 543,931       | 469,934       | 398,474       | 438,548       |
| Average net loans and acceptances                       | 386,959       | 370,899       | 356,528       | 318,823       | 290,621       | 263,596       | 246,129       | 215,414       | 171,554       | 182,097       |
| <b>Return on Equity and Assets</b>                      |               |               |               |               |               |               |               |               |               |               |
| Return on equity (%)                                    | 13.2          | 13.3          | 12.1          | 12.5          | 14.0          | 14.9          | 15.9          | 15.1          | 14.9          | 9.9           |
| Adjusted return on equity (%) (1)                       | 14.6          | 13.7          | 13.1          | 13.3          | 14.4          | 15.0          | 15.5          | 16.0          | 15.0          | 12.9          |
| Return on tangible common equity (%)                    | 16.2          | 16.3          | 15.3          | 15.8          | 17.3          | 17.9          | 19.4          | 17.6          | 16.6          | 11.3          |
| Adjusted return on tangible common equity (%) (1)       | 17.5          | 16.5          | 16.1          | 16.4          | 17.4          | 17.7          | 18.5          | 18.2          | 16.6          | 14.5          |
| Return on average assets (%)                            | 0.72          | 0.74          | 0.65          | 0.66          | 0.72          | 0.74          | 0.75          | 0.65          | 0.71          | 0.41          |
| Adjusted return on average assets (%) (1)               | 0.79          | 0.76          | 0.71          | 0.70          | 0.74          | 0.75          | 0.73          | 0.68          | 0.71          | 0.52          |
| Return on average risk-weighted assets (%)              | 1.97          | 1.99          | 1.71          | 1.84          | 1.85          | 1.93          | 1.96          | 1.70          | 1.74          | 0.97          |
| Adjusted return on average risk-weighted assets (%) (1) | 2.16          | 2.05          | 1.85          | 1.96          | 1.91          | 1.94          | 1.92          | 1.79          | 1.76          | 1.25          |
| Average equity to average total assets (%)              | 0.05          | 0.05          | 0.05          | 0.05          | 0.05          | 0.05          | 0.05          | 0.04          | 0.05          | 0.04          |
| <b>Other Statistical Information</b>                    |               |               |               |               |               |               |               |               |               |               |
| Employees (2)   |               |               |               |               |               |               |               |               |               |               |
| Canada  | 29,982        | 29,647        | 29,643        | 30,669        | 30,587        | 30,303        | 30,797        | 31,351        | 29,821        | 29,118        |
| United States   | 13,943        | 14,071        | 14,147        | 14,316        | 14,845        | 14,694        | 14,963        | 15,184        | 7,445         | 6,732         |
| Other   | 1,529         | 1,482         | 1,444         | 1,368         | 1,346         | 634           | 512           | 440           | 363           | 323           |
| <b>Total</b>  | <b>45,454</b> | <b>45,200</b> | <b>45,234</b> | <b>46,353</b> | <b>46,778</b> | <b>45,631</b> | <b>46,272</b> | <b>46,975</b> | <b>37,629</b> | <b>36,173</b> |
| Bank branches   |               |               |               |               |               |               |               |               |               |               |
| Canada  | 908           | 926           | 942           | 939           | 934           | 933           | 930           | 920           | 910           | 900           |
| United States   | 571           | 573           | 576           | 592           | 615           | 626           | 638           | 688           | 321           | 290           |
| Other   | 4             | 4             | 4             | 4             | 4             | 4             | 3             | 3             | 3             | 5             |
| <b>Total</b>  | <b>1,483</b>  | <b>1,503</b>  | <b>1,522</b>  | <b>1,535</b>  | <b>1,553</b>  | <b>1,563</b>  | <b>1,571</b>  | <b>1,611</b>  | <b>1,234</b>  | <b>1,195</b>  |
| Automated banking machines                              |               |               |               |               |               |               |               |               |               |               |
| Canada  | 3,387         | 3,315         | 3,285         | 3,442         | 3,016         | 2,900         | 2,596         | 2,235         | 2,076         | 2,030         |
| United States   | 1,441         | 1,416         | 1,314         | 1,319         | 1,322         | 1,325         | 1,375         | 1,366         | 905           | 636           |
| <b>Total</b>  | <b>4,828</b>  | <b>4,731</b>  | <b>4,599</b>  | <b>4,761</b>  | <b>4,338</b>  | <b>4,225</b>  | <b>3,971</b>  | <b>3,601</b>  | <b>2,981</b>  | <b>2,666</b>  |

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 and 2018 only impacted our results prospectively.

(1) The impact of adjusting items (net of tax) was an increase/(decrease) to net income as follows: 2011 - \$161 million; 2010 - \$32 million; 2009 - \$509 million. Details on the adjusting items can be found in the 2011 to 2009 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.

## Table 2: Summary Income Statement and Growth Statistics

(\$ millions, except as noted)  
For the year ended October 31

|  | 2018          | 2017   | 2016   | 2015   | 2014   | 5-year<br>CAGR | 10-year<br>CAGR |
|--|---------------|--------|--------|--------|--------|----------------|-----------------|
| <b>Income Statement – Reported Results</b>   |               |        |        |        |        |                |                 |
| Net interest income  | <b>10,313</b> | 10,007 | 9,872  | 8,763  | 8,292  | <b>4.0</b>     | <b>7.4</b>      |
| Non-interest revenue   | <b>12,724</b> | 12,253 | 11,215 | 10,626 | 9,931  | <b>8.8</b>     | <b>9.3</b>      |
| Revenue  | <b>23,037</b> | 22,260 | 21,087 | 19,389 | 18,223 | <b>6.5</b>     | <b>8.4</b>      |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) (1) | <b>1,352</b>  | 1,538  | 1,543  | 1,254  | 1,505  | <b>12.0</b>    | <b>33.3</b>     |
| Revenue, net of CCPB   | <b>21,685</b> | 20,722 | 19,544 | 18,135 | 16,718 | <b>6.2</b>     | <b>7.8</b>      |
| Provision for credit losses  | <b>662</b>    | 746    | 771    | 544    | 527    | <b>nm</b>      | <b>nm</b>       |
| Non-interest expense   | <b>13,613</b> | 13,330 | 13,041 | 12,250 | 10,955 | <b>5.8</b>     | <b>7.0</b>      |
| Income before provision for income taxes   | <b>7,410</b>  | 6,646  | 5,732  | 5,341  | 5,236  | <b>7.1</b>     | <b>14.1</b>     |
| Provision for income taxes   | <b>1,960</b>  | 1,296  | 1,101  | 936    | 903    | <b>13.2</b>    | <b>nm</b>       |
| Net income   | <b>5,450</b>  | 5,350  | 4,631  | 4,405  | 4,333  | <b>5.4</b>     | <b>10.3</b>     |
| Attributable to bank shareholders  | <b>5,450</b>  | 5,348  | 4,622  | 4,370  | 4,277  | <b>5.7</b>     | <b>10.7</b>     |
| Attributable to non-controlling interest in subsidiaries                           | <b>-</b>      | 2      | 9      | 35     | 56     | <b>nm</b>      | <b>nm</b>       |
| Net income   | <b>5,450</b>  | 5,350  | 4,631  | 4,405  | 4,333  | <b>5.4</b>     | <b>10.7</b>     |
| <b>Income Statement – Adjusted Results</b>   |               |        |        |        |        |                |                 |
| Net interest income  | <b>10,313</b> | 10,007 | 9,872  | 8,764  | 8,292  | <b>5.7</b>     | <b>7.4</b>      |
| Non-interest revenue   | <b>12,724</b> | 12,253 | 11,299 | 10,627 | 9,931  | <b>8.9</b>     | <b>8.6</b>      |
| Revenue  | <b>23,037</b> | 22,260 | 21,171 | 19,391 | 18,223 | <b>7.4</b>     | <b>8.0</b>      |
| Insurance claims, commissions and changes in policy benefit liabilities (CCPB) (1) | <b>1,352</b>  | 1,538  | 1,543  | 1,254  | 1,505  | <b>12.0</b>    | <b>33.3</b>     |
| Revenue, net of CCPB   | <b>21,685</b> | 20,722 | 19,628 | 18,137 | 16,718 | <b>7.1</b>     | <b>7.4</b>      |
| Provision for credit losses  | <b>662</b>    | 822    | 771    | 544    | 527    | <b>nm</b>      | <b>nm</b>       |
| Non-interest expense   | <b>13,480</b> | 13,035 | 12,588 | 11,887 | 10,795 | <b>6.6</b>     | <b>7.0</b>      |
| Income before provision for income taxes   | <b>7,543</b>  | 6,865  | 6,269  | 5,706  | 5,396  | <b>7.5</b>     | <b>10.9</b>     |
| Provision for income taxes   | <b>1,564</b>  | 1,357  | 1,249  | 1,025  | 943    | <b>17.7</b>    | <b>nm</b>       |
| Adjusted net income  | <b>5,979</b>  | 5,508  | 5,020  | 4,681  | 4,453  | <b>7.2</b>     | <b>9.1</b>      |
| Attributable to bank shareholders  | <b>5,979</b>  | 5,506  | 5,011  | 4,646  | 4,397  | <b>7.2</b>     | <b>9.1</b>      |
| Attributable to non-controlling interest in subsidiaries                           | <b>-</b>      | 2      | 9      | 35     | 56     | <b>nm</b>      | <b>nm</b>       |
| Adjusted net income  | <b>5,979</b>  | 5,508  | 5,020  | 4,681  | 4,453  | <b>7.2</b>     | <b>9.1</b>      |
| <b>Earnings per Share (EPS) (\$)</b>   |               |        |        |        |        |                |                 |
| Basic  | <b>8.19</b>   | 7.95   | 6.94   | 6.59   | 6.44   | <b>5.8</b>     | <b>8.0</b>      |
| Diluted  | <b>8.17</b>   | 7.92   | 6.92   | 6.57   | 6.41   | <b>5.8</b>     | <b>8.1</b>      |
| Adjusted diluted   | <b>8.99</b>   | 8.16   | 7.52   | 7.00   | 6.59   | <b>7.7</b>     | <b>8.4</b>      |
| <b>Year-over-Year Growth-Based Statistical Information (%)</b>                     |               |        |        |        |        |                |                 |
| Net income growth  | <b>1.9</b>    | 15.5   | 5.1    | 1.7    | 3.3    | <b>na</b>      | <b>na</b>       |
| Adjusted net income growth   | <b>8.6</b>    | 9.7    | 7.2    | 5.1    | 5.4    | <b>na</b>      | <b>na</b>       |
| Diluted EPS growth   | <b>3.1</b>    | 14.5   | 5.3    | 2.5    | 3.9    | <b>na</b>      | <b>na</b>       |
| Adjusted diluted EPS growth  | <b>10.1</b>   | 8.5    | 7.4    | 6.2    | 6.1    | <b>na</b>      | <b>na</b>       |

Five-year and ten-year CAGR based on CGAAP in 2008 and IFRS in 2013 and 2018.

The adoption of new IFRS standards in 2015 and 2018 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

## Table 3: Revenue and Revenue Growth

(\$ millions, except as noted)  
For the year ended October 31

|  | 2018           | 2017    | 2016    | 2015    | 2014    | 5-year<br>CAGR | 10-year<br>CAGR |
|--|----------------|---------|---------|---------|---------|----------------|-----------------|
| <b>Net Interest Income</b>                                     | <b>10,313</b>  | 10,007  | 9,872   | 8,763   | 8,292   | <b>4.0</b>     | <b>7.4</b>      |
| Year-over-year growth (%)                                      | <b>3.0</b>     | 1.4     | 12.7    | 5.7     | (2.3)   | <b>na</b>      | <b>na</b>       |
| <b>Adjusted Net Interest Income</b>                            | <b>10,313</b>  | 10,007  | 9,872   | 8,764   | 8,292   | <b>5.7</b>     | <b>7.4</b>      |
| Year-over-year growth (%)                                      | <b>3.0</b>     | 1.4     | 12.6    | 5.7     | 5.9     | <b>na</b>      | <b>na</b>       |
| <b>Net Interest Margin (1)</b>                                 |                |         |         |         |         |                |                 |
| Average earning assets   | <b>682,945</b> | 646,799 | 622,732 | 579,471 | 528,786 | <b>7.1</b>     | <b>7.6</b>      |
| Net interest margin (%)  | <b>1.51</b>    | 1.55    | 1.59    | 1.51    | 1.57    | <b>na</b>      | <b>na</b>       |
| Adjusted net interest margin (%)                               | <b>1.51</b>    | 1.55    | 1.59    | 1.51    | 1.57    | <b>na</b>      | <b>na</b>       |
| Canadian dollar net interest margin (%)                        | <b>1.75</b>    | 1.64    | 1.66    | 1.67    | 1.81    | <b>na</b>      | <b>na</b>       |
| U.S. dollar and other currencies net interest margin (%)       | <b>1.28</b>    | 1.46    | 1.76    | 1.64    | 1.56    | <b>na</b>      | <b>na</b>       |
| <b>Non-Interest Revenue</b>                                    |                |         |         |         |         |                |                 |
| Securities commissions and fees                                | <b>1,029</b>   | 969     | 924     | 901     | 894     | <b>4.6</b>     | <b>(0.7)</b>    |
| Deposit and payment service charges                            | <b>1,144</b>   | 1,123   | 1,076   | 1,005   | 1,002   | <b>4.6</b>     | <b>4.2</b>      |
| Trading revenues   | <b>1,830</b>   | 1,352   | 1,192   | 987     | 949     | <b>16.6</b>    | <b>12.9</b>     |
| Lending fees   | <b>997</b>     | 917     | 859     | 737     | 680     | <b>10.6</b>    | <b>8.8</b>      |
| Card fees  | <b>564</b>     | 479     | 526     | 532     | 462     | <b>4.1</b>     | <b>6.8</b>      |
| Investment management and custodial fees                       | <b>1,742</b>   | 1,622   | 1,556   | 1,552   | 1,286   | <b>11.7</b>    | <b>17.8</b>     |
| Mutual fund revenues   | <b>1,473</b>   | 1,411   | 1,364   | 1,377   | 1,065   | <b>12.2</b>    | <b>9.6</b>      |
| Underwriting and advisory fees                                 | <b>936</b>     | 1,036   | 820     | 706     | 744     | <b>7.5</b>     | <b>10.2</b>     |
| Securities gains, other than trading                           | <b>239</b>     | 171     | 84      | 171     | 162     | <b>(3.5)</b>   | <b>nm</b>       |
| Foreign exchange, other than trading                           | <b>182</b>     | 191     | 162     | 172     | 179     | <b>1.1</b>     | <b>8.5</b>      |
| Insurance revenue (2)  | <b>1,879</b>   | 2,070   | 2,023   | 1,762   | 2,008   | <b>9.2</b>     | <b>19.6</b>     |
| Investments in associates and joint ventures                   | <b>167</b>     | 386     | 140     | 207     | 169     | <b>(2.6)</b>   | <b>nm</b>       |
| Other revenues   | <b>542</b>     | 526     | 489     | 517     | 331     | <b>9.1</b>     | <b>10.0</b>     |
| <b>Total Non-Interest Revenue</b>                              | <b>12,724</b>  | 12,253  | 11,215  | 10,626  | 9,931   | <b>8.8</b>     | <b>9.3</b>      |
| Year-over-year non-interest revenue growth (%)                 | <b>3.9</b>     | 9.2     | 5.5     | 7.0     | 19.0    | <b>na</b>      | <b>na</b>       |
| Non-interest revenue as a % of total revenue                   | <b>55.2</b>    | 55.0    | 53.2    | 54.8    | 54.5    | <b>na</b>      | <b>na</b>       |
| <b>Adjusted Non-Interest Revenue</b>                           | <b>12,724</b>  | 12,253  | 11,299  | 10,627  | 9,931   | <b>8.9</b>     | <b>8.6</b>      |
| Year-over-year adjusted non-interest revenue growth (%)        | <b>3.9</b>     | 8.4     | 6.3     | 7.0     | 19.5    | <b>na</b>      | <b>na</b>       |
| Adjusted non-interest revenue as a % of total adjusted revenue | <b>55.2</b>    | 55.0    | 53.4    | 54.8    | 54.5    | <b>na</b>      | <b>na</b>       |
| <b>Total Revenue</b>   | <b>23,037</b>  | 22,260  | 21,087  | 19,389  | 18,223  | <b>6.5</b>     | <b>8.4</b>      |
| Year-over-year total revenue growth (%)                        | <b>3.5</b>     | 5.6     | 8.8     | 6.4     | 8.3     | <b>na</b>      | <b>na</b>       |
| <b>Total Revenue, net of CCPB (2)</b>                          | <b>21,685</b>  | 20,722  | 19,544  | 18,135  | 16,718  | <b>6.2</b>     | <b>7.8</b>      |
| Year-over-year total revenue growth, net of CCPB (%)           | <b>4.6</b>     | 6.0     | 7.8     | 8.5     | 4.1     | <b>na</b>      | <b>na</b>       |
| <b>Total Adjusted Revenue</b>                                  | <b>23,037</b>  | 22,260  | 21,171  | 19,391  | 18,223  | <b>7.4</b>     | <b>8.0</b>      |
| Year-over-year total adjusted revenue growth (%)               | <b>3.5</b>     | 5.1     | 9.2     | 6.4     | 12.9    | <b>na</b>      | <b>na</b>       |
| <b>Total Adjusted Revenue, net of CCPB (2)</b>                 | <b>21,685</b>  | 20,722  | 19,628  | 18,137  | 16,718  | <b>7.1</b>     | <b>7.4</b>      |
| Year-over-year total adjusted revenue growth, net of CCPB (%)  | <b>4.6</b>     | 5.6     | 8.2     | 8.5     | 8.7     | <b>na</b>      | <b>na</b>       |

Five-year and ten-year CAGR based on CGAAP in 2008 and IFRS in 2013 and 2018.

The adoption of new IFRS standards in 2015 and 2018 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

**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                             | 2018          | 2017          | 2016          | 2015          | 2014          | 5-year<br>CAGR | 10-year<br>CAGR |
|---|---------------|---------------|---------------|---------------|---------------|----------------|-----------------|
| <b>Non-Interest Expense</b>   |               |               |               |               |               |                |                 |
| Employee compensation   |               |               |               |               |               |                |                 |
| Salaries  | 4,174         | 3,995         | 4,082         | 3,910         | 3,388         | 5.1            | 6.9             |
| Performance-based compensation  | 2,510         | 2,386         | 2,278         | 2,102         | 1,946         | 8.3            | 6.8             |
| Employee benefits   | 775           | 1,086         | 1,022         | 1,069         | 908           | (2.9)          | 3.9             |
| Total employee compensation   | 7,459         | 7,467         | 7,382         | 7,081         | 6,242         | 5.0            | 6.5             |
| Premises and equipment  |               |               |               |               |               |                |                 |
| Rental of real estate   | 526           | 494           | 486           | 462           | 415           | 4.8            | 6.5             |
| Premises, furniture and fixtures  | 345           | 282           | 337           | 287           | 261           | (1.8)          | 3.1             |
| Property taxes  | 38            | 39            | 42            | 39            | 39            | 0.2            | 2.7             |
| Computers and equipment   | 1,844         | 1,676         | 1,528         | 1,349         | 1,193         | 13.0           | 10.5            |
| Total premises and equipment  | 2,753         | 2,491         | 2,393         | 2,137         | 1,908         | 8.5            | 8.3             |
| Other expenses  |               |               |               |               |               |                |                 |
| Amortization of intangible assets   | 503           | 485           | 444           | 411           | 382           | 7.8            | 10.6            |
| Communications  | 282           | 286           | 294           | 314           | 289           | (0.7)          | 3.4             |
| Business, capital and sundry taxes  | 38            | 38            | 42            | 45            | 39            | (0.4)          | (1.1)           |
| Professional fees   | 564           | 563           | 523           | 595           | 622           | 1.4            | 3.9             |
| Travel and business development   | 673           | 693           | 646           | 605           | 542           | 5.6            | 7.5             |
| Other   | 1,341         | 1,307         | 1,317         | 1,062         | 931           | 9.1            | 9.4             |
| Total other expenses  | 3,401         | 3,372         | 3,266         | 3,032         | 2,805         | 5.6            | 7.3             |
| <b>Total Non-Interest Expense</b>   | <b>13,613</b> | <b>13,330</b> | <b>13,041</b> | <b>12,250</b> | <b>10,955</b> | <b>5.8</b>     | <b>7.0</b>      |
| Year-over-year total non-interest expense growth (%)  | 2.1           | 2.2           | 6.5           | 11.8          | 6.8           | na             | na              |
| <b>Total Adjusted Non-Interest Expense</b>  | <b>13,480</b> | <b>13,035</b> | <b>12,588</b> | <b>11,887</b> | <b>10,795</b> | <b>6.6</b>     | <b>7.0</b>      |
| Year-over-year total adjusted non-interest expense growth (%)                               | 3.4           | 3.6           | 5.9           | 10.1          | 3.7           | na             | na              |
| Non-interest expense-to-revenue ratio (Efficiency ratio) (%)                                | 59.1          | 59.9          | 61.8          | 63.2          | 60.1          | na             | na              |
| Adjusted non-interest expense-to-revenue ratio (Adjusted Efficiency ratio) (%)              | 58.5          | 58.6          | 59.5          | 61.3          | 59.2          | na             | na              |
| Efficiency ratio, net of CCPB (%)   | 62.8          | 64.3          | 66.7          | 67.5          | 65.5          | na             | na              |
| Adjusted efficiency ratio, net of CCPB (%)  | 62.2          | 62.9          | 64.1          | 65.5          | 64.6          | na             | na              |
| <b>Government Levies and Taxes</b> <sup>(1)</sup>   |               |               |               |               |               |                |                 |
| Government levies other than income taxes   |               |               |               |               |               |                |                 |
| Payroll levies  | 328           | 322           | 324           | 312           | 252           | 5.7            | 7.2             |
| Property taxes  | 38            | 39            | 42            | 39            | 39            | 0.2            | 2.7             |
| Provincial capital taxes  | 29            | 29            | 30            | 33            | 27            | (1.0)          | (1.0)           |
| Business taxes  | 8             | 8             | 9             | 10            | 9             | (1.0)          | (2.8)           |
| Harmonized sales tax, GST, VAT and other sales taxes  | 350           | 330           | 318           | 288           | 273           | 6.0            | 11.7            |
| Sundry taxes  | 1             | 1             | 3             | 2             | 2             | nm             | nm              |
| Total government levies other than income taxes   | 754           | 729           | 726           | 684           | 602           | 5.1            | 7.8             |
| Provision for income taxes  | 1,960         | 1,296         | 1,101         | 936           | 903           | 13.2           | nm              |
| <b>Total Government Levies and Taxes</b>  | <b>2,714</b>  | <b>2,025</b>  | <b>1,827</b>  | <b>1,620</b>  | <b>1,505</b>  | <b>10.5</b>    | <b>25.4</b>     |
| Total government levies and taxes as a % of income before total government levies and taxes | 33.2          | 27.5          | 28.3          | 26.9          | 25.8          | na             | na              |
| Effective income tax rate (%)   | 26.5          | 19.5          | 19.2          | 17.5          | 17.2          | na             | na              |
| Adjusted effective income tax rate (%)  | 20.7          | 19.8          | 19.9          | 18.0          | 17.5          | na             | na              |

Five-year and ten-year CAGR based on CGAAP in 2008 and IFRS in 2013 and 2018.

The adoption of new IFRS standards in 2015 and 2018 only impacted our results prospectively.

(1) Government levies are included in various non-interest expense categories.

na - not applicable

nm - not meaningful

Table 5: Average Assets, Liabilities and Interest Rates

| (\$ millions, except as noted)<br>For the year ended October 31                                   | 2018                |                                 |                                | 2017                |                                 |                                | 2016                |                                 |                                |
|---|---------------------|---------------------------------|--------------------------------|---------------------|---------------------------------|--------------------------------|---------------------|---------------------------------|--------------------------------|
|   | Average<br>balances | Average<br>interest<br>rate (%) | Interest<br>income/<br>expense | Average<br>balances | Average<br>interest<br>rate (%) | Interest<br>income/<br>expense | Average<br>balances | Average<br>interest<br>rate (%) | Interest<br>income/<br>expense |
| <b>Assets</b>   |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| <b>Canadian Dollar</b>  |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| Deposits with other banks and other interest bearing assets                                       | 2,374               | 1.83                            | 43                             | 1,643               | 0.51                            | 8                              | 2,095               | 1.00                            | 20                             |
| Securities  | 79,187              | 1.27                            | 1,007                          | 84,985              | 0.98                            | 836                            | 84,099              | 1.09                            | 914                            |
| Securities borrowed or purchased under resale agreements  | 36,325              | 1.56                            | 566                            | 32,528              | 0.95                            | 309                            | 34,906              | 0.75                            | 261                            |
| Loans   |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| Residential mortgages   | 106,610             | 2.79                            | 2,973                          | 104,529             | 2.61                            | 2,729                          | 99,280              | 2.63                            | 2,615                          |
| Non-residential mortgages   | 5,873               | 3.28                            | 193                            | 6,114               | 3.23                            | 197                            | 6,281               | 3.37                            | 212                            |
| Personal and credit cards   | 58,612              | 5.15                            | 3,021                          | 57,675              | 4.77                            | 2,752                          | 56,211              | 4.71                            | 2,645                          |
| Business and government   | 56,427              | 3.98                            | 2,248                          | 52,668              | 3.48                            | 1,831                          | 49,057              | 3.60                            | 1,767                          |
| Total loans   | 227,522             | 3.71                            | 8,435                          | 220,986             | 3.40                            | 7,509                          | 210,829             | 3.43                            | 7,239                          |
| Total Canadian dollar   | 345,408             | 2.91                            | 10,051                         | 340,142             | 2.55                            | 8,662                          | 331,929             | 2.54                            | 8,434                          |
| <b>U.S. Dollar and Other Currencies</b>   |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| Deposits with other banks and other interest bearing assets                                       | 46,607              | 1.40                            | 654                            | 39,660              | 0.86                            | 340                            | 42,921              | 0.48                            | 205                            |
| Securities  | 91,198              | 1.68                            | 1,528                          | 74,991              | 1.29                            | 965                            | 57,820              | 1.17                            | 676                            |
| Securities borrowed or purchased under resale agreements  | 55,647              | 1.81                            | 1,010                          | 54,766              | 0.93                            | 508                            | 54,210              | 0.59                            | 319                            |
| Loans   |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| Residential mortgages   | 11,218              | 3.60                            | 404                            | 8,548               | 3.55                            | 304                            | 8,630               | 3.52                            | 304                            |
| Non-residential mortgages   | 6,652               | 4.48                            | 298                            | 5,159               | 3.88                            | 200                            | 4,672               | 3.72                            | 174                            |
| Personal and credit cards   | 10,799              | 4.41                            | 476                            | 11,513              | 3.90                            | 449                            | 15,771              | 3.32                            | 524                            |
| Business and government   | 113,772             | 4.42                            | 5,030                          | 110,166             | 3.87                            | 4,261                          | 104,853             | 3.58                            | 3,752                          |
| Total loans   | 142,441             | 4.36                            | 6,208                          | 135,386             | 3.85                            | 5,214                          | 133,926             | 3.55                            | 4,754                          |
| Total U.S. dollar and other currencies  | 335,893             | 2.80                            | 9,400                          | 304,803             | 2.31                            | 7,027                          | 288,877             | 2.06                            | 5,954                          |
| Other non-interest bearing assets   | 72,994              |                                 |                                | 77,681              |                                 |                                | 86,316              |                                 |                                |
| <b>Total All Currencies</b>   |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| Total assets and interest income  | 754,295             | 2.58                            | 19,451                         | 722,626             | 2.17                            | 15,689                         | 707,122             | 2.03                            | 14,388                         |
| <b>Liabilities</b>  |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| <b>Canadian Dollar</b>  |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| Deposits  |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| Banks   | 3,607               | 0.59                            | 21                             | 6,267               | 0.44                            | 27                             | 7,998               | 0.30                            | 24                             |
| Business and government   | 103,986             | 1.61                            | 1,673                          | 103,109             | 1.20                            | 1,237                          | 97,969              | 1.24                            | 1,218                          |
| Individuals   | 111,081             | 0.80                            | 891                            | 108,200             | 0.70                            | 754                            | 101,402             | 0.75                            | 757                            |
| Total deposits  | 218,674             | 1.18                            | 2,585                          | 217,576             | 0.93                            | 2,018                          | 207,369             | 0.96                            | 1,999                          |
| Securities sold but not yet purchased and securities lent or sold under repurchase agreements (1) | 40,640              | 2.00                            | 811                            | 34,300              | 1.58                            | 544                            | 37,017              | 1.44                            | 532                            |
| Subordinated debt and other interest bearing liabilities  | 25,359              | 2.48                            | 628                            | 25,334              | 2.02                            | 512                            | 27,127              | 2.08                            | 563                            |
| Total Canadian dollar   | 284,673             | 1.41                            | 4,024                          | 277,210             | 1.11                            | 3,074                          | 271,513             | 1.14                            | 3,094                          |
| <b>U.S. Dollar and Other Currencies</b>   |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| Deposits  |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| Banks   | 26,282              | 1.93                            | 506                            | 24,416              | 1.10                            | 269                            | 25,485              | 0.58                            | 148                            |
| Business and government   | 191,739             | 1.37                            | 2,622                          | 181,732             | 0.78                            | 1,417                          | 178,609             | 0.42                            | 758                            |
| Individuals   | 61,651              | 0.59                            | 367                            | 57,245              | 0.33                            | 190                            | 54,081              | 0.24                            | 131                            |
| Total deposits  | 279,672             | 1.25                            | 3,495                          | 263,393             | 0.71                            | 1,876                          | 258,175             | 0.40                            | 1,037                          |
| Securities sold but not yet purchased and securities lent or sold under repurchase agreements (1) | 63,940              | 1.94                            | 1,240                          | 59,154              | 0.96                            | 570                            | 50,791              | 0.57                            | 288                            |
| Subordinated debt and other interest bearing liabilities  | 16,798              | 2.26                            | 379                            | 10,776              | 1.51                            | 162                            | 8,842               | 1.10                            | 97                             |
| Total U.S. dollar and other currencies  | 360,410             | 1.42                            | 5,114                          | 333,323             | 0.78                            | 2,608                          | 317,808             | 0.45                            | 1,422                          |
| Other non-interest bearing liabilities  | 65,223              |                                 |                                | 69,049              |                                 |                                | 77,546              |                                 |                                |
| <b>Total All Currencies</b>   |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| Total liabilities and interest expense  | 710,306             | 1.29                            | 9,138                          | 679,582             | 0.84                            | 5,682                          | 666,867             | 0.68                            | 4,516                          |
| Shareholders' equity  | 43,989              |                                 |                                | 43,044              |                                 |                                | 40,255              |                                 |                                |
| <b>Total Liabilities, Interest Expense and Shareholders' Equity</b>                               | 754,295             | 1.21                            | 9,138                          | 722,626             | 0.79                            | 5,682                          | 707,122             | 0.64                            | 4,516                          |
| <b>Net interest margin</b>  |                     |                                 |                                |                     |                                 |                                |                     |                                 |                                |
| – based on earning assets   |                     | 1.51                            |                                |                     | 1.55                            |                                |                     | 1.59                            |                                |
| – based on total assets   |                     | 1.37                            |                                |                     | 1.38                            |                                |                     | 1.40                            |                                |
| <b>Net interest income</b>  |                     |                                 | 10,313                         |                     |                                 | 10,007                         |                     |                                 | 9,872                          |

(1) For the years ended October 31, 2018, 2017 and 2016, the maximum amount of securities lent or sold under repurchase agreements at any month end amounted to \$85,489 million, \$72,826 million and \$67,169 million, respectively.

## Table 6: Volume/Rate Analysis of Changes in Net Interest Income

| (\$ millions)<br>For the year ended October 31  | 2018/2017                            |              |       | 2017/2016                            |              |       |
|---|--------------------------------------|--------------|-------|--------------------------------------|--------------|-------|
|   | Increase (decrease) due to change in |              |       | Increase (decrease) due to change in |              |       |
|   | Average balance                      | Average rate | Total | Average balance                      | Average rate | Total |
| <b>Assets</b>   |                                      |              |       |                                      |              |       |
| <b>Canadian Dollar</b>  |                                      |              |       |                                      |              |       |
| Deposits with other banks and other interest bearing assets                                   | 4                                    | 31           | 35    | (4)                                  | (8)          | (12)  |
| Securities  | (57)                                 | 228          | 171   | 9                                    | (87)         | (78)  |
| Securities borrowed or purchased under resale agreements                                      | 36                                   | 221          | 257   | (17)                                 | 65           | 48    |
| Loans   |                                      |              |       |                                      |              |       |
| Residential mortgages   | 54                                   | 190          | 244   | 138                                  | (24)         | 114   |
| Non-residential mortgages   | (8)                                  | 4            | (4)   | (6)                                  | (9)          | (15)  |
| Personal and credit cards   | 45                                   | 224          | 269   | 69                                   | 38           | 107   |
| Business and government   | 130                                  | 287          | 417   | 131                                  | (67)         | 64    |
| Total loans   | 221                                  | 705          | 926   | 332                                  | (62)         | 270   |
| Change in Canadian dollar interest income   | 204                                  | 1,185        | 1,389 | 320                                  | (92)         | 228   |
| <b>U.S. Dollar and Other Currencies</b>   |                                      |              |       |                                      |              |       |
| Deposits with other banks and other interest bearing assets                                   | 59                                   | 255          | 314   | (15)                                 | 150          | 135   |
| Securities  | 209                                  | 354          | 563   | 201                                  | 88           | 289   |
| Securities borrowed or purchased under resale agreements                                      | 8                                    | 494          | 502   | 3                                    | 186          | 189   |
| Loans   |                                      |              |       |                                      |              |       |
| Residential mortgages   | 95                                   | 5            | 100   | (3)                                  | 3            | -     |
| Non-residential mortgages   | 58                                   | 40           | 98    | 18                                   | 8            | 26    |
| Personal and credit cards   | (28)                                 | 55           | 27    | (142)                                | 67           | (75)  |
| Business and government   | 140                                  | 629          | 769   | 190                                  | 319          | 509   |
| Total loans   | 265                                  | 729          | 994   | 63                                   | 397          | 460   |
| Change in U.S. dollar and other currencies interest income                                    | 541                                  | 1,832        | 2,373 | 252                                  | 821          | 1,073 |
| <b>Total All Currencies</b>   |                                      |              |       |                                      |              |       |
| Change in total interest income (a)   | 745                                  | 3,017        | 3,762 | 572                                  | 729          | 1,301 |
| <b>Liabilities</b>  |                                      |              |       |                                      |              |       |
| <b>Canadian Dollar</b>  |                                      |              |       |                                      |              |       |
| Deposits  |                                      |              |       |                                      |              |       |
| Banks   | (12)                                 | 6            | (6)   | (5)                                  | 8            | 3     |
| Business and government   | 11                                   | 425          | 436   | 64                                   | (45)         | 19    |
| Individuals   | 20                                   | 117          | 137   | 51                                   | (54)         | (3)   |
| Total deposits  | 19                                   | 548          | 567   | 110                                  | (91)         | 19    |
| Securities sold but not yet purchased and securities lent or sold under repurchase agreements | 100                                  | 167          | 267   | (39)                                 | 51           | 12    |
| Subordinated debt and other interest bearing liabilities                                      | 1                                    | 115          | 116   | (37)                                 | (14)         | (51)  |
| Change in Canadian dollar interest expense  | 120                                  | 830          | 950   | 34                                   | (54)         | (20)  |
| <b>U.S. Dollar and Other Currencies</b>   |                                      |              |       |                                      |              |       |
| Deposits  |                                      |              |       |                                      |              |       |
| Banks   | 20                                   | 217          | 237   | (6)                                  | 127          | 121   |
| Business and government   | 78                                   | 1,127        | 1,205 | 13                                   | 646          | 659   |
| Individuals   | 15                                   | 162          | 177   | 8                                    | 51           | 59    |
| Total deposits  | 113                                  | 1,506        | 1,619 | 15                                   | 824          | 839   |
| Securities sold but not yet purchased and securities lent or sold under repurchase agreements | 46                                   | 624          | 670   | 47                                   | 235          | 282   |
| Subordinated debt and other interest bearing liabilities                                      | 91                                   | 126          | 217   | 21                                   | 44           | 65    |
| Change in U.S. dollar and other currencies interest expense                                   | 250                                  | 2,256        | 2,506 | 83                                   | 1,103        | 1,186 |
| <b>Total All Currencies</b>   |                                      |              |       |                                      |              |       |
| Change in total interest expense (b)  | 370                                  | 3,086        | 3,456 | 117                                  | 1,049        | 1,166 |
| Change in total net interest income (a - b)   | 375                                  | (69)         | 306   | 455                                  | (320)        | 135   |

**Table 7: Net Loans and Acceptances – Segmented Information** <sup>(1)(2)</sup>

| (\$ millions)  | Canada         |         |         |         |         | United States  |         |         |         |        | Other countries |        |        |        |        |
|--|----------------|---------|---------|---------|---------|----------------|---------|---------|---------|--------|-----------------|--------|--------|--------|--------|
| As at October 31   | 2018           | 2017    | 2016    | 2015    | 2014    | 2018           | 2017    | 2016    | 2015    | 2014   | 2018            | 2017   | 2016   | 2015   | 2014   |
| <b>Consumer</b>  |                |         |         |         |         |                |         |         |         |        |                 |        |        |        |        |
| Residential mortgages  | <b>107,956</b> | 106,647 | 103,558 | 96,975  | 92,972  | <b>11,645</b>  | 8,587   | 8,686   | 8,905   | 7,980  | -               | -      | -      | -      | -      |
| Credit cards   | <b>7,788</b>   | 7,550   | 7,541   | 7,427   | 7,476   | <b>541</b>     | 521     | 560     | 553     | 496    | -               | -      | -      | -      | -      |
| Consumer instalment and other personal loans   | <b>52,706</b>  | 51,637  | 50,368  | 49,181  | 48,955  | <b>9,918</b>   | 9,798   | 13,974  | 16,098  | 15,088 | <b>458</b>      | 373    | 215    | 206    | 1      |
| <b>Total consumer</b>  | <b>168,450</b> | 165,834 | 161,467 | 153,583 | 149,403 | <b>22,104</b>  | 18,906  | 23,220  | 25,556  | 23,564 | <b>458</b>      | 373    | 215    | 206    | 1      |
| <b>Total business and government</b>   | <b>94,459</b>  | 84,046  | 78,884  | 69,044  | 63,460  | <b>109,286</b> | 96,079  | 98,236  | 75,336  | 56,366 | <b>9,088</b>    | 11,255 | 10,037 | 10,611 | 10,844 |
| <b>Total loans and acceptances, net of allowance for credit losses on impaired loans</b> | <b>262,909</b> | 249,880 | 240,351 | 222,627 | 212,863 | <b>131,390</b> | 114,985 | 121,456 | 100,892 | 79,930 | <b>9,546</b>    | 11,628 | 10,252 | 10,817 | 10,845 |
| <b>Allowance for credit losses on performing loans (3)</b>                               | <b>(689)</b>   | (799)   | (833)   | (816)   | (766)   | <b>(574)</b>   | (641)   | (687)   | (682)   | (595)  | <b>(6)</b>      | -      | -      | -      | -      |
| <b>Total net loans and acceptances</b>   | <b>262,220</b> | 249,081 | 239,518 | 221,811 | 212,097 | <b>130,816</b> | 114,344 | 120,769 | 100,210 | 79,335 | <b>9,540</b>    | 11,628 | 10,252 | 10,817 | 10,845 |

**Table 8: Net Impaired Loans and Acceptances – Segmented Information** <sup>(2)(4)</sup>

| (\$ millions, except as noted)  | Canada      |      |      |      |      | United States |       |       |       |       | Other countries |      |      |      |      |
|---|-------------|------|------|------|------|---------------|-------|-------|-------|-------|-----------------|------|------|------|------|
| As at October 31  | 2018        | 2017 | 2016 | 2015 | 2014 | 2018          | 2017  | 2016  | 2015  | 2014  | 2018            | 2017 | 2016 | 2015 | 2014 |
| <b>Consumer</b>   |             |      |      |      |      |               |       |       |       |       |                 |      |      |      |      |
| Residential mortgages   | <b>185</b>  | 206  | 195  | 204  | 208  | <b>171</b>    | 161   | 175   | 173   | 303   | -               | -    | -    | -    | -    |
| Consumer instalment and other personal loans  | <b>126</b>  | 127  | 121  | 117  | 136  | <b>252</b>    | 293   | 345   | 316   | 309   | -               | -    | -    | -    | -    |
| <b>Total consumer</b>   | <b>311</b>  | 333  | 316  | 321  | 344  | <b>423</b>    | 454   | 520   | 489   | 612   | -               | -    | -    | -    | -    |
| <b>Business and government</b>  | <b>235</b>  | 248  | 298  | 220  | 247  | <b>597</b>    | 762   | 843   | 613   | 507   | -               | 30   | 1    | 4    | 4    |
| <b>Total impaired loans and acceptances, net of allowance for credit losses on impaired loans</b> | <b>546</b>  | 581  | 614  | 541  | 591  | <b>1,020</b>  | 1,216 | 1,363 | 1,102 | 1,119 | -               | 30   | 1    | 4    | 4    |
| <b>Condition Ratios (1)</b>   |             |      |      |      |      |               |       |       |       |       |                 |      |      |      |      |
| <b>NIL as a % of net loans and acceptances</b>  | <b>0.21</b> | 0.23 | 0.26 | 0.24 | 0.28 | <b>0.78</b>   | 1.06  | 1.13  | 1.10  | 1.41  | -               | 0.26 | 0.01 | 0.04 | 0.04 |
| <b>NIL as a % of net loans and acceptances</b>  |             |      |      |      |      |               |       |       |       |       |                 |      |      |      |      |
| <b>Consumer</b>   | <b>0.18</b> | 0.20 | 0.20 | 0.21 | 0.23 | <b>1.91</b>   | 2.40  | 2.24  | 1.91  | 2.60  | -               | -    | -    | -    | -    |
| <b>Business and government</b>  | <b>0.25</b> | 0.30 | 0.38 | 0.32 | 0.39 | <b>0.55</b>   | 0.79  | 0.86  | 0.81  | 0.90  | -               | 0.27 | 0.01 | 0.04 | 0.04 |

(1) Aggregate Net Loans and Acceptances balances are net of allowance for credit losses on performing loans and impaired loans (excluding those related to off-balance sheet instruments and undrawn commitments). The Consumer and Business and government Net Loans and Acceptances balances are stated net of allowance for credit losses on impaired loans only (excluding those related to off-balance sheet instruments and undrawn commitments).

(2) Segmented credit information by geographic area is based upon the country of ultimate risk.

(3) Prior periods have not been restated to reflect the adoption of IFRS 9 in 2018. The adoption of IFRS 9 has been applied prospectively.

(4) Net Impaired Loans balances are net of allowance for credit losses on impaired loans, excluding off-balance sheet instruments and undrawn commitments.

**Table 9: Net Loans and Acceptances – Segmented Information** <sup>(1)(2)</sup>

|  |  |  |  |  | (\$ millions)    |         |         |         |         |
|--|--|--|--|--|------------------|---------|---------|---------|---------|
|  |  |  |  |  | As at October 31 |         |         |         |         |
|  |  |  |  |  | 2018             | 2017    | 2016    | 2015    | 2014    |
| <b>Net Loans and Acceptances by Province</b>         |  |  |  |  |                  |         |         |         |         |
| Atlantic provinces                                   |  |  |  |  | <b>13,925</b>    | 13,686  | 13,736  | 13,364  | 13,067  |
| Quebec   |  |  |  |  | <b>40,177</b>    | 38,802  | 38,263  | 36,493  | 35,651  |
| Ontario  |  |  |  |  | <b>111,107</b>   | 104,566 | 97,991  | 88,850  | 84,117  |
| Prairie provinces                                    |  |  |  |  | <b>48,634</b>    | 46,853  | 46,411  | 43,519  | 42,006  |
| British Columbia and territories                     |  |  |  |  | <b>48,377</b>    | 45,174  | 43,117  | 39,585  | 37,256  |
| <b>Total net loans and acceptances in Canada</b>     |  |  |  |  | <b>262,220</b>   | 249,081 | 239,518 | 221,811 | 212,097 |
| <b>Net Business and Government Loans by Industry</b> |  |  |  |  |                  |         |         |         |         |
| Commercial real estate                               |  |  |  |  | <b>31,028</b>    | 26,479  | 24,126  | 20,509  | 17,528  |
| Construction (non-real estate)                       |  |  |  |  | <b>3,916</b>     | 3,916   | 3,563   | 3,544   | 3,101   |
| Retail trade   |  |  |  |  | <b>20,403</b>    | 18,496  | 16,430  | 13,538  | 12,035  |
| Wholesale trade                                      |  |  |  |  | <b>14,814</b>    | 11,612  | 12,157  | 10,172  | 7,964   |
| Agriculture  |  |  |  |  | <b>12,321</b>    | 11,114  | 10,951  | 9,891   | 9,155   |
| Communications                                       |  |  |  |  | <b>729</b>       | 625     | 905     | 815     | 831     |
| Financing products                                   |  |  |  |  | <b>4,439</b>     | 5,060   | 6,093   | 6,454   | 3,950   |
| Manufacturing  |  |  |  |  | <b>22,839</b>    | 19,824  | 18,587  | 16,064  | 13,427  |
| Mining   |  |  |  |  | <b>1,916</b>     | 1,344   | 1,867   | 1,309   | 1,085   |
| Oil and gas  |  |  |  |  | <b>9,168</b>     | 8,167   | 7,930   | 6,667   | 5,943   |
| Transportation                                       |  |  |  |  | <b>10,973</b>    | 10,496  | 10,695  | 3,735   | 2,532   |
| Utilities  |  |  |  |  | <b>3,911</b>     | 2,776   | 2,697   | 1,984   | 1,670   |
| Forest products                                      |  |  |  |  | <b>840</b>       | 835     | 889     | 859     | 587     |
| Service industries                                   |  |  |  |  | <b>38,348</b>    | 33,705  | 32,659  | 26,778  | 21,030  |
| Financial  |  |  |  |  | <b>32,463</b>    | 32,265  | 32,076  | 27,430  | 22,590  |
| Government   |  |  |  |  | <b>1,436</b>     | 1,470   | 1,326   | 1,488   | 1,690   |
| Other  |  |  |  |  | <b>3,289</b>     | 3,196   | 4,206   | 3,754   | 5,552   |
|  |  |  |  |  | <b>212,833</b>   | 191,380 | 187,157 | 154,991 | 130,670 |

**Table 10: Net Impaired Loans and Acceptances – Segmented Information** <sup>(3)</sup>

|   |  |  |  |  | (\$ millions)    |       |       |      |      |
|---|--|--|--|--|------------------|-------|-------|------|------|
|   |  |  |  |  | As at October 31 |       |       |      |      |
|   |  |  |  |  | 2018             | 2017  | 2016  | 2015 | 2014 |
| <b>Net Impaired Business and Government Loans</b> |  |  |  |  |                  |       |       |      |      |
| Commercial real estate                            |  |  |  |  | <b>45</b>        | 45    | 60    | 87   | 159  |
| Construction (non-real estate)                    |  |  |  |  | <b>18</b>        | 39    | 45    | 83   | 84   |
| Retail trade                                      |  |  |  |  | <b>50</b>        | 36    | 13    | 55   | 38   |
| Wholesale trade                                   |  |  |  |  | <b>42</b>        | 97    | 51    | 47   | 35   |
| Agriculture                                       |  |  |  |  | <b>193</b>       | 238   | 221   | 129  | 103  |
| Communications                                    |  |  |  |  | -                | -     | 1     | 13   | 59   |
| Financing products                                |  |  |  |  | -                | -     | -     | -    | -    |
| Manufacturing                                     |  |  |  |  | <b>77</b>        | 70    | 106   | 102  | 100  |
| Mining  |  |  |  |  | <b>1</b>         | 1     | 2     | 3    | 2    |
| Oil and gas                                       |  |  |  |  | <b>57</b>        | 145   | 408   | 100  | 1    |
| Transportation                                    |  |  |  |  | <b>90</b>        | 156   | 88    | 30   | 7    |
| Utilities   |  |  |  |  | <b>2</b>         | 4     | 12    | 14   | -    |
| Forest products                                   |  |  |  |  | -                | 2     | 7     | 9    | 13   |
| Service industries                                |  |  |  |  | <b>191</b>       | 181   | 82    | 107  | 145  |
| Financial   |  |  |  |  | <b>66</b>        | 2     | 39    | 48   | 9    |
| Government  |  |  |  |  | -                | 3     | 6     | -    | 2    |
| Other   |  |  |  |  | -                | 21    | 1     | 10   | 1    |
|   |  |  |  |  | <b>832</b>       | 1,040 | 1,142 | 837  | 758  |

(1) Aggregated Net Loans and Acceptances are net of allowance for credit losses on performing loans and impaired loans (excluding those related to off-balance sheet instruments and undrawn commitments). The Consumer and Business and government Net Loans and Acceptances balances are stated net of allowance for credit losses on impaired loans only (excluding those related to off-balance sheet instruments and undrawn commitments).

(2) Segmented credit information by geographic area is based upon the country of ultimate risk.

(3) Net Impaired Loans balances are net of allowance for credit losses on impaired loans, excluding off-balance sheet instruments and undrawn commitments.

**Table 11: Changes in Gross Impaired Loans – Segmented Information** <sup>(1)(2)</sup>

| (\$ millions, except as noted)                           | Canada       |       |       |       |       | United States |       |       |       |         | Other countries |      |      |      |      |
|--|--------------|-------|-------|-------|-------|---------------|-------|-------|-------|---------|-----------------|------|------|------|------|
| As at October 31   | 2018         | 2017  | 2016  | 2015  | 2014  | 2018          | 2017  | 2016  | 2015  | 2014    | 2018            | 2017 | 2016 | 2015 | 2014 |
| <b>Gross impaired loans and acceptances</b>              |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| <b>(GIL), beginning of year</b>                          |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| Consumer   | 439          | 407   | 404   | 438   | 385   | 508           | 585   | 557   | 678   | 702     | -               | -    | -    | -    | -    |
| Business and government                                  | 354          | 380   | 282   | 344   | 406   | 869           | 1,009 | 757   | 623   | 1,081   | 50              | 2    | 4    | 5    | 7    |
| <b>Total GIL, beginning of year</b>                      | <b>793</b>   | 787   | 686   | 782   | 791   | <b>1,377</b>  | 1,594 | 1,314 | 1,301 | 1,783   | <b>50</b>       | 2    | 4    | 5    | 7    |
| <b>Additions to impaired loans and acceptances</b>       |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| <b>Consumer</b>  |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| Consumer   | 836          | 697   | 631   | 617   | 643   | 274           | 360   | 473   | 526   | 529     | -               | -    | -    | -    | -    |
| Business and government                                  | 321          | 281   | 453   | 231   | 285   | 647           | 799   | 953   | 542   | 685     | -               | 56   | 2    | 5    | -    |
| <b>Total additions</b>                                   | <b>1,157</b> | 978   | 1,084 | 848   | 928   | <b>921</b>    | 1,159 | 1,426 | 1,068 | 1,214   | -               | 56   | 2    | 5    | -    |
| <b>Reductions to impaired loans and acceptances</b>      |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| <b>(3)</b>   |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| Consumer   | (628)        | (479) | (446) | (474) | (428) | (212)         | (301) | (282) | (432) | (321)   | -               | -    | -    | -    | -    |
| Business and government                                  | (282)        | (259) | (251) | (168) | (229) | (573)         | (692) | (456) | (248) | (858)   | (49)            | (7)  | (4)  | (5)  | (2)  |
| <b>Total reductions due to net repayments and other</b>  | <b>(910)</b> | (738) | (697) | (642) | (657) | <b>(785)</b>  | (993) | (738) | (680) | (1,179) | <b>(49)</b>     | (7)  | (4)  | (5)  | (2)  |
| <b>Write-offs</b>  |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| <b>(4)</b>   |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| Consumer   | (221)        | (186) | (182) | (177) | (162) | (100)         | (136) | (163) | (215) | (232)   | -               | -    | -    | -    | -    |
| Business and government                                  | (84)         | (48)  | (104) | (125) | (118) | (212)         | (247) | (245) | (160) | (285)   | (1)             | (1)  | -    | (1)  | -    |
| <b>Total write-offs</b>                                  | <b>(305)</b> | (234) | (286) | (302) | (280) | <b>(312)</b>  | (383) | (408) | (375) | (517)   | <b>(1)</b>      | (1)  | -    | (1)  | -    |
| <b>Gross impaired loans and acceptances, end of year</b> |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| Consumer   | 426          | 439   | 407   | 404   | 438   | 470           | 508   | 585   | 557   | 678     | -               | -    | -    | -    | -    |
| Business and government                                  | 309          | 354   | 380   | 282   | 344   | 731           | 869   | 1,009 | 757   | 623     | -               | 50   | 2    | 4    | 5    |
| <b>Total GIL, end of year</b>                            | <b>735</b>   | 793   | 787   | 686   | 782   | <b>1,201</b>  | 1,377 | 1,594 | 1,314 | 1,301   | -               | 50   | 2    | 4    | 5    |
| <b>Condition Ratios</b>                                  |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| <b>GIL as a % of Gross Loans</b>                         |              |       |       |       |       |               |       |       |       |         |                 |      |      |      |      |
| Consumer   | 0.25         | 0.26  | 0.25  | 0.26  | 0.29  | 0.25          | 0.26  | 0.25  | 0.28  | 0.27    | -               | -    | -    | -    | -    |
| Business and government                                  | 0.33         | 0.42  | 0.48  | 0.41  | 0.54  | 0.67          | 0.90  | 1.03  | 1.01  | 1.10    | -               | 0.44 | 0.02 | 0.04 | 0.05 |
| <b>Total Loans and Acceptances</b>                       | <b>0.28</b>  | 0.32  | 0.33  | 0.31  | 0.37  | <b>0.91</b>   | 1.20  | 1.31  | 1.31  | 1.62    | -               | 0.43 | 0.02 | 0.04 | 0.05 |

(1) GIL excludes Purchased Credit Impaired Loans.

(2) Segmented credit information by geographic area is based upon the country of ultimate risk.

(3) 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.

(4) Excludes certain loans that are written off directly and not classified as new formations.

Total

| 2018           | 2017    | 2016    | 2015    | 2014    |
|----------------|---------|---------|---------|---------|
| <b>947</b>     | 992     | 961     | 1,116   | 1,087   |
| <b>1,273</b>   | 1,391   | 1,043   | 972     | 1,494   |
| <b>2,220</b>   | 2,383   | 2,004   | 2,088   | 2,581   |
| <b>1,110</b>   | 1,057   | 1,104   | 1,143   | 1,172   |
| <b>968</b>     | 1,136   | 1,408   | 778     | 970     |
| <b>2,078</b>   | 2,193   | 2,512   | 1,921   | 2,142   |
| <b>(840)</b>   | (780)   | (728)   | (906)   | (749)   |
| <b>(904)</b>   | (958)   | (711)   | (421)   | (1,089) |
| <b>(1,744)</b> | (1,738) | (1,439) | (1,327) | (1,838) |
| <b>(321)</b>   | (322)   | (345)   | (392)   | (394)   |
| <b>(297)</b>   | (296)   | (349)   | (286)   | (403)   |
| <b>(618)</b>   | (618)   | (694)   | (678)   | (797)   |
| <b>896</b>     | 947     | 992     | 961     | 1,116   |
| <b>1,040</b>   | 1,273   | 1,391   | 1,043   | 972     |
| <b>1,936</b>   | 2,220   | 2,383   | 2,004   | 2,088   |
| <b>0.47</b>    | 0.51    | 0.54    | 0.54    | 0.64    |
| <b>0.49</b>    | 0.66    | 0.74    | 0.67    | 0.74    |
| <b>0.48</b>    | 0.59    | 0.64    | 0.60    | 0.69    |

**Table 12: Changes in Allowance for Credit Losses – Segmented Information** <sup>(1) (2)</sup>

| (\$ millions, except as noted)                              | Canada |       |       |       |       | United States |       |       |       |       | Other countries |      |      |      |      |
|---|--------|-------|-------|-------|-------|---------------|-------|-------|-------|-------|-----------------|------|------|------|------|
| As at October 31  | 2018   | 2017  | 2016  | 2015  | 2014  | 2018          | 2017  | 2016  | 2015  | 2014  | 2018            | 2017 | 2016 | 2015 | 2014 |
| <b>Allowance for credit losses (ACL), beginning of year</b> |        |       |       |       |       |               |       |       |       |       |                 |      |      |      |      |
| Consumer  | 705    | 595   | 614   | 615   | 602   | 301           | 254   | 393   | 333   | 278   | -               | -    | -    | -    | -    |
| Business and government                                     | 317    | 471   | 388   | 371   | 433   | 566           | 793   | 657   | 646   | 653   | 29              | 1    | -    | 1    | 4    |
| Total ACL, beginning of year                                | 1,022  | 1,066 | 1,002 | 986   | 1,035 | 867           | 1,047 | 1,050 | 979   | 931   | 29              | 1    | -    | 1    | 4    |
| Provision for credit losses (3)                             |        |       |       |       |       |               |       |       |       |       |                 |      |      |      |      |
| Consumer  | 416    | 394   | 373   | 366   | 406   | (9)           | 74    | (33)  | 112   | 202   | -               | -    | -    | -    | -    |
| Business and government                                     | 28     | 37    | 174   | 131   | 93    | 243           | 220   | 257   | (78)  | (172) | (21)            | 21   | -    | (1)  | (2)  |
| Total provision for credit losses                           | 444    | 431   | 547   | 497   | 499   | 234           | 294   | 224   | 34    | 30    | (21)            | 21   | -    | (1)  | (2)  |
| Recoveries  |        |       |       |       |       |               |       |       |       |       |                 |      |      |      |      |
| Consumer  | 127    | 134   | 102   | 111   | 99    | 75            | 81    | 87    | 151   | 102   | -               | -    | -    | -    | -    |
| Business and government                                     | 5      | 10    | 14    | 13    | 15    | 51            | 40    | 140   | 181   | 408   | 3               | -    | -    | -    | -    |
| Total recoveries  | 132    | 144   | 116   | 124   | 114   | 126           | 121   | 227   | 332   | 510   | 3               | -    | -    | -    | -    |
| Write-offs  |        |       |       |       |       |               |       |       |       |       |                 |      |      |      |      |
| Consumer  | (515)  | (501) | (481) | (475) | (470) | (125)         | (157) | (173) | (222) | (242) | -               | -    | -    | -    | -    |
| Business and government                                     | (84)   | (48)  | (104) | (125) | (118) | (212)         | (247) | (245) | (160) | (285) | (1)             | (1)  | -    | (1)  | -    |
| Total write-offs  | (599)  | (549) | (585) | (600) | (588) | (337)         | (404) | (418) | (382) | (527) | (1)             | (1)  | -    | (1)  | -    |
| Other, including foreign exchange rate changes              |        |       |       |       |       |               |       |       |       |       |                 |      |      |      |      |
| Consumer  | (8)    | (10)  | (13)  | (3)   | (22)  | (12)          | (23)  | (20)  | 19    | (7)   | -               | -    | -    | -    | -    |
| Business and government                                     | (11)   | (27)  | (1)   | (2)   | (52)  | -             | (114) | (16)  | 68    | 42    | 2               | (1)  | 1    | 1    | (1)  |
| Total Other, including foreign exchange rate changes        | (19)   | (37)  | (14)  | (5)   | (74)  | (12)          | (137) | (36)  | 87    | 35    | 2               | (1)  | 1    | 1    | (1)  |
| <b>ACL, end of year</b>                                     |        |       |       |       |       |               |       |       |       |       |                 |      |      |      |      |
| Consumer  | 725    | 612   | 595   | 614   | 615   | 230           | 229   | 254   | 393   | 333   | -               | -    | -    | -    | -    |
| Business and government                                     | 255    | 443   | 471   | 388   | 371   | 648           | 692   | 793   | 657   | 646   | 12              | 20   | 1    | -    | 1    |
| Total ACL, end of year                                      | 980    | 1,055 | 1,066 | 1,002 | 986   | 878           | 921   | 1,047 | 1,050 | 979   | 12              | 20   | 1    | -    | 1    |
| Net write-offs as a % of average loans and acceptances (4)  | 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** <sup>(1) (5)</sup>

| (\$ millions, except as noted)   | Canada |       |       |      |      | United States |      |      |      |      | Other countries |      |      |      |      |
|--|--------|-------|-------|------|------|---------------|------|------|------|------|-----------------|------|------|------|------|
| As at October 31   | 2018   | 2017  | 2016  | 2015 | 2014 | 2018          | 2017 | 2016 | 2015 | 2014 | 2018            | 2017 | 2016 | 2015 | 2014 |
| Consumer   |        |       |       |      |      |               |      |      |      |      |                 |      |      |      |      |
| Residential mortgages  | 9      | 12    | 15    | 17   | 20   | 10            | 12   | 18   | 21   | 41   | -               | -    | -    | -    | -    |
| Consumer instalment and other personal loans   | 106    | 94    | 76    | 66   | 74   | 37            | 42   | 47   | 47   | 25   | -               | -    | -    | -    | -    |
| Total consumer   | 115    | 106   | 91    | 83   | 94   | 47            | 54   | 65   | 68   | 66   | -               | -    | -    | -    | -    |
| Business and government  | 74     | 106   | 82    | 62   | 97   | 134           | 107  | 166  | 144  | 116  | -               | 20   | 1    | -    | 1    |
| Total allowance for credit losses on impaired loans  | 189    | 212   | 173   | 145  | 191  | 181           | 161  | 231  | 212  | 182  | -               | 20   | 1    | -    | 1    |
| Allowance for credit losses on performing loans (3)  | 689    | 799   | 833   | 816  | 766  | 574           | 641  | 687  | 682  | 595  | 6               | -    | -    | -    | -    |
| Allowance for credit losses  | 878    | 1,011 | 1,006 | 961  | 957  | 755           | 802  | 918  | 894  | 777  | 6               | 20   | 1    | -    | 1    |
| <b>Coverage Ratios</b>   |        |       |       |      |      |               |      |      |      |      |                 |      |      |      |      |
| Allowance for credit losses on impaired loans as a % of gross impaired loans and acceptances |        |       |       |      |      |               |      |      |      |      |                 |      |      |      |      |
| Total  | 25.7   | 26.7  | 22.0  | 21.1 | 24.4 | 15.1          | 11.7 | 14.5 | 16.1 | 14.0 | -               | 40.0 | 50.0 | -    | 20.0 |
| Consumer   | 27.0   | 24.1  | 22.4  | 20.5 | 21.5 | 10.0          | 10.6 | 11.1 | 12.2 | 9.7  | -               | -    | -    | -    | -    |
| Business and government  | 23.9   | 29.9  | 21.6  | 22.0 | 28.2 | 18.3          | 12.3 | 16.5 | 19.0 | 18.6 | -               | 40.0 | 50.0 | -    | 20.0 |

(1) Segmented credit information by geographic area is based upon country of ultimate risk.

(2) Prior periods have not been restated to reflect the adoption of IFRS 9 in 2018. The adoption of IFRS 9 in 2018 has been applied prospectively.

(3) Excludes provision for credit losses on other assets.

(4) Aggregate Net Loans and Acceptances balances are net of allowance for credit losses on performing and impaired loans (excluding those related to off-balance sheet instruments).

(5) Amounts exclude allowance for credit losses included in Other Liabilities.

un - unavailable

## Total

| 2018 | 2017 | 2016 | 2015 | 2014 |
|------|------|------|------|------|
|------|------|------|------|------|

|              |     |       |     |     |
|--------------|-----|-------|-----|-----|
| <b>1,006</b> | 849 | 1,007 | 948 | 880 |
|--------------|-----|-------|-----|-----|

|            |       |       |       |       |
|------------|-------|-------|-------|-------|
| <b>912</b> | 1,265 | 1,045 | 1,018 | 1,090 |
|------------|-------|-------|-------|-------|

|              |       |       |       |       |
|--------------|-------|-------|-------|-------|
| <b>1,918</b> | 2,114 | 2,052 | 1,966 | 1,970 |
|--------------|-------|-------|-------|-------|

|            |     |     |     |     |
|------------|-----|-----|-----|-----|
| <b>407</b> | 468 | 340 | 478 | 608 |
|------------|-----|-----|-----|-----|

|            |     |     |    |      |
|------------|-----|-----|----|------|
| <b>250</b> | 278 | 431 | 52 | (81) |
|------------|-----|-----|----|------|

|            |     |     |     |     |
|------------|-----|-----|-----|-----|
| <b>657</b> | 746 | 771 | 530 | 527 |
|------------|-----|-----|-----|-----|

|            |     |     |     |     |
|------------|-----|-----|-----|-----|
| <b>202</b> | 215 | 189 | 262 | 201 |
|------------|-----|-----|-----|-----|

|           |    |     |     |     |
|-----------|----|-----|-----|-----|
| <b>59</b> | 50 | 154 | 194 | 423 |
|-----------|----|-----|-----|-----|

|            |     |     |     |     |
|------------|-----|-----|-----|-----|
| <b>261</b> | 265 | 343 | 456 | 624 |
|------------|-----|-----|-----|-----|

|              |       |       |       |       |
|--------------|-------|-------|-------|-------|
| <b>(640)</b> | (658) | (654) | (697) | (712) |
|--------------|-------|-------|-------|-------|

|              |       |       |       |       |
|--------------|-------|-------|-------|-------|
| <b>(297)</b> | (296) | (349) | (286) | (403) |
|--------------|-------|-------|-------|-------|

|              |       |         |       |         |
|--------------|-------|---------|-------|---------|
| <b>(937)</b> | (954) | (1,003) | (983) | (1,115) |
|--------------|-------|---------|-------|---------|

|             |      |      |    |      |
|-------------|------|------|----|------|
| <b>(20)</b> | (33) | (33) | 16 | (29) |
|-------------|------|------|----|------|

|            |       |      |    |      |
|------------|-------|------|----|------|
| <b>(9)</b> | (142) | (16) | 67 | (11) |
|------------|-------|------|----|------|

|             |       |      |    |      |
|-------------|-------|------|----|------|
| <b>(29)</b> | (175) | (49) | 83 | (40) |
|-------------|-------|------|----|------|

|            |     |     |       |     |
|------------|-----|-----|-------|-----|
| <b>955</b> | 841 | 849 | 1,007 | 948 |
|------------|-----|-----|-------|-----|

|            |       |       |       |       |
|------------|-------|-------|-------|-------|
| <b>915</b> | 1,155 | 1,265 | 1,045 | 1,018 |
|------------|-------|-------|-------|-------|

|              |       |       |       |       |
|--------------|-------|-------|-------|-------|
| <b>1,870</b> | 1,996 | 2,114 | 2,052 | 1,966 |
|--------------|-------|-------|-------|-------|

|             |      |      |      |      |
|-------------|------|------|------|------|
| <b>0.17</b> | 0.19 | 0.19 | 0.17 | 0.17 |
|-------------|------|------|------|------|

## Total

| 2018 | 2017 | 2016 | 2015 | 2014 |
|------|------|------|------|------|
|------|------|------|------|------|

|           |    |    |    |    |
|-----------|----|----|----|----|
| <b>19</b> | 24 | 33 | 38 | 61 |
|-----------|----|----|----|----|

|            |     |     |     |    |
|------------|-----|-----|-----|----|
| <b>143</b> | 136 | 123 | 113 | 99 |
|------------|-----|-----|-----|----|

|            |     |     |     |     |
|------------|-----|-----|-----|-----|
| <b>162</b> | 160 | 156 | 151 | 160 |
|------------|-----|-----|-----|-----|

|            |     |     |     |     |
|------------|-----|-----|-----|-----|
| <b>208</b> | 233 | 249 | 206 | 214 |
|------------|-----|-----|-----|-----|

|            |     |     |     |     |
|------------|-----|-----|-----|-----|
| <b>370</b> | 393 | 405 | 357 | 374 |
|------------|-----|-----|-----|-----|

|              |       |       |       |       |
|--------------|-------|-------|-------|-------|
| <b>1,269</b> | 1,440 | 1,520 | 1,498 | 1,361 |
|--------------|-------|-------|-------|-------|

|              |       |       |       |       |
|--------------|-------|-------|-------|-------|
| <b>1,639</b> | 1,833 | 1,925 | 1,855 | 1,735 |
|--------------|-------|-------|-------|-------|

|             |      |      |      |      |
|-------------|------|------|------|------|
| <b>19.1</b> | 17.7 | 17.0 | 17.8 | 17.9 |
|-------------|------|------|------|------|

|             |      |      |      |      |
|-------------|------|------|------|------|
| <b>18.1</b> | 16.9 | 15.7 | 15.7 | 14.3 |
|-------------|------|------|------|------|

|             |      |      |      |      |
|-------------|------|------|------|------|
| <b>20.0</b> | 18.3 | 17.9 | 19.8 | 22.0 |
|-------------|------|------|------|------|

**Table 14: Allowance for Credit Losses on Impaired Loans – Segmented Information**

| (\$ millions)<br>As at October 31                                | 2018 | 2017 | 2016 | 2015 | 2014 |
|--|------|------|------|------|------|
| <b>Business and Government</b>                                   |      |      |      |      |      |
| <b>Allowance for Credit Losses on Impaired Loans by Industry</b> |      |      |      |      |      |
| Commercial real estate   | 8    | 15   | 13   | 17   | 13   |
| Construction (non-real estate)                                   | 16   | 14   | 4    | 8    | 16   |
| Retail trade   | 17   | 14   | 12   | 23   | 8    |
| Wholesale trade  | 23   | 17   | 31   | 19   | 10   |
| Agriculture  | 16   | 11   | 19   | 6    | 8    |
| Communications   | -    | -    | 1    | 9    | -    |
| Financing products   | -    | -    | -    | -    | -    |
| Manufacturing  | 20   | 51   | 36   | 38   | 33   |
| Mining   | -    | -    | 1    | 1    | 10   |
| Oil and gas  | 17   | 42   | 45   | 2    | -    |
| Transportation   | 31   | 13   | 9    | 5    | 2    |
| Utilities  | -    | 2    | 3    | -    | -    |
| Forest products  | 1    | 1    | 1    | 2    | 9    |
| Service industries   | 46   | 51   | 50   | 33   | 100  |
| Financial  | 1    | 2    | 10   | 3    | 2    |
| Government   | -    | -    | -    | -    | -    |
| Other  | 12   | -    | 14   | 40   | 3    |
| Total business and government (1)                                | 208  | 233  | 249  | 206  | 214  |

**Table 15: Provision for Credit Losses – Segmented Information**

| (\$ millions)<br>For the year ended October 31             | 2018 | 2017 | 2016 | 2015 | 2014   |
|--|------|------|------|------|--------|
| <b>Consumer</b>  |      |      |      |      |        |
| Residential mortgages                                      | 19   | 11   | 24   | 11   | 77     |
| Cards  | 216  | 232  | 232  | 216  | 238    |
| Consumer instalment and other personal loans               | 231  | 232  | 246  | 225  | 251    |
| Total consumer   | 466  | 475  | 502  | 452  | 566    |
| <b>Business and Government</b>                             |      |      |      |      |        |
| Commercial real estate                                     | (2)  | (4)  | (16) | (37) | (141)  |
| Construction (non-real estate)                             | -    | 25   | 15   | -    | 7      |
| Retail trade   | 10   | 29   | 13   | 8    | 1      |
| Wholesale trade  | 18   | 24   | 11   | 19   | 29     |
| Agriculture  | 37   | 31   | 56   | 3    | 15     |
| Communications   | -    | (1)  | 2    | 13   | -      |
| Financing products   | -    | -    | -    | -    | -      |
| Manufacturing  | 20   | 28   | 29   | 67   | 44     |
| Mining   | -    | -    | 20   | 2    | 7      |
| Oil and gas  | (25) | 9    | 105  | 25   | -      |
| Transportation   | 74   | 108  | 56   | (4)  | 10     |
| Utilities  | (2)  | -    | 3    | -    | -      |
| Forest products  | (1)  | -    | (1)  | -    | (1)    |
| Service industries   | 87   | 102  | 21   | (29) | 80     |
| Financial  | (4)  | (3)  | (7)  | 8    | (34)   |
| Government   | -    | -    | -    | (2)  | (3)    |
| Other  | 22   | (1)  | (38) | 5    | (53)   |
| Total business and government                              | 234  | 347  | 269  | 78   | (39)   |
| Total provision for credit losses on impaired loans        | 700  | 822  | 771  | 530  | 527    |
| Provision for credit losses on performing loans (2)        | (38) | (76) | -    | -    | -      |
|  | 662  | 746  | 771  | 530  | 527    |
| <b>Performance Ratios (%)</b>                              |      |      |      |      |        |
| PCL-to-average net loans and acceptances                   | 0.17 | 0.20 | 0.22 | 0.17 | 0.18   |
| PCL-to-segmented average net loans and acceptances         |      |      |      |      |        |
| Consumer   | 0.25 | 0.26 | 0.28 | 0.26 | 0.33   |
| Business and government                                    | 0.12 | 0.18 | 0.15 | 0.05 | (0.03) |
| PCL on impaired loans-to-average net loans and acceptances | 0.18 | 0.22 | 0.22 | 0.17 | 0.18   |

(1) Amounts exclude allowance for credit losses included in Other Liabilities.

(2) Prior periods have not been restated to reflect the adoption of IFRS 9 in 2018. The adoption of IFRS 9 in 2018 has been applied prospectively.

## Table 16: Average Deposits

| (\$ millions, except as noted)  | 2018            |                       | 2017            |                       | 2016            |                       |
|---|-----------------|-----------------------|-----------------|-----------------------|-----------------|-----------------------|
|   | Average balance | Average rate paid (%) | Average balance | Average rate paid (%) | Average balance | Average rate paid (%) |
| <b>Deposits Booked in Canada</b>                                      |                 |                       |                 |                       |                 |                       |
| Demand deposits – interest bearing                                    | 20,874          | 0.86                  | 21,253          | 0.44                  | 19,493          | 0.33                  |
| Demand deposits – non-interest bearing                                | 45,967          | -                     | 41,985          | -                     | 37,296          | -                     |
| Payable after notice  | 81,941          | 0.84                  | 79,963          | 0.49                  | 75,701          | 0.43                  |
| Payable on a fixed date   | 150,583         | 1.97                  | 147,097         | 1.50                  | 136,821         | 1.38                  |
| Total deposits booked in Canada                                       | 299,365         | 1.28                  | 290,298         | 0.93                  | 269,311         | 0.85                  |
| <b>Deposits Booked in the United States and Other Countries</b>       |                 |                       |                 |                       |                 |                       |
| Banks located in the United States and other countries (1)            | 24,596          | 1.92                  | 23,520          | 1.10                  | 24,798          | 0.58                  |
| Governments and institutions in the United States and other countries | 10,014          | 1.49                  | 9,196           | 0.76                  | 6,867           | 0.36                  |
| Other demand deposits   | 13,858          | 0.30                  | 14,327          | 0.04                  | 17,346          | 0.02                  |
| Other deposits payable after notice or on a fixed date                | 150,513         | 1.05                  | 143,628         | 0.61                  | 147,221         | 0.39                  |
| Total deposits booked in the United States and other countries        | 198,981         | 1.13                  | 190,671         | 0.63                  | 196,232         | 0.38                  |
| <b>Total average deposits</b>   | <b>498,346</b>  | <b>1.22</b>           | <b>480,969</b>  | <b>0.81</b>           | <b>465,543</b>  | <b>0.65</b>           |

As at October 31, 2018, 2017 and 2016: deposits by foreign depositors in our Canadian bank offices amounted to \$48,592 million, \$44,722 million and \$52,834 million, respectively; total deposits payable after notice included \$34,754 million, \$33,561 million and \$30,122 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 \$28,927 million, \$30,648 million and \$35,460 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.

# 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 27

**Allowance for Credit Losses** represents an amount deemed appropriate by management to absorb credit-related losses on loans and acceptances and other credit instruments, in accordance with applicable accounting standards. *Allowance on Performing Loans* is maintained to cover impairment in the existing portfolio for loans that have not yet been individually identified as impaired. *Allowance on Impaired Loans* is maintained to reduce the carrying value of individually identified impaired loans to the expected recoverable amount. Pages 92, 117

**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, 105

**Average Earning Assets** represents the daily or monthly average balance of deposits with other banks and loans and securities, over a one-year period.

**Bail-In Debt** is senior unsecured debt subject to the Canadian Bail-In Regime. Bail-in debt includes senior unsecured debt issued directly by the bank on or after September 23, 2018, which has an original term greater than 400 days and is marketable, subject to certain exceptions. Some or all of this debt may be statutorily converted into common shares of the bank under the Bail-In Regime if the bank enters resolution. Pages 70, 71, 105, 106, 113

**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 114

**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, 191

**Common Equity Tier 1 Ratio** reflects CET1 capital divided by CET1 capital risk-weighted assets. Pages 33, 69, 70, 71, 191

**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.

**Corporate Services** consists of Corporate Units and Technology and Operations (T&O). Corporate Units provide enterprise-wide expertise, governance and support in a variety of areas, including strategic planning, risk management, finance, legal and regulatory compliance, human resources, communications, marketing, real estate, procurement, data and analytics and innovation. T&O manages, maintains and provides governance of information technology, cyber security and operations services. Page 60

**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 87, 164

**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 deducting preferred share 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 32, 200

**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. Page 98

**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 loss 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 98

**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 revenue and adjusted non-interest expense. Page 41

**Environmental and Social Risk** is the potential for loss or damage 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 115

**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 167

**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.

**Incremental Risk Charge (IRC)** complements the VaR and SVaR metrics and represents an estimate of the default and migration risks of non-securitization products held in the trading book with exposure to interest rate risk, measured over a one-year horizon at a 99.9% confidence level. Page 95

**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.

**Insurance Risk** is the potential for loss as a result of actual experience differing 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 of our insurance products, including annuities and life, accident and sickness, and creditor insurance, as well as in our reinsurance business. Page 100

**Legal and Regulatory Risk** is the potential for loss or harm resulting from a failure to comply with laws or satisfy contractual obligations or regulatory requirements. This includes the risks of failure 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 112

**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. Page 100

**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 95, 164

**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 111

**Net Interest Income** is comprised of earnings on assets, such as loans and securities, including interest and certain dividend income, less interest expense paid on liabilities, such as deposits. Page 37

**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 37

**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.

**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. Page 41

**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, liquidity and funding risk, market risk, strategic and reputation risk. Page 109

**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 167

**Provision for Credit Losses (PCL)** 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. The PCL can be comprised of both a provision for credit losses on impaired loans and a provision for credit losses on performing loans. Pages 40, 65, 91

**Reputation Risk** is the potential for loss or harm to the BMO brand. It can arise even if other risks are managed effectively. Page 116

**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 33, 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 33, 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 or trusts, which then typically issue a series of asset-backed securities to investors to fund the purchase of the contractual debts. Page 76

**Strategic Risk** is the potential for loss due to changes in the external business environment and/or failure to respond appropriately to these changes as a result of inaction, ineffective strategies or poor implementation of strategies. Page 115

**Stressed Value at Risk (SVaR)** measures 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, with model inputs calibrated to historical data from a period of significant financial stress. SVaR is calculated 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. Page 95

**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, 165

**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 98

**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 an agreement by the other counterparty 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 167

**Tangible Common Equity** is calculated as common shareholders' equity less goodwill and acquisition-related intangible assets, net of related deferred tax liabilities. Page 33

**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 36, 204

**Tier 1 Capital** is comprised of CET1 and Additional Tier 1 (AT1) Capital. AT1 capital consists of preferred shares and innovative hybrid instruments subject to phase-out, less certain regulatory deductions. Pages 70, 191

**Tier 1 Capital Ratio** reflects Tier 1 capital divided by Tier 1 capital risk-weighted assets. Pages 70, 191

**Total Loss Absorbing Capacity (TLAC)** is comprised of total capital and senior unsecured debt subject to the Canadian Bail-In Regime. The largest Canadian banks are required to meet minimum TLAC RWA-based and leverage-based ratios effective November 1, 2021, as calculated under OSFI's TLAC Guideline. Pages 71, 113

**Total Capital** includes Tier 1 and Tier 2 capital. **Tier 2 capital** is comprised of subordinated debentures and may include certain loan loss allowances less certain regulatory deductions. Pages 70, 191

**Total Capital Ratio** reflects Total capital divided by Total capital risk-weighted assets. Pages 70, 191

**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 32

**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 95

**Trading-Related Revenues** include net interest income and non-interest revenue earned from on-balance sheet 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 38

**Value at Risk (VaR)** measures 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. VaR is calculated 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. Pages 95, 96