

## Note 1: Basis of Presentation

Bank of Montreal (“the bank”) is a chartered bank under the *Bank Act (Canada)* and is a public company incorporated in Canada. We are a highly diversified financial services company, providing a broad range of personal and commercial banking, wealth management and investment banking products and services. The bank’s head office is at 129 rue Saint-Jacques, Montreal, Quebec. Its executive offices are at 100 King Street West, 1 First Canadian Place, Toronto, Ontario. Our common shares are listed on the Toronto Stock Exchange and the New York Stock Exchange.

We have prepared these consolidated financial statements in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”). We also comply with interpretations of IFRS by our regulator, the Office of the Superintendent of Financial Institutions Canada (“OSFI”).

Our consolidated financial statements have been prepared on a historic cost basis, except for the revaluation of the following items: assets and liabilities held for trading; available-for-sale financial assets; financial assets and liabilities designated at fair value through profit or loss; financial assets and financial liabilities designated as hedged items in qualifying fair value hedge relationships; cash-settled share-based payment liabilities; defined benefit pension and other employee future benefit liabilities; and insurance-related liabilities.

These consolidated financial statements were authorized for issue by the Board of Directors on December 5, 2017.

### Basis of Consolidation

These consolidated financial statements are inclusive of the financial statements of our subsidiaries as at October 31, 2017. We conduct business through a variety of corporate structures, including subsidiaries, structured entities (“SEs”), associates and joint ventures. Subsidiaries are those entities where we exercise control through our ownership of the majority of the voting shares. We also hold interests in SEs, which we consolidate when we control the SE. These are more fully described in Note 7. All of the assets, liabilities, revenues and expenses of our subsidiaries and consolidated SEs are included in our consolidated financial statements. All intercompany transactions and balances are eliminated on consolidation.

We hold investments in associates, where we exert significant influence over operating, investing and financing decisions (generally companies in which we own between 20% and 50% of the voting shares). These are accounted for using the equity method. The equity method is also applied to our investments in joint ventures. Joint ventures are those entities where we exercise joint control through an agreement with other shareholders. Under the equity method of accounting, investments are initially recorded at cost, and the carrying amount is increased or decreased to recognize our share of investee net income or loss, including other comprehensive income or loss. Our equity accounted investments are recorded as securities, other, in our Consolidated Balance Sheet and our share of the net income or loss is recorded in investments in associates and joint ventures, in our Consolidated Statement of Income. Any other comprehensive income amounts are reflected in the relevant section of our Statement of Comprehensive Income.

Non-controlling interest in subsidiaries is presented in our Consolidated Balance Sheet as a separate component of equity that is distinct from our shareholders’ equity. The net income attributable to non-controlling interest in subsidiaries is presented separately in our Consolidated Statement of Income.

### Specific Accounting Policies

To facilitate a better understanding of our consolidated financial statements, we have disclosed our significant accounting policies throughout the following notes with the related financial disclosures by major caption:

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### Translation of Foreign Currencies

We conduct business in a variety of foreign currencies and present our consolidated financial statements in Canadian dollars, which is our functional currency. Monetary assets and liabilities, as well as non-monetary assets and liabilities measured at fair value that are denominated in foreign currencies, are translated into Canadian dollars at the exchange rate in effect at the balance sheet date. Non-monetary assets and liabilities not measured at fair value are translated into Canadian dollars at historical rates. Revenues and expenses denominated in foreign currencies are translated using the average exchange rate for the year.

Unrealized gains and losses arising from translating our net investment in foreign operations into Canadian dollars, net of related hedging activities and applicable income taxes, are included in our Consolidated Statement of Comprehensive Income within net gain (loss) on translation of net foreign operations. When we dispose of a foreign operation such that control, significant influence or joint control is lost, the cumulative amount of the translation gain (loss) and any applicable hedging activities and related income taxes is reclassified to our Consolidated Statement of Income as part of the gain or loss on disposition.

Foreign currency translation gains and losses on available-for-sale debt securities that are denominated in foreign currencies are included in foreign exchange, other than trading, in our Consolidated Statement of Income. Foreign currency translation gains and losses on available-for-sale equity securities that are denominated in foreign currencies are included in accumulated other comprehensive income on available-for-sale securities, net of taxes, in our Consolidated Statement of Changes in Equity. All other foreign currency translation gains and losses are included in foreign exchange, other than trading, in our Consolidated Statement of Income as they arise.

From time to time, we enter into foreign exchange hedge contracts to reduce our exposure to changes in the value of foreign currencies. Realized and unrealized gains and losses that arise on the mark-to-market of foreign exchange contracts related to economic hedges are included in non-interest revenue in our Consolidated Statement of Income. Changes in the fair value of forward contracts that qualify as accounting hedges are recorded in our Consolidated Statement of Comprehensive Income within net change in unrealized gains (losses) on cash flow hedges, with the spot/forward differential (the difference between the foreign currency exchange rate at the inception of the contract and the rate at the end of the contract) recorded in interest income (expense) over the term of the hedge.

## Dividend and Fee Income

### *Dividend Income*

Dividend income is recognized when the right to receive payment is established. This is the ex-dividend date for listed equity securities.

### *Fee Income*

Fee income (including commissions) is recognized based on the services or products for which the fee is paid. See Note 4 for the accounting treatment for lending fees.

Investment management and custodial fees are based primarily on the balance of assets under management and assets under administration, as at the period end, respectively, for services provided.

Securities commissions and fees and underwriting and advisory fees are recorded as revenue when the related services are completed.

Deposit and payment service charges and insurance fees are recognized over the period in which the related services are provided.

Card fees primarily include interchange income, late fees, cash advance fees and annual fees. Card fees are recorded as billed, except for annual fees, which are recorded evenly throughout the year.

## Leases

We are lessors in both financing leases and operating leases. Leases are classified as financing leases if they transfer substantially all the risks and rewards incidental to ownership of the leased asset to the lessee. Otherwise they are classified as operating leases, as we retain substantially all the risks and rewards of asset ownership.

As lessor in a financing lease, a loan is recognized equal to the investment in the lease, which is calculated as the present value of the minimum payments to be received from the lessee, discounted at the interest rate implicit in the lease, plus any unguaranteed residual value we expect to recover at the end of the lease. Finance lease income is recognized in interest, dividend and fee income, loans, in our Consolidated Statement of Income.

Assets under operating leases are recorded in other assets in our Consolidated Balance Sheet. Rental income is recognized on a straight-line basis over the term of the lease in non-interest revenue, other, in our Consolidated Statement of Income. Depreciation on these assets is recognized on a straight-line basis over the life of the lease in non-interest expense, other, in our Consolidated Statement of Income.

## Assets Held-for-Sale

Non-current non-financial assets classified as held-for-sale are measured at the lower of their carrying amount and fair value less costs to sell and are presented within other assets in our Consolidated Balance Sheet. Subsequent to its initial classification, a non-current asset is no longer depreciated or amortized, and any subsequent write-down in fair value less costs to sell is recognized in non-interest revenue, other, in our Consolidated Statement of Income.

## Use of Estimates and Judgments

The preparation of the consolidated financial statements requires management to use estimates and assumptions that affect the carrying amounts of certain assets and liabilities, certain amounts reported in net income and other related disclosures.

The most significant assets and liabilities for which we must make estimates include allowance for credit losses; financial instruments measured at fair value; pension and other employee future benefits; impairment of securities; income taxes and deferred taxes; purchased loans; goodwill and intangible assets; insurance-related liabilities; and provisions. We make judgments in assessing whether substantially all risks and rewards have been transferred in respect of transfers of financial assets and whether we control SEs, as discussed in Notes 6 and 7, respectively. If actual results were to differ from the estimates, the impact would be recorded in future periods.

We have established detailed policies and control procedures that are intended to ensure these judgments are well controlled, independently reviewed and consistently applied from period to period. We believe that our estimates of the value of our assets and liabilities are appropriate.

### *Allowance for Credit Losses*

The allowance for credit losses adjusts the value of loans to reflect their estimated realizable value. In assessing their estimated realizable value, we must rely on estimates and exercise judgment regarding matters for which the ultimate outcome is unknown. These include economic factors, developments affecting companies in particular industries, and specific issues with respect to single borrowers. Changes in circumstances may cause future assessments of credit risk to be materially different from current assessments, which could result in an increase or decrease in the allowance for credit losses.

Additional information regarding the allowance for credit losses is included in Note 4.

### *Financial Instruments Measured at Fair Value*

Fair value measurement techniques are used to value various financial assets and financial liabilities and are used in performing impairment testing on certain non-financial assets. Detailed discussions of our fair value measurement techniques are included in Notes 3 and 17.

*Pension and Other Employee Future Benefits*

Our pension and other employee future benefits expense is calculated by our independent actuaries using assumptions determined by management. If actual experience were to differ from the assumptions used, we would recognize this difference in other comprehensive income.

Pension and other employee future benefits expense, plan assets and defined benefit obligations are also sensitive to changes in discount rates. We determine discount rates at each year end for all of our plans using high-quality AA rated corporate bond yields with terms matching the plans' specific cash flows.

Additional information regarding our accounting for pension and other employee future benefits is included in Note 22.

*Impairment of Securities*

We have investments in securities issued or guaranteed by Canadian, U.S. and other government agencies, corporate debt and equity securities, mortgage-backed securities and collateralized obligations, which are classified as either available-for-sale securities, held-to-maturity securities or other securities. We review held-to-maturity, available-for-sale and other securities at each quarter-end reporting period to identify and evaluate investments that show indications of possible impairment.

For held-to-maturity, available-for-sale and other securities, impairment losses are recognized if there is objective evidence of impairment as a result of an event that reduces the estimated future cash flows from the security and the impact can be reliably estimated. Objective evidence of impairment includes default or delinquency by a debtor, restructuring of an amount due to us on terms that we would not otherwise consider, indications that a debtor or issuer will enter bankruptcy, or the disappearance of an active market for a security. In addition, for equity securities, a significant or prolonged decline in the fair value of a security below its cost is objective evidence of impairment.

We do not record impairment write-downs on debt securities when impairment is due to changes in market interest rates if future contractual cash flows associated with the debt security are still expected to be recovered.

Additional information regarding our accounting for held-to-maturity, available-for-sale and other securities, and the determination of fair value is included in Notes 3 and 17.

*Income Taxes and Deferred Tax Assets*

The provision for income taxes is calculated based on the expected tax treatment of transactions recorded in our Consolidated Statements of Income or Changes in Equity. In determining the provision for income taxes, we interpret tax legislation, case law and administrative positions in numerous jurisdictions and, based on our judgment, record our estimate of the amount required to settle tax obligations. We also make assumptions about the expected timing of the reversal of deferred tax assets and liabilities. If our interpretations differ from those of taxing authorities or if the timing of reversals is not as expected, our provision for income taxes could increase or decrease in future periods. The amount of any such increase or decrease cannot be reasonably estimated.

Deferred tax assets are recognized only when it is probable that sufficient taxable profit will be available in future periods against which deductible temporary differences may be utilized. We are required to assess whether it is probable that our deferred income tax assets will be realized prior to expiration and, based on all the available evidence, determine if any portion of our deferred income tax assets should not be recognized. The factors used to assess the probability of realization are our past experience of income and capital gains, our forecast of future net income before taxes, and the remaining expiration period of tax loss carryforwards. Changes in our assessment of these factors could increase or decrease our provision for income taxes in future periods.

Additional information regarding our accounting for income taxes is included in Note 23.

*Goodwill and Intangible Assets*

For the purpose of impairment testing, goodwill is allocated to our groups of cash-generating units ("CGUs"), which represent the lowest level within the bank at which goodwill is monitored for internal management purposes. Impairment testing is performed at least annually, by comparing the carrying values and the recoverable amounts of the CGUs to which goodwill has been allocated to determine whether the recoverable amount of each group is greater than its carrying value. If the carrying value of the group were to exceed its recoverable amount, an impairment calculation would be performed. The recoverable amount of a CGU is the higher of its fair value less costs to sell and the value in use.

Fair value less costs to sell is used to perform the impairment test. In determining fair value less costs to sell, we employ a discounted cash flow model consistent with those used when we acquire businesses. This model is dependent on assumptions related to revenue growth, discount rates, synergies achieved on acquisition and the availability of comparable acquisition data. Changes in any of these assumptions would affect the determination of fair value for each of the business units in a different manner. Management must exercise judgment and make assumptions in determining fair value less costs to sell, and differences in judgment and assumptions could affect the determination of fair value and any resulting impairment write-down.

Intangible assets with a definite-life are amortized to income on either a straight-line or an accelerated basis over a period not exceeding 15 years, depending on the nature of the asset. We test definite-life intangible assets for impairment when circumstances indicate the carrying value may not be recoverable. Indefinite-life intangible assets are tested annually for impairment. If any intangible assets are determined to be impaired, we write them down to their recoverable amount, the higher of value in use and fair value less costs to sell, when this is less than the carrying value.

Additional information regarding goodwill and intangible assets is included in Note 11.

*Purchased Loans*

Purchased loans are initially measured at fair value and are identified as either purchased performing loans or purchased credit impaired loans ("PCI loans") at the time of acquisition. The determination of fair value involves estimating the expected cash flows to be received and determining the discount rate to be applied to the cash flows from the purchased loan portfolio. In determining the discount rate, we consider various factors, including our cost to raise funds in the current market, the risk premium associated with the loans and the cost to service the portfolios. PCI loans are those where the timely collection of principal and interest was no longer reasonably assured as at the date of acquisition. We regularly evaluate what we expect to collect on PCI loans. Changes in expected cash flows could result in the recognition of impairment or a recovery through the provision for credit losses. Estimating the timing and amount of cash flows requires significant management judgment regarding key assumptions, including the probability of default, severity of loss, timing of payment receipts and valuation of collateral. All of these factors are inherently subjective and can result in significant changes in cash flow estimates over the term of a loan.

### *Insurance-Related Liabilities*

Insurance claims and policy benefit liabilities represent current claims and estimates of future insurance policy benefit liabilities. Liabilities for life insurance contracts are determined using the Canadian Asset Liability Method, which incorporates best-estimate assumptions for mortality, morbidity, policy lapses, surrenders, future investment yields, policy dividends, administration costs and margins for adverse deviation. These assumptions are reviewed at least annually and updated to reflect actual experience and market conditions. The most significant impact on the valuation of a liability would result from a change in the assumption for future investment yields.

Additional information regarding insurance-related liabilities is included in Note 14.

### *Provisions*

The bank and its subsidiaries are involved in various legal actions in the ordinary course of business.

Provisions are recorded at the best estimate of the amounts required to settle any obligations related to these legal actions as at the balance sheet date, taking into account the risks and uncertainties associated with the obligation. Factors considered in making the assessment include: a case-by-case assessment of specific facts and circumstances, our past experience and the opinions of legal experts. Management and external experts are involved in estimating any provisions. The actual costs of resolving these claims may be substantially higher or lower than the amounts of the provisions. Additional information regarding provisions is included in Note 25.

### *Transfer of Financial Assets and Consolidation of Structured Entities*

We sell Canadian mortgage loans to third-party Canadian securitization programs, including the Canada Mortgage Bond program, and directly to third-party investors under the National Housing Act Mortgage-Backed Securities program. We assess whether substantially all of the risks and rewards of the loans have been transferred to determine if they qualify for derecognition. Since we continue to be exposed to substantially all of the repayment, interest rate and/or credit risk associated with the securitized loans, they do not qualify for derecognition. We continue to recognize the loans and the related cash proceeds as secured financings in our Consolidated Balance Sheet. We use securitization vehicles to securitize our Canadian credit card loans, Canadian real estate lines of credit and Canadian auto loans in order to obtain alternate sources of funding. The structure of these vehicles limits the activities they can undertake and the types of assets they can hold, and the vehicles have limited decision-making authority. The vehicles issue term asset-backed securities to fund their activities. We control and consolidate these vehicles, as we have the key decision-making powers necessary to obtain the majority of the benefits of their activities.

For most of our subsidiaries, control is determined based on holding the majority of the voting rights. For certain investments in limited partnerships, we exercise judgment in determining whether we control an entity. Based on an assessment of our interests and rights, we have determined that we do not control certain entities, even though we may have an ownership interest greater than 50%. This may be the case when we are not the general partner in an arrangement and the general partner's rights most significantly affect the returns of the entity. Additionally, we have determined that we control certain entities despite having an ownership interest less than 50%. This may be the case when we are the general partner in an arrangement and the general partner's rights most significantly affect the returns of the entity.

Transferred assets are discussed in greater detail in Note 6 and structured entities are discussed in greater detail in Note 7.

## **Future Changes in IFRS**

### *Financial Instruments*

In July 2014, the IASB issued IFRS 9 *Financial Instruments* ("IFRS 9"), which addresses impairment, classification and measurement, and hedge accounting. At the direction of our regulator, OSFI, IFRS 9 is effective for our fiscal year beginning November 1, 2017. Additional guidance relating to the adoption of IFRS 9 has been provided by OSFI in its *Guideline – IFRS 9 Financial Instruments and Disclosures* ("OSFI Guideline").

Based on October 31, 2017 data and current implementation status, we estimate the adoption of IFRS 9 will lead to an increase in shareholders' equity of approximately \$100 million before tax (\$65 million after tax) driven by the impairment requirements of IFRS 9. We continue to refine and monitor certain aspects of our impairment process which may change the actual impact on adoption.

### *Impairment*

IFRS 9 introduces a new expected credit loss ("ECL") impairment model for all financial assets and certain off-balance sheet loan commitments and guarantees. The new ECL model will result in an allowance for credit losses being recorded on financial assets regardless of whether there has been an actual loss event. This differs from the current approach where the allowance recorded on performing loans is designed to capture only losses that have been incurred whether or not they have been specifically identified. The most significant impact will be on the loan portfolio.

The expected credit loss model requires the recognition of credit losses based on 12 months of expected losses for performing loans and the recognition of lifetime expected losses on loans that have experienced a significant increase in credit risk since origination. The determination of a significant increase in credit risk takes into account many different factors and will vary by product and risk segment. The main factors considered in making this determination are relative changes in probability-weighted probability of default since origination and certain criteria such as 30-day past due and watch-list status. The assessment of a significant increase in credit risk will require experienced credit judgment.

Impaired loans require recognition of lifetime losses and are expected to be similar to our current specific allowance.

IFRS 9 requires consideration of past events, current market conditions and reasonable and supportable information about future economic conditions, in determining whether there has been a significant increase in credit risk, and in calculating the amount of expected losses.

### *Classification and Measurement*

The new standard requires that we classify debt instruments based on our business model for managing the asset and the contractual cash flow characteristics of the asset. The business model test determines the classification based on the business purpose for holding the asset. Generally, debt instruments will be measured at fair value through profit or loss unless certain conditions are met that permit fair value through other comprehensive income ("FVOCI") or amortized cost. Debt instruments that have contractual cash flows representing only payments of principal and interest will be eligible for classification as FVOCI or amortized cost. Gains and losses recorded in other comprehensive income for debt instruments will be recognized in profit or loss on disposal.

In fiscal 2015, the bank early adopted the provisions relating to the recognition of changes in own credit risk for financial liabilities designated at fair value through profit or loss, as permitted by IFRS 9. Additional information regarding changes in own credit risk is included in Notes 13 and 14.

### Hedge Accounting

IFRS 9 introduces a new hedge accounting model that expands the scope of hedged items and risks eligible for hedge accounting and aligns hedge accounting more closely with risk management. The new model no longer specifies quantitative measures for effectiveness testing and does not permit hedge de-designation. IFRS 9 includes a policy choice that allows us to continue to apply the existing hedge accounting rules. The bank will not adopt the hedge accounting provisions of IFRS 9; however, as required by the standard, we will adopt the new hedge accounting disclosures.

### Leases

In January 2016, the IASB issued IFRS 16 *Leases* ("IFRS 16"), which provides guidance for leases whereby lessees will recognize a liability for the present value of future lease liabilities and record a corresponding asset on the balance sheet for most leases. There are minimal changes to lessor accounting. IFRS 16 is effective for our fiscal year beginning November 1, 2019. Early adoption is permitted, provided IFRS 15 *Revenue from Contracts with Customers* has been adopted. In order to meet the requirements of IFRS 16, we have established an enterprise-wide project and are currently assessing the impact of the standard on our future financial results.

### Statement of Cash Flows

In January 2016, the IASB issued amendments to IAS 7 *Statement of Cash Flows* ("IAS 7"), which will require specific disclosures for movements in liabilities arising from financing activities on the statement of cash flows. We do not expect the amendments to have a significant impact on our consolidated financial statements. These amendments will be effective for our fiscal year beginning November 1, 2017.

### Revenue

In May 2014, the IASB issued IFRS 15 *Revenue from Contracts with Customers* ("IFRS 15"), which replaces the existing standards for revenue recognition. The new standard establishes a framework for the recognition and measurement of revenues generated from contracts with customers, providing a principles-based approach for revenue recognition, and introducing the concept of recognizing revenue for performance obligations as they are satisfied. Revenues outside of the scope of IFRS 15 include interest and dividend income, trading revenues, securities gains/losses, insurance revenues and lease income. The standard also requires additional disclosures about the nature, amount, timing and uncertainty of revenues and cash flows arising from transactions with our customers.

In April 2016, the IASB issued clarifications to IFRS 15, which provide additional clarity on revenue recognition related to identifying performance obligations, application guidance on principal versus agent and licences of intellectual property.

In order to meet the requirements of IFRS 15, we have established an enterprise-wide project and are currently evaluating the impact of adoption. As the majority of our revenue streams are outside the scope of the new standard, we do not expect a significant impact on our future financial results from the adoption of the new standard.

IFRS 15 is effective for our fiscal year beginning November 1, 2018. On transition, we can either restate prior periods as if we had always applied IFRS 15 or alternatively, we can recognize the cumulative effect of any changes resulting from our adoption of IFRS 15 in opening retained earnings with no comparison for prior years. We are assessing our transition approach as part of our project.

### Share-based Payment

In June 2016, the IASB issued amendments to IFRS 2 *Share-based Payment* ("IFRS 2") in relation to the classification and measurement of share-based payment transactions. We do not expect the amendments to have a significant impact on our consolidated financial statements. The amendments are effective for our fiscal year beginning November 1, 2018.

### Insurance Contracts

In May 2017, the IASB issued IFRS 17 *Insurance Contracts* ("IFRS 17"), which provides a comprehensive approach for all types of insurance contracts and will replace the existing IFRS 4 *Insurance Contracts*. We will be adopting IFRS 17 effective for our fiscal year beginning November 1, 2021. We are currently assessing the impact of the standard on our future financial results.

## Note 2: Cash and Interest Bearing Deposits with Banks

(Canadian \$ in millions)	2017	2016
Cash and deposits with banks (1)	<b>30,002</b>	29,460
Cheques and other items in transit, net	<b>2,597</b>	2,193
Total cash and cash equivalents	<b>32,599</b>	31,653

(1) Includes deposits with the Bank of Canada, the U.S. Federal Reserve and other central banks.

### Cheques and Other Items in Transit, Net

Cheques and other items in transit are recorded at cost and represent the net position of the uncleared cheques and other items in transit between us and other banks.

### Cash Restrictions

Some of our foreign operations are required to maintain reserves or minimum balances with central banks in their respective countries of operation, totalling \$1,435 million as at October 31, 2017 (\$1,958 million in 2016).

### Interest Bearing Deposits with Banks

Deposits with banks are recorded at amortized cost and include acceptances we have purchased that were issued by other banks. Interest income earned on these deposits is recorded on an accrual basis.



## Note 3: Securities

Securities are divided into four types, each with a different purpose and accounting treatment. The types of securities we hold are as follows:

**Trading securities** are securities that we purchase for resale over a short period of time. We classify trading securities and securities designated under the fair value option at fair value through profit or loss ("FVTPL"). We record the transaction costs, gains and losses realized on disposal and unrealized gains and losses due to changes in fair value in our Consolidated Statement of Income in trading revenues.

### *Securities Designated at FVTPL*

Securities designated at FVTPL are financial instruments that are accounted for at fair value, with changes in fair value recorded in income provided they meet certain criteria. Securities designated at FVTPL must have reliably measurable fair values and satisfy one of the following criteria: (1) the designation eliminates or significantly reduces the inconsistent treatment that would otherwise arise from measuring the gains and losses on a different basis; (2) the securities are part of a group of financial instruments that is managed and evaluated on a fair value basis; or (3) the securities are hybrid financial instruments with embedded derivatives that would significantly modify their cash flow. Securities must be designated on initial recognition, and the designation is irrevocable.

We designate certain securities held by our insurance subsidiaries that support our insurance liabilities at FVTPL, since the actuarial calculation of insurance liabilities is based on the fair value of the investments supporting them. This designation aligns the accounting result with the way the portfolio is managed on a fair value basis. The change in fair value of the securities is recorded in non-interest revenue, insurance revenue, and the change in fair value of the liabilities is recorded in insurance claims, commissions and changes in policy benefit liabilities. The fair value of these investments as at October 31, 2017 of \$8,465 million (\$7,887 million as at October 31, 2016) is recorded in securities, trading, in our Consolidated Balance Sheet. The impact of recording these investments at fair value through profit or loss was an increase in non-interest revenue, insurance revenue, of \$39 million for the year ended October 31, 2017 (increase of \$430 million in 2016 and \$8 million in 2015).

We designate certain investments held in our merchant banking business at FVTPL, which aligns the accounting result with the way the portfolio is managed. The fair value of these investments as at October 31, 2017 of \$333 million (\$320 million in 2016) is recorded in securities, other, in our Consolidated Balance Sheet. The impact of recording these investments at fair value through profit or loss was a decrease in non-interest revenue, securities gains, other than trading, of \$9 million for the year ended October 31, 2017 (decrease of \$40 million in 2016 and \$34 million in 2015).

**Available-for-sale securities** consist of debt and equity securities that may be sold in response to or in anticipation of changes in interest rates and resulting prepayment risk, changes in credit risk, changes in foreign currency risk, changes in funding sources or terms, or in order to meet liquidity needs.

Available-for-sale securities are initially recorded at fair value plus transaction costs. They are subsequently measured at fair value, with unrealized gains and losses recorded in unrealized gains (losses) on available-for-sale securities in our Consolidated Statement of Comprehensive Income until the security is sold. Gains and losses on disposal and impairment losses (recoveries) are recorded in our Consolidated Statement of Income in non-interest revenue, securities gains, other than trading. Interest income earned and dividends received on available-for-sale securities are recorded in our Consolidated Statement of Income in interest, dividend and fee income, securities.

Investments held by our insurance subsidiaries are classified as available-for-sale securities, except for those investments that support the policy benefit liabilities on our insurance contracts, which are designated at fair value through profit or loss, as discussed above. Interest and other fee income on the insurance available-for-sale securities is recognized when earned in our Consolidated Statement of Income in non-interest revenue, insurance revenue.

**Held-to-maturity securities** are debt securities that we have the intention and ability to hold to maturity and that do not meet the definition of a loan. These securities are initially recorded at fair value plus transaction costs and subsequently measured at amortized cost using the effective interest method. Impairment losses are recorded in our Consolidated Statement of Income in securities gains (losses), other than trading. Interest income earned and amortization of premiums or discounts on these debt securities are recorded in our Consolidated Statement of Income in interest, dividend and fee income, securities.

**Other securities** are investments in companies where we exert significant influence over operating, investing and financing decisions (generally companies in which we own between 20% and 50% of the voting shares). We account for these other securities using the equity method of accounting. Other securities also include certain securities held by our merchant banking business.

We account for all of our securities transactions using settlement date accounting in our Consolidated Balance Sheet. Changes in fair value between the trade date and settlement date are recorded in net income, except for those related to available-for-sale securities, which are recorded in other comprehensive income.

### Impairment Review

For available-for-sale, held-to-maturity and other securities, impairment losses are recognized if there is objective evidence of impairment as a result of an event that reduces the estimated future cash flows from the security.

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

The impairment loss on available-for-sale securities is the difference between the security's amortized cost and its current fair value, less any previously recognized impairment losses. If there is objective evidence of impairment, a write-down is transferred from our Consolidated Statement of Comprehensive Income, unrealized gains (losses) on available-for-sale securities, to our Consolidated Statement of Income in securities gains, other than trading.

The impairment loss on held-to-maturity securities is the difference between a security's carrying amount and the present value of its estimated future cash flows discounted at the original effective interest rate. If there is objective evidence of impairment, a write-down is recorded in our Consolidated Statement of Income in securities gains, other than trading.

For available-for-sale debt securities, a previous impairment loss is reversed through net income if an event occurs after the impairment was recognized that can be objectively attributed to an increase in fair value, to a maximum of the original impairment charge. For available-for-sale equity securities, previous impairment losses are not reversed through net income, and any subsequent increases in fair value are recorded in other comprehensive income. Reversals of impairment losses on held-to-maturity securities are recorded to a maximum of the amortized cost of the investment before the original impairment charge.

As at October 31, 2017, we had 1,775 available-for-sale securities (1,699 in 2016) with unrealized losses totalling \$480 million (unrealized losses of \$135 million in 2016). Unrealized losses on these instruments, excluding corporate equities, resulted from changes in interest rates and not from deterioration in the creditworthiness of the issuers. We expect full recovery of these available-for-sale securities and have determined that there is no significant impairment. The table on page 152 details unrealized gains and losses as at October 31, 2017 and 2016.

We did not own any securities issued by a single non-government entity where the book value, as at October 31, 2017 or 2016, was greater than 10% of our shareholders' equity.

### Fair Value Measurement

For traded securities, quoted market value is considered to be fair value. Quoted market value is based on bid prices. For securities where market quotes are not available, we use estimation techniques to determine fair value. A discussion of fair value measurement is included in Note 17.

(Canadian \$ in millions, except as noted)

	Term to maturity					2017	2016
	Within 1 year	1 to 3 years	3 to 5 years	5 to 10 years	Over 10 years	Total	Total
<b>Trading Securities</b>							
Issued or guaranteed by:							
Canadian federal government	4,862	1,527	2,021	1,313	1,104	10,827	12,952
Canadian provincial and municipal governments	812	1,343	714	1,991	2,467	7,327	7,422
U.S. federal government	1,332	1,758	2,000	1,906	2,477	9,473	6,148
U.S. states, municipalities and agencies	642	222	86	100	1,081	2,131	1,124
Other governments	85	438	266	34	-	823	602
Mortgage-backed securities and collateralized mortgage obligations	147	571	203	8	2	931	1,062
Corporate debt	1,298	1,375	795	1,281	7,014	11,763	9,513
Loans	-	28	7	118	-	153	139
Corporate equity	-	-	-	-	55,641	55,641	45,496
<b>Total trading securities</b>	<b>9,178</b>	<b>7,262</b>	<b>6,092</b>	<b>6,751</b>	<b>69,786</b>	<b>99,069</b>	<b>84,458</b>
<b>Available-for-Sale Securities</b>							
Issued or guaranteed by:							
Canadian federal government							
Amortized cost	5,585	1,764	1,266	597	-	9,212	8,109
Fair value	5,578	1,749	1,262	591	-	9,180	8,168
Yield (%)	0.66	1.48	1.46	1.57	-	0.99	1.29
Canadian provincial and municipal governments							
Amortized cost	1,157	265	1,293	860	38	3,613	6,126
Fair value	1,156	266	1,310	855	40	3,627	6,232
Yield (%)	0.85	1.45	2.24	2.32	3.27	1.77	2.17
U.S. federal government							
Amortized cost	15	-	3,128	11,338	-	14,481	9,564
Fair value	17	-	3,115	11,137	-	14,269	9,557
Yield (%)	0.88	-	1.81	1.80	-	1.80	1.51
U.S. states, municipalities and agencies							
Amortized cost	370	563	463	1,329	1,333	4,058	4,379
Fair value	370	566	467	1,357	1,336	4,096	4,450
Yield (%)	1.63	1.78	2.26	2.40	1.71	2.00	1.80
Other governments							
Amortized cost	1,592	1,231	725	19	-	3,567	5,214
Fair value	1,593	1,225	722	18	-	3,558	5,227
Yield (%)	1.44	1.34	1.52	2.72	-	1.43	1.15
Mortgage-backed securities and collateralized mortgage obligations - Canada (1)							
Amortized cost	255	1,143	1,059	-	-	2,457	3,473
Fair value	262	1,141	1,052	-	-	2,455	3,507
Yield (%)	2.05	1.83	1.56	-	-	1.74	1.60
Mortgage-backed securities and collateralized mortgage obligations - U.S.							
Amortized cost	1	20	62	658	10,161	10,902	9,591
Fair value	1	19	62	659	10,020	10,761	9,615
Yield (%)	1.83	3.12	2.25	2.31	1.97	1.99	1.66
Corporate debt							
Amortized cost	995	2,082	737	607	93	4,514	7,219
Fair value	997	2,080	734	619	95	4,525	7,292
Yield (%)	0.75	2.08	2.48	3.08	3.64	2.02	1.76
Corporate equity							
Amortized cost	-	-	-	-	1,499	1,499	1,529
Fair value	-	-	-	-	1,604	1,604	1,615
Yield (%)	-	-	-	-	2.37	2.37	2.07
<b>Total cost or amortized cost</b>	<b>9,970</b>	<b>7,068</b>	<b>8,733</b>	<b>15,408</b>	<b>13,124</b>	<b>54,303</b>	<b>55,204</b>
<b>Total fair value</b>	<b>9,974</b>	<b>7,046</b>	<b>8,724</b>	<b>15,236</b>	<b>13,095</b>	<b>54,075</b>	<b>55,663</b>
<b>Yield (%)</b>	<b>0.89</b>	<b>1.72</b>	<b>1.85</b>	<b>1.95</b>	<b>2.00</b>	<b>1.72</b>	<b>1.62</b>
<b>Held-to-Maturity Securities</b>							
Issued or guaranteed by:							
Canadian federal government							
Amortized cost	1,855	-	-	-	-	1,855	2,005
Fair value	1,857	-	-	-	-	1,857	2,014
Canadian provincial and municipal governments							
Amortized cost	735	510	-	322	-	1,567	2,047
Fair value	737	512	-	341	-	1,590	2,085
Mortgage-backed securities and collateralized mortgage obligations (1)							
Amortized cost	191	485	364	999	3,633	5,672	4,913
Fair value	191	486	366	997	3,609	5,649	4,974
<b>Total cost or amortized cost</b>	<b>2,781</b>	<b>995</b>	<b>364</b>	<b>1,321</b>	<b>3,633</b>	<b>9,094</b>	<b>8,965</b>
<b>Total fair value</b>	<b>2,785</b>	<b>998</b>	<b>366</b>	<b>1,338</b>	<b>3,609</b>	<b>9,096</b>	<b>9,073</b>
<b>Other Securities</b>							
Carrying value	7	21	13	38	881	960	899
Fair value	7	21	13	38	3,161	3,240	3,098
<b>Total carrying value or amortized cost of securities</b>	<b>21,936</b>	<b>15,346</b>	<b>15,202</b>	<b>23,518</b>	<b>87,424</b>	<b>163,426</b>	<b>149,526</b>
<b>Total value of securities</b>	<b>21,940</b>	<b>15,324</b>	<b>15,193</b>	<b>23,346</b>	<b>87,395</b>	<b>163,198</b>	<b>149,985</b>
<b>Total by Currency (in Canadian \$ equivalent)</b>							
Canadian dollar	16,959	8,546	7,222	6,235	41,261	80,223	86,352
U.S. dollar	3,948	6,662	7,916	17,087	44,384	79,997	60,813
Other currencies	1,033	116	55	24	1,750	2,978	2,820
<b>Total securities</b>	<b>21,940</b>	<b>15,324</b>	<b>15,193</b>	<b>23,346</b>	<b>87,395</b>	<b>163,198</b>	<b>149,985</b>

(1) These amounts are supported by insured mortgages or issued by U.S. agencies and government-sponsored enterprises.

Yields in the table above are calculated using the cost of the security and the contractual interest rate associated with each security, adjusted for any amortization of premiums and discounts. Tax effects are not taken into consideration. The term to maturity included in the table above is based on the contractual maturity date of the security. Actual maturities could differ, as issuers may have the right to call or prepay obligations. Equity securities with no maturity date are included in the over 10 years category.

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



## Unrealized Gains and Losses on Available-for-Sale Securities

	2017				2016			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
(Canadian \$ in millions)								
Issued or guaranteed by:								
Canadian federal government	9,212	6	38	9,180	8,109	62	3	8,168
Canadian provincial and municipal governments	3,613	29	15	3,627	6,126	110	4	6,232
U.S. federal government	14,481	12	224	14,269	9,564	47	54	9,557
U.S. states, municipalities and agencies	4,058	43	5	4,096	4,379	77	6	4,450
Other governments	3,567	3	12	3,558	5,214	17	4	5,227
Mortgage-backed securities and collateralized mortgage obligations - Canada (1)	2,457	9	11	2,455	3,473	37	3	3,507
Mortgage-backed securities and collateralized mortgage obligations - U.S.	10,902	6	147	10,761	9,591	50	26	9,615
Corporate debt	4,514	23	12	4,525	7,219	78	5	7,292
Corporate equity	1,499	121	16	1,604	1,529	116	30	1,615
<b>Total</b>	<b>54,303</b>	<b>252</b>	<b>480</b>	<b>54,075</b>	<b>55,204</b>	<b>594</b>	<b>135</b>	<b>55,663</b>

(1) These amounts are supported by insured mortgages.

Income from securities, excluding net realized and unrealized gains on trading securities, has been included in our consolidated financial statements as follows:

	2017	2016	2015
	(Canadian \$ in millions)		
<b>Reported in Consolidated Statement of Income:</b>			
<b>Interest, Dividend and Fee Income (1)</b>			
Trading securities	977	923	1,016
Available-for-sale securities	806	623	504
Held-to-maturity securities	150	143	167
Other securities	12	15	18
	<b>1,945</b>	<b>1,704</b>	<b>1,705</b>
<b>Non-Interest Revenue</b>			
Available-for-sale securities			
Gross realized gains	228	59	116
Gross realized (losses)	(99)	(16)	(18)
Unrealized gain on investments reclassified from available-for-sale to equity	-	7	-
Other securities, net realized and unrealized gains	49	51	85
Impairment write-downs	(7)	(17)	(12)
<b>Securities gains, other than trading (1)</b>	<b>171</b>	<b>84</b>	<b>171</b>

(1) The following amounts of income related to our insurance operations were included in non-interest revenue, insurance revenue, in our Consolidated Statement of Income: Interest, dividend and fee income of \$325 million for the year ended October 31, 2017 (\$309 million in 2016 and \$282 million in 2015); and securities gains, other than trading, of \$nil for the year ended October 31, 2017 (\$nil in 2016 and \$1 million in 2015).

Unrealized gains and losses on trading securities are included in trading-related revenue in Note 17.

## Note 4: Loans and Allowance for Credit Losses

Loans are initially measured at fair value plus directly attributable costs, and are subsequently measured at amortized cost using the effective interest method. The effective interest method allocates interest income over the expected term of the loan by applying the effective interest rate to the carrying amount of the loan. The effective interest rate is defined as the rate that exactly discounts estimated future cash receipts through the expected term of the loan to the net carrying amount of the loan. Under the effective interest method, the amount recognized in interest, dividend and fee income, loans, varies over the term of the loan based on the principal outstanding. The treatment of interest income for impaired loans is described below.

### Securities Borrowed or Purchased Under Resale Agreements

Securities borrowed or purchased under resale agreements represent the amounts we will receive as a result of our commitment to return or resell securities that we have borrowed or purchased, back to the original lender or seller, on a specified date at a specified price. We account for these instruments as if they were loans.

### Lending Fees

The accounting treatment for lending fees varies depending on the transaction. Some loan origination, restructuring and renegotiation fees are recorded as interest income over the term of the loan, while other lending fees are taken into income at the time of loan origination. Commitment fees are recorded as interest income over the term of the loan, unless we believe the loan commitment will not be used. In the latter case, commitment fees are recorded as lending fees over the commitment period. Loan syndication fees are included in lending fees at the time the syndication is completed, unless the yield on any loans we retain is less than that of other comparable lenders involved in the financing. In the latter case, an appropriate portion of the syndication fee is recorded as interest income over the term of the loan.

## Impaired Loans

We classify a loan as impaired when one or more loss events have occurred, such as bankruptcy, default or delinquency. Generally, consumer loans in both Canada and the U.S. are classified as impaired when payment is contractually 90 days past due, or one year past due for residential mortgages if guaranteed by the Government of Canada. Credit card loans are immediately written off when principal or interest payments are 180 days past due, and are not reported as impaired. In Canada, consumer instalment loans, other personal loans and some small business loans are normally written off when they are one year past due. In the U.S., all consumer loans are generally written off when they are 180 days past due, except for non-real estate term loans, which are generally written off at 120 days past due. For the purpose of measuring the amount to be written off, the determination of the recoverable amount includes an estimate of future recoveries.

Corporate and commercial loans are classified as impaired when we determine there is no longer reasonable assurance that principal or interest will be collected in their entirety on a timely basis. Generally, we consider corporate and commercial loans to be impaired when payments are 90 days past due. Corporate and commercial loans are written off following a review on an individual loan basis that confirms all recovery attempts have been exhausted.

A loan will be reclassified to performing status when we determine that there is reasonable assurance of full and timely repayment of interest and principal in accordance with the terms and conditions of the loan, and that none of the criteria for classification of the loan as impaired continue to apply.

Our average gross impaired loans were \$2,248 million for the year ended October 31, 2017 (\$2,198 million in 2016). Our average impaired loans, net of the specific allowance, were \$1,838 million for the year ended October 31, 2017 (\$1,771 million in 2016).

Once a loan is identified as impaired, we continue to recognize interest income based on the original effective interest rate of the loan. In the periods following the recognition of impairment, adjustments to the allowance for these loans reflecting the time value of money are recognized and presented as interest income. Interest income on impaired loans of \$75 million was recognized for the year ended October 31, 2017 (\$74 million in 2016 and \$91 million in 2015).

During the year ended October 31, 2017, we recorded a net gain of \$28 million before tax (\$5 million in 2016 and \$72 million in 2015) on the sale of impaired and written-off loans.

## Allowance for Credit Losses (“ACL”)

The allowance for credit losses recorded in our Consolidated Balance Sheet is maintained at a level that we consider adequate to absorb credit-related losses on our loans and other credit instruments. The portion related to other credit instruments is recorded in other liabilities in our Consolidated Balance Sheet and amounted to \$163 million as at October 31, 2017 (\$189 million in 2016).

The allowance is comprised of a specific allowance and a collective allowance.

### *Specific Allowance*

These allowances are recorded for individually identified impaired loans to reduce their carrying value to the expected recoverable amount. We review our loans on an ongoing basis to assess whether any loans should be classified as impaired and whether an allowance or write-off should be recorded (excluding credit card loans, which are classified as impaired and written off when principal or interest payments are 180 days past due, as discussed under Impaired Loans). The review of individually significant problem loans is conducted at least quarterly by the account managers, each of whom assesses the ultimate collectability and estimated recoveries for a specific loan based on all events and conditions that are relevant to the loan. This assessment is then reviewed and approved by an independent credit officer.

### **Individually Significant Impaired Loans**

To determine the amount we expect to recover from an individually significant impaired loan, we use the value of the estimated future cash flows discounted at the loan's original effective interest rate. The determination of estimated future cash flows of a collateralized impaired loan reflects the expected realization of the underlying security, net of expected costs and any amounts legally required to be paid to the borrower. Security can vary by type of loan and may include cash, securities, real properties, accounts receivable, guarantees, inventory or other capital assets.

### **Individually Insignificant Impaired Loans**

Residential mortgages, consumer instalment and other personal loans are individually insignificant and may be individually assessed or collectively assessed for losses at the time of impairment, taking into account historical loss experience.

### *Collective Allowance*

We maintain a collective allowance in order to cover impairment in the existing portfolio for loans that have not yet been individually identified as impaired. Our approach to establishing and maintaining the collective allowance is based on the requirements of IFRS, considering guidelines issued by OSFI.

The collective allowance methodology incorporates both quantitative and qualitative factors to determine an appropriate level for the collective allowance. For the purpose of calculating the collective allowance, we group loans on the basis of similarities in credit risk characteristics. The loss factors for groups of loans are determined based on a minimum of five years of historical data and a one-year loss emergence period, except for credit cards, where a seven-month loss emergence period is used. The loss factors are back-tested and calibrated on a regular basis to ensure that they continue to reflect our best estimate of losses that have been incurred but not yet identified, on an individual basis, within the pools of loans. Historical loss experience data is also reviewed in the determination of loss factors. Qualitative factors are based on current observable data, such as current macroeconomic and business conditions, portfolio-specific considerations and model risk factors.

## Provision for Credit Losses (“PCL”)

Changes in the value of our loan portfolio due to credit-related losses or recoveries of amounts previously provided for or written off are included in the provision for credit losses in our Consolidated Statement of Income.

Loans and allowance for credit losses by category are as follows:

(Canadian \$ in millions)	Residential mortgages (1)			Credit card, consumer instalment and other personal loans			Business and government loans			Total		
	2017	2016	2015	2017	2016	2015	2017	2016	2015	2017	2016	2015
Gross loan balances at end of year (2)	<b>115,258</b>	112,277	105,918	<b>70,015</b>	72,781	73,578	<b>178,232</b>	175,597	145,076	<b>363,505</b>	360,655	324,572
Impairment allowances (specific ACL), beginning of year	<b>59</b>	69	88	<b>123</b>	113	99	<b>250</b>	210	237	<b>432</b>	392	424
Amounts written off	<b>(27)</b>	(38)	(83)	<b>(654)</b>	(648)	(670)	<b>(301)</b>	(361)	(312)	<b>(982)</b>	(1,047)	(1,065)
Recoveries of amounts written off in previous years	<b>16</b>	16	72	<b>199</b>	173	190	<b>50</b>	154	194	<b>265</b>	343	456
Charge to income statement (specific PCL)	<b>11</b>	24	11	<b>487</b>	510	497	<b>352</b>	281	104	<b>850</b>	815	612
Foreign exchange and other movements	<b>(10)</b>	(12)	(19)	<b>(18)</b>	(25)	(3)	<b>(117)</b>	(34)	(13)	<b>(145)</b>	(71)	(35)
Specific ACL, end of year	<b>49</b>	59	69	<b>137</b>	123	113	<b>234</b>	250	210	<b>420</b>	432	392
Collective ACL, beginning of year	<b>71</b>	111	83	<b>596</b>	714	678	<b>1,015</b>	835	781	<b>1,682</b>	1,660	1,542
Charge to income statement (collective PCL)	<b>(1)</b>	(42)	19	<b>(6)</b>	(120)	7	<b>(69)</b>	162	(26)	<b>(76)</b>	-	-
Foreign exchange and other movements	<b>(1)</b>	2	9	<b>(4)</b>	2	29	<b>(25)</b>	18	80	<b>(30)</b>	22	118
Collective ACL, end of year	<b>69</b>	71	111	<b>586</b>	596	714	<b>921</b>	1,015	835	<b>1,576</b>	1,682	1,660
Total ACL	<b>118</b>	130	180	<b>723</b>	719	827	<b>1,155</b>	1,265	1,045	<b>1,996</b>	2,114	2,052
Comprised of: Loans	<b>93</b>	104	149	<b>722</b>	719	827	<b>1,018</b>	1,102	879	<b>1,833</b>	1,925	1,855
Other credit instruments (3)	<b>25</b>	26	31	<b>1</b>	-	-	<b>137</b>	163	166	<b>163</b>	189	197
Net loan balances at end of year	<b>115,165</b>	112,173	105,769	<b>69,293</b>	72,062	72,751	<b>177,214</b>	174,495	144,197	<b>361,672</b>	358,730	322,717

(1) Included in the residential mortgages balance are Canadian government and corporate-insured mortgages of \$53,981 million as at October 31, 2017 (\$57,922 million in 2016 and \$56,579 million in 2015).

(2) Included in loans as at October 31, 2017 are \$135,535 million (\$139,696 million in 2016 and \$117,098 million in 2015) of loans denominated in U.S. dollars and \$2,528 million (\$2,204 million in 2016 and \$1,966 million in 2015) of loans denominated in other foreign currencies.

(3) The total specific and collective allowances related to other credit instruments are included in other liabilities.

Loans and allowance for credit losses by geographic region are as follows:

(Canadian \$ in millions)	Gross amount		Specific allowance (2)		Collective allowance (3)		Net amount	
	2017	2016	2017	2016	2017	2016	2017	2016
By geographic region (1):								
Canada	<b>235,120</b>	228,062	<b>212</b>	173	<b>799</b>	833	<b>234,109</b>	227,056
United States	<b>115,606</b>	121,822	<b>161</b>	231	<b>641</b>	687	<b>114,804</b>	120,904
Other countries	<b>12,779</b>	10,771	<b>20</b>	1	-	-	<b>12,759</b>	10,770
Total	<b>363,505</b>	360,655	<b>393</b>	405	<b>1,440</b>	1,520	<b>361,672</b>	358,730

(1) Geographic region is based upon the country of ultimate risk.

(2) Excludes specific allowance of \$27 million for other credit instruments (\$27 million in 2016), which is included in other liabilities.

(3) Excludes collective allowance of \$136 million for other credit instruments (\$162 million in 2016), which is included in other liabilities.

Impaired loans, including the related allowances, are as follows:

(Canadian \$ in millions)	Gross impaired amount		Specific allowance (3)		Net of specific allowance	
	2017	2016	2017	2016	2017	2016
Residential mortgages	<b>345</b>	352	<b>24</b>	33	<b>321</b>	319
Consumer instalment and other personal loans	<b>556</b>	589	<b>136</b>	123	<b>420</b>	466
Business and government loans	<b>1,273</b>	1,391	<b>233</b>	249	<b>1,040</b>	1,142
Total (1)	<b>2,174</b>	2,332	<b>393</b>	405	<b>1,781</b>	1,927
By geographic region (2):						
Canada	<b>747</b>	736	<b>212</b>	173	<b>535</b>	563
United States	<b>1,377</b>	1,594	<b>161</b>	231	<b>1,216</b>	1,363
Other countries	<b>50</b>	2	<b>20</b>	1	<b>30</b>	1
Total	<b>2,174</b>	2,332	<b>393</b>	405	<b>1,781</b>	1,927

(1) Excludes purchased credit impaired loans.

(2) Geographic region is based upon the country of ultimate risk.

(3) Excludes specific allowance of \$27 million for other credit instruments (\$27 million in 2016), which is included in other liabilities.

Fully secured loans with amounts past due between 90 and 180 days that we have not classified as impaired totalled \$62 million and \$88 million as at October 31, 2017 and 2016, respectively.

Specific provisions for credit losses by geographic region are as follows:

(Canadian \$ in millions)	Residential mortgages			Credit card, consumer instalment and other personal loans			Business and government loans			Total		
	2017	2016	2015	2017	2016	2015	2017	2016	2015	2017	2016	2015
By geographic region (1):												
Canada	<b>11</b>	13	9	<b>399</b>	417	393	<b>93</b>	117	97	<b>503</b>	547	499
United States	-	11	2	<b>88</b>	93	104	<b>238</b>	164	8	<b>326</b>	268	114
Other countries	-	-	-	-	-	-	<b>21</b>	-	(1)	<b>21</b>	-	(1)
Total	<b>11</b>	24	11	<b>487</b>	510	497	<b>352</b>	281	104	<b>850</b>	815	612

(1) Geographic region is based upon the country of ultimate risk.

## Loans Past Due Not Impaired

Loans that are past due but not classified as impaired are loans where our customers have failed to make payments when contractually due, but for which we expect the full amount of principal and interest payments to be collected. The following table presents loans that are past due but not classified as impaired as at October 31, 2017 and 2016.

(Canadian \$ in millions)	1 to 29 days		30 to 89 days		90 days or more		Total	
	2017	2016	2017	2016	2017	2016	2017	2016
Residential mortgages (1)	649	668	438	451	19	33	1,106	1,152
Credit card, consumer instalment and other personal loans (2)	1,480	1,736	466	422	94	88	2,040	2,246
Business and government loans	589	673	297	364	72	139	958	1,176
<b>Total</b>	<b>2,718</b>	<b>3,077</b>	<b>1,201</b>	<b>1,237</b>	<b>185</b>	<b>260</b>	<b>4,104</b>	<b>4,574</b>

(1) The percentage of loans 90 days or more past due but not impaired that were guaranteed by the Government of Canada is 5% for 2017 and 7% for 2016.

(2) Credit card loans that are past due are not classified as impaired loans and are written off when 180 days past due.

## Foreclosed Assets

Property or other assets that we receive from borrowers to satisfy their loan commitments are classified as either held for use or held for sale according to management's intention and are recorded at the lower of carrying amount or fair value less costs to sell. Fair value is determined based on market prices where available. Otherwise, fair value is determined using methods such as analysis of discounted cash flows or market prices for similar assets.

During the year ended October 31, 2017, we foreclosed on impaired loans and received \$62 million of real estate properties that we classified as held for sale (\$118 million in 2016).

As at October 31, 2017, real estate properties held for sale totalled \$55 million (\$76 million in 2016). These properties are disposed of when considered appropriate. During the year ended October 31, 2017, we recorded an impairment loss of \$10 million on real estate properties classified as held for sale (\$18 million in 2016 and \$22 million in 2015).

## Renegotiated Loans

From time to time we modify the contractual terms of a loan due to the poor financial condition of the borrower. We assess renegotiated loans for impairment consistent with our existing policies for impairment. When renegotiation leads to significant concessions being granted, and the concessions are for economic or legal reasons related to the borrower's financial difficulty that we would not otherwise consider, the loan is classified as impaired. We consider one or a combination of the following to be significant concessions: (1) a reduction of the stated interest rate, (2) an extension of the maturity date or dates at a stated interest rate lower than the current market rate for a new loan with similar terms, or (3) forgiveness of principal or accrued interest.

Renegotiated loans are permitted to remain in performing status if the modifications are not considered to be significant, or are returned to performing status when none of the criteria for classification as impaired continue to apply.

The carrying value of our renegotiated loans was \$1,064 million as at October 31, 2017 (\$988 million in 2016). Renegotiated loans of \$509 million were classified as performing during the year ended October 31, 2017 (\$540 million in 2016). Renegotiated loans of \$36 million were written off in the year ended October 31, 2017 (\$58 million in 2016).

## Purchased Loans

We record all loans that we purchase at fair value on the day that we acquire the loans. The fair value of the acquired loan portfolio includes an estimate of the interest rate premium or discount on the loans, calculated as the difference between the contractual rate of interest on the loans and prevailing interest rates (the "interest rate mark"). Also included in fair value is an estimate of expected credit losses (the "credit mark") as of the acquisition date. The credit mark consists of two components: an estimate of the amount of losses that exist in the acquired loan portfolio on the acquisition date but that haven't been specifically identified on that date (the "incurred credit mark") and an amount that represents future expected losses (the "future credit mark"). Because we record the loans at fair value, no allowance for credit losses is recorded in our Consolidated Balance Sheet on the day we acquire the loans. Fair value is determined by estimating the principal and interest cash flows expected to be collected on the loans and discounting those cash flows at a market rate of interest. We estimate cash flows expected to be collected based on specific loan reviews for commercial loans. For retail loans, we use models that incorporate management's best estimate of current key assumptions, such as default rates, loss severity and the timing of prepayments, as well as collateral.

Acquired loans are classified into the following categories: those for which on the acquisition date we expect to continue to receive timely principal and interest payments (the "purchased performing loans") and those for which on the acquisition date the timely collection of interest and principal was no longer reasonably assured (the "purchased credit impaired loans" or "PCI loans"). Because PCI loans are recorded at fair value at acquisition based on the amount expected to be collected, none of the PCI loans are considered to be impaired at acquisition.

Subsequent to the acquisition date, we account for each type of loan as follows:

### *Purchased Performing Loans*

For performing loans with fixed terms, the future credit mark is fully amortized into net interest income over the expected life of the loan using the effective interest method. The impact on net interest income for the year ended October 31, 2017 was \$9 million (\$15 million in 2016 and \$26 million in 2015). The incurred credit losses are remeasured at each reporting period, with any increase recorded as an increase in the collective allowance and the provision for credit losses. Decreases in incurred credit losses are recorded as a decrease in the collective allowance and the provision for credit losses until the accumulated collective allowance related to these loans is exhausted. Any additional decrease is recorded in net interest income.

The impact of the remeasurement of incurred credit losses for performing loans with fixed terms for the year ended October 31, 2017 was \$39 million in the provision for credit losses and \$18 million in net interest income (\$50 million provision and \$31 million, respectively, in 2016 and \$1 million recovery and \$nil, respectively, in 2015).

For performing loans with revolving terms, the incurred and future credit marks are amortized into net interest income on a straight-line basis over the contractual terms of the loans. The impact on net interest income of such amortization for the year ended October 31, 2017 was \$4 million (\$5 million in 2016 and \$15 million in 2015).

As performing loans are repaid, the related unamortized credit mark remaining is recorded as net interest income during the period in which the payments are received. The impact on net interest income of such repayments for the year ended October 31, 2017 was \$39 million (\$41 million in 2016 and \$62 million in 2015).

For all performing loans, the interest rate premium is amortized into net interest income over the expected life of the loan using the effective interest rate method. The impact to net interest income of amortization and repayments for the year ended October 31, 2017 was an expense of \$40 million (\$53 million in 2016 and \$51 million in 2015).

Actual specific provisions for credit losses related to these performing loans are recorded as they arise in a manner that is consistent with our policy for loans we originate. The total specific provision for credit losses for purchased performing loans for the year ended October 31, 2017 was \$72 million (\$32 million in 2016 and \$5 million in 2015).

As at October 31, 2017, the amount of purchased performing loans remaining on the balance sheet was \$5,973 million (\$9,415 million in 2016). As at October 31, 2017, the credit mark remaining on performing term loans and revolving loans was \$151 million and \$45 million, respectively (\$226 million and \$57 million in 2016). Of the total credit mark for performing loans of \$196 million, \$110 million represents the credit mark that will be amortized over the remaining life of the portfolio. The remaining balance of \$86 million represents the incurred credit mark and will be remeasured each reporting period.

#### *Purchased Credit Impaired Loans*

Subsequent to the acquisition date, we regularly re-evaluate the cash flows we expect to collect on the PCI loans. Increases in expected cash flows result in a recovery in the specific provision for credit losses and either a reduction in any previously recorded allowance for credit losses or, if no allowance exists, an increase in the current carrying value of the PCI loans. Decreases in expected cash flows will result in a charge to the specific provision for credit losses and an increase in the allowance for credit losses. The impact of these evaluations for the year ended October 31, 2017 was a \$1 million recovery in the specific provision for credit losses (\$58 million recovery in 2016 and \$86 million recovery in 2015).

As at October 31, 2017, the amount of PCI loans remaining on the balance sheet was \$187 million (\$275 million in 2016). As at October 31, 2017, the remaining credit mark related to PCI loans was \$nil (\$3 million in 2016).

#### **FDIC Covered Loans**

Certain acquired loans are subject to a loss share agreement with the Federal Deposit Insurance Corporation ("FDIC"). Under this agreement, the FDIC reimburses us for 80% of the net losses we incur on the covered loans.

We recorded net provisions of \$2 million for the year ended October 31, 2017 (net recoveries of \$25 million in 2016 and net provisions of \$36 million in 2015). These amounts are net of the amounts expected to be reimbursed by the FDIC.

## **Note 5: Risk Management**

We have an enterprise-wide approach to the identification, measurement, monitoring and control of risks faced across our organization. The key risks related to our financial instruments are classified as credit and counterparty, market, and liquidity and funding risk.

### **Credit and Counterparty Risk**

Credit and counterparty risk is the potential for loss due to the failure of a borrower, endorser, guarantor or counterparty to repay a loan or honour another predetermined financial obligation. Credit risk arises predominantly with respect to loans, over-the-counter and centrally cleared derivatives and other credit instruments. This is the most significant measurable risk that we face.

Our risk management practices and key measures are disclosed in the text and tables presented in a blue-tinted font in the Enterprise-Wide Risk Management section of Management's Discussion and Analysis on pages 86 to 90 of this report. Additional information on credit risk related to loans and derivatives is disclosed in Notes 4 and 8, respectively.

### **Market Risk**

Market risk is the potential for adverse changes in the value of our assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity and commodity prices and their implied volatilities, and credit spreads, and includes the risk of credit migration and default in our trading book. We incur market risk in our trading and underwriting activities and in the management of structural market risk in our banking and insurance activities.

Our market risk management practices and key measures are disclosed in the text and tables presented in a blue-tinted font in the Enterprise-Wide Risk Management section of Management's Discussion and Analysis on pages 94 to 98 of this report.

### **Liquidity and Funding Risk**

Liquidity and funding risk is the potential for loss if we are unable to meet our financial commitments in a timely manner at reasonable prices as they become due. It is our policy to ensure that sufficient liquid assets and funding capacity are available to meet financial commitments, including liabilities to depositors and suppliers, and lending, investment and pledging commitments, even in times of stress. Managing liquidity and funding risk is essential to maintaining a safe and sound enterprise, depositor confidence and earnings stability.

Our liquidity and funding risk management practices and key measures are disclosed in the text presented in a blue-tinted font in the Enterprise-Wide Risk Management section of Management's Discussion and Analysis on pages 99 to 103 of this report.

## Note 6: Transfer of Assets

### Loan Securitization

We sell Canadian mortgage loans to third-party Canadian securitization programs, including the Canada Mortgage Bond program, and directly to third-party investors under the National Housing Act Mortgage-Backed Securities program and under our own program. We assess whether substantially all of the risks and rewards of the loans have been transferred to determine if they qualify for derecognition.

Under these programs, we are entitled to the payment over time of the excess of the sum of interest and fees collected from customers, in connection with the loans that were sold, over the yield paid to investors, less credit losses and other costs. Since we continue to be exposed to substantially all of the prepayment, interest rate and/or credit risk associated with the securitized loans, they do not qualify for derecognition. We continue to recognize the loans and the related cash proceeds as secured financing in our Consolidated Balance Sheet. The interest and fees collected, net of the yield paid to investors, is recorded in net interest income using the effective interest method over the term of the securitization. Credit losses associated with the loans are recorded in the provision for credit losses. During the year ended October 31, 2017, we sold \$8,707 million of mortgage loans to these programs (\$6,803 million in 2016).

The following table presents the carrying amount and fair value of transferred assets that did not qualify for derecognition and the associated liabilities:

(Canadian \$ in millions)	2017			2016		
	Carrying amount of assets	Fair value of assets	Associated liabilities	Carrying amount of assets	Fair value of assets	Associated liabilities
Residential mortgages	4,797			5,534		
Other related assets (1)	12,091			11,689		
<b>Total</b>	<b>16,888</b>	<b>16,847</b>	<b>16,621</b>	<b>17,223</b>	<b>17,318</b>	<b>16,880</b>

(1) Other related assets represent payments received on account of loans pledged under securitization programs that have not yet been applied against the associated liabilities. The payments received are held on behalf of the investors in the securitization vehicles until principal payments are required to be made on the associated liabilities. In order to compare all assets supporting the associated liabilities, this amount is added to the carrying value of the securitized assets in the table above.

### Securities Lent or Sold Under Repurchase Agreements

Securities lent or sold under repurchase agreements represent short-term funding transactions in which we sell securities that we own and simultaneously commit to repurchase the same securities at a specified price on a specified date in the future. We retain substantially all of the risks and rewards associated with the securities and we continue to recognize them in our Consolidated Balance Sheet, with the obligation to repurchase these securities recorded as secured borrowing transactions at the amount owing. The interest expense related to these liabilities is recorded on an accrual basis. Additional information on securities lent or sold under repurchase agreements is provided in Note 14.

## Note 7: Structured Entities

We enter into certain transactions in the ordinary course of business which involve the establishment of structured entities ("SEs") to facilitate or secure customer transactions and to obtain alternate sources of funding. We are required to consolidate a SE if we control the entity. We control a SE when we have power over the SE, exposure to variable returns as a result of our involvement, and the ability to exercise power to affect the amount of our returns.

In assessing whether we control a SE, we consider the entire arrangement to determine the purpose and design of the SE, the nature of any rights held through contractual arrangements and whether we are acting as a principal or agent.

We perform a re-assessment of consolidation if facts and circumstances indicate that there have been changes to one or more of the elements of control over the SE. See Note 1 for more information on our basis of consolidation.

### Consolidated Structured Entities

#### Bank Securitization Vehicles

We use securitization vehicles to securitize our Canadian credit card loans, Canadian real estate lines of credit and Canadian auto loans in order to obtain alternate sources of funding. The structure of these vehicles limits the activities they can undertake and the types of assets they can hold, and the vehicles have limited decision-making authority. The vehicles issue term asset-backed securities to fund their activities. We control and consolidate these vehicles, as we have the key decision-making powers necessary to obtain the majority of the benefits of their activities.

The following table presents the carrying amount and fair value of transferred assets that did not qualify for derecognition and the associated liabilities issued by our bank securitization vehicles:

(Canadian \$ in millions)	2017			2016		
	Carrying amount of assets	Fair value of assets	Associated liabilities	Carrying amount of assets	Fair value of assets	Associated liabilities
Credit card receivables	7,292	7,292	4,115	7,210	7,210	4,324
Consumer instalment and other personal (1)	5,699	5,695	2,295	5,564	5,566	797
<b>Total</b>	<b>12,991</b>	<b>12,987</b>	<b>6,410</b>	<b>12,774</b>	<b>12,776</b>	<b>5,121</b>

(1) Includes Canadian real estate lines of credit and Canadian auto loans.

#### U.S. Customer Securitization Vehicle

We sponsor a customer securitization vehicle (also referred to as a bank-sponsored multi-seller conduit) that provides our customers with alternate sources of funding through the securitization of their assets. This vehicle provides clients with access to financing in the asset-backed commercial paper ("ABCP") markets by allowing them to either sell or transfer a direct or indirect interest in their assets to the vehicle, which then issues ABCP to



investors to fund the purchases. We do not sell assets to the customer securitization vehicle. We earn fees for providing services related to the securitizations, including liquidity, distribution and financial arrangement fees for supporting the ongoing operations of the vehicle. We have determined that we control and therefore consolidate this vehicle, as we are exposed to its variable returns and we have the key decision-making powers necessary to affect the amount of those returns in our capacity as liquidity provider and servicing agent.

We provide committed liquidity support facilities to this vehicle which may require that we provide additional financing to the vehicle in the event that certain events occur. The total committed undrawn amount under these facilities at October 31, 2017 was \$6,765 million (\$6,314 million at October 31, 2016).

#### Capital and Funding Vehicles

Capital and funding vehicles are created to issue notes or capital trust securities or to guarantee payments due to bondholders on bonds issued by us. These vehicles may purchase notes issued by us, or we may sell assets to the vehicles in exchange for promissory notes.

We may also use capital vehicles to transfer our credit exposure on certain corporate loan assets. We purchase credit protection against eligible credit events from these vehicles which they fund through the issuance of credit-linked notes. Loan assets are not sold or assigned to the vehicles and remain on our Consolidated Balance Sheet. As at October 31, 2017, \$318 million of credit-linked notes issued by these vehicles were included in deposits in our Consolidated Balance Sheet (\$nil at October 31, 2016).

For those vehicles that purchase assets from us or are designed to pass on our credit risk, we have determined that based on the rights of the arrangements or through our equity interest we have significant exposure to the variable returns of the vehicles, and we control and therefore consolidate these vehicles. During 2016, all of the capital trust securities issued by one of these vehicles were redeemed. Additional information related to capital trust securities is provided in Note 16.

#### Credit Protection Vehicle

We sponsored a credit protection vehicle which provided credit protection to investors on investments in corporate debt portfolios through credit default swaps. We entered into credit default swaps with swap counterparties and offsetting swaps with the vehicle. We controlled and consolidated the vehicle. In September 2016, the vehicle redeemed all of its outstanding medium-term notes and the credit default swaps matured. There is no remaining activity in this vehicle.

### Unconsolidated Structured Entities

The table below presents amounts related to our interests in unconsolidated SEs:

	2017			2016		
	Capital and funding vehicles	Canadian customer securitization vehicles (1)	Structured finance vehicles	Capital and funding vehicles	Canadian customer securitization vehicles (1)	Structured finance vehicles
<b>Interests recorded on the balance sheet</b>						
Cash and cash equivalents	8	50	-	11	53	-
Trading securities	-	6	209	-	14	1,056
Available-for-sale securities	2	725	-	2	643	-
Loans	7	-	-	-	-	-
Other	-	6	-	12	6	-
	<b>17</b>	<b>787</b>	<b>209</b>	25	716	1,056
Deposits	460	50	146	1,265	53	879
Derivatives	-	-	63	-	-	135
Other	16	-	-	21	-	-
	<b>476</b>	<b>50</b>	<b>209</b>	1,286	53	1,014
<b>Exposure to loss (2)</b>	<b>57</b>	<b>6,425</b>	<b>209</b>	57	6,796	1,056
<b>Total assets of the entities</b>	<b>476</b>	<b>4,592</b>	<b>209</b>	1,285	5,131	1,056

(1) Securities held that are issued by our Canadian customer securitization vehicles are comprised of asset-backed commercial paper and are classified as trading securities and available-for-sale securities. All assets held by these vehicles relate to assets in Canada.

(2) Exposure to loss represents securities held, undrawn liquidity facilities, total committed amounts of the BMO funded vehicle and derivative assets.

#### Capital and Funding Vehicles

Certain of our capital and funding vehicles purchase notes issued by us as their underlying assets. In these situations, we are not exposed to significant default or credit risk. Our remaining exposure to variable returns is less than that of the note holders, who are exposed to our default and credit risk. We are not required to consolidate these vehicles.

#### Canadian Customer Securitization Vehicles

We sponsor customer securitization vehicles (also referred to as bank-sponsored multi-seller conduits) that provide our customers with alternate sources of funding through the securitization of their assets. These vehicles provide clients with access to financing either directly from BMO or in the ABCP markets by allowing them either to sell or transfer a direct or indirect interest in their assets to the vehicles, which then issue ABCP to investors or BMO to fund the purchases. We do not sell assets to the customer securitization vehicles. We earn fees for providing services related to the securitizations, including liquidity, distribution and financial arrangement fees for supporting the ongoing operations of the vehicles. We have determined that we do not control these entities, as their key relevant activity, the servicing of program assets, does not reside with us.

We provide liquidity facilities to the vehicles that issue ABCP to investors which may require that we provide additional financing to the vehicles in the event that certain events occur. The total committed and undrawn amount under these liquidity facilities and any undrawn amounts of the BMO funded vehicle at October 31, 2017 was \$5,688 million (\$6,134 million at October 31, 2016).

### *Structured Finance Vehicles*

We facilitate development of investment products by third parties, including mutual funds, unit investment trusts and other investment funds that are sold to retail investors. We enter into derivative contracts with these third parties to provide investors with their desired exposure, and we hedge our exposure related to these derivative contracts by investing in other funds through SEs. We are not required to consolidate these vehicles.

### *Compensation Trusts*

We sponsor various share ownership arrangements, certain of which are administered through trusts. Generally these arrangements permit employees to purchase bank common shares.

For our largest plan, employees can direct a portion of their gross salary toward the purchase of our common shares and we match 50% of employees' contributions up to 6% of their individual gross salary to a maximum of \$100,000. Our matching contributions are paid into trusts, which purchase our common shares on the open market for distribution to employees once those employees are entitled to the shares under the terms of the plan. We are not required to consolidate our compensation trusts. These trusts are not included in the table above, as we have no interest in the trusts.

Total assets held under our share ownership arrangements amounted to \$1,805 million as at October 31, 2017 (\$1,616 million in 2016).

### *BMO Managed Funds*

We have established a number of funds that we also manage. We assess whether or not we control these funds based on the economic interest we have in the funds, including investments in the funds and management fees earned from the funds, and any investors' rights to remove us as investment manager. Based on our assessment, we have determined that we do not control these funds. Our total interest in unconsolidated BMO managed funds was \$774 million at October 31, 2017 (\$798 million in 2016), which is included in securities in our Consolidated Balance Sheet.

### *Non-BMO Managed Funds*

We purchase and hold units of non-BMO managed funds for investment and other purposes. We are considered to have an interest in these funds through our holding of units, and because we may act as counterparty in certain derivative contracts or other interests. These activities do not constitute control, and as a result our interests in these funds are not consolidated. Our total interest in non-BMO managed funds was \$1,426 million at October 31, 2017 (\$2,525 million in 2016), which is included in securities in our Consolidated Balance Sheet.

### **Other Structured Entities**

We may be deemed to be the sponsor of a SE if we are involved in the design, legal set-up or marketing of the SE. We may also be deemed to be the sponsor of a SE if market participants would reasonably associate the entity with us. We do not have an interest in certain SEs that we have sponsored.

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## **Note 8: Derivative Instruments**

Derivative instruments are financial contracts that derive their value from underlying changes in interest rates, foreign exchange rates or other financial or commodity prices or indices.

Derivative instruments are either regulated exchange-traded contracts or negotiated over-the-counter contracts. We use these instruments for trading purposes, as well as to manage our exposures, mainly to foreign currency and interest rate fluctuations, as part of our asset/liability management program.

### **Types of Derivatives**

#### *Swaps*

Swaps are contractual agreements between two parties to exchange a series of cash flows. The various swap agreements that we enter into are as follows:

- Interest rate swaps – counterparties generally exchange fixed and floating rate interest payments based on the notional value in a single currency.
- Cross-currency swaps – fixed rate interest payments and principal amounts are exchanged in different currencies.
- Cross-currency interest rate swaps – fixed and/or floating rate interest payments and principal amounts are exchanged in different currencies.
- Commodity swaps – counterparties generally exchange fixed and floating rate payments based on a notional value of a single commodity.
- Equity swaps – counterparties exchange the return on an equity security or a group of equity securities for a return based on a fixed or floating interest rate or the return on another equity security or group of equity securities.
- Credit default swaps – one counterparty pays the other a fee in exchange for that other counterparty agreeing to make a payment if a credit event occurs, such as bankruptcy or failure to pay.
- Total return swaps – one counterparty agrees to pay or receive from the other cash amounts based on changes in the value of a reference asset or group of assets, including any returns such as interest earned on these assets, in exchange for amounts that are based on prevailing market funding rates.

#### *Forwards and Futures*

Forwards and futures are contractual agreements to either buy or sell a specified amount of a currency, commodity, interest-rate-sensitive financial instrument or security at a specified price and date in the future.

Forwards are customized contracts transacted in the over-the-counter market. Futures are transacted in standardized amounts on regulated exchanges and are subject to daily cash margining.

#### *Options*

Options are contractual agreements that convey to the purchaser the right but not the obligation to either buy or sell a specified amount of a currency, commodity, interest-rate-sensitive financial instrument or security at a fixed future date or at any time within a fixed future period.

For options written by us, we receive a premium from the purchaser for accepting market risk.

For options purchased by us, we pay a premium for the right to exercise the option. Since we have no obligation to exercise the option, our primary exposure to risk is the potential credit risk if the writer of an over-the-counter contract fails to meet the terms of the contract.

Caps, collars and floors are specialized types of written and purchased options. They are contractual agreements in which the writer agrees to pay the purchaser, based on a specified notional amount, the difference between the market rate and the prescribed rate of the cap, collar or floor. The writer receives a premium for selling this instrument.

A swaption is an option that conveys to the purchaser the right but not the obligation to enter into an underlying swap.

A future option is an option contract in which the underlying instrument is a single futures contract.

The main risks associated with these derivative instruments are related to exposure to movements in interest rates, foreign exchange rates, credit quality, value of the underlying financial instrument or commodity, as applicable, and the possible inability of counterparties to meet the terms of the contracts.

## Risks Hedged

### *Interest Rate Risk*

We manage interest rate risk through bonds, interest rate futures, interest rate swaps and options, which are linked to and adjust the interest rate sensitivity of a specific asset, liability, forecasted transaction or firm commitment, or a specific pool of transactions with similar risk characteristics.

### *Foreign Currency Risk*

We manage foreign currency risk through currency futures, foreign currency options, cross-currency swaps, spot foreign exchange and forward contracts.

## Trading Derivatives

Trading derivatives include derivatives entered into with customers to accommodate their risk management needs, market-making to facilitate customer-driven demand for derivatives, derivatives transacted on a limited basis to generate trading income from our principal trading positions and certain derivatives that are executed as part of our risk management strategy that do not qualify as hedges for accounting purposes (“economic hedges”).

We structure and market derivative products to enable customers to transfer, modify or reduce current or expected risks.

Principal trading activities include market-making and positioning activities. Market-making involves quoting bid and offer prices to other market participants with the intention of generating revenues based on spread and volume. Positioning activities involve managing market risk positions with the expectation of profiting from favourable movements in prices, rates or indices.

Trading derivatives are recorded at fair value. Realized and unrealized gains and losses are recorded in trading revenues in our Consolidated Statement of Income. Unrealized gains on trading derivatives are recorded as derivative instrument assets and unrealized losses are recorded as derivative instrument liabilities in our Consolidated Balance Sheet.

We may also economically hedge a portion of our U.S. dollar earnings through forward foreign exchange contracts and/or options to minimize fluctuations in our consolidated net income due to the translation of our U.S. dollar earnings. These contracts are recorded at fair value, with changes in fair value recorded in non-interest revenue, trading revenues, in our Consolidated Statement of Income.

## Hedging Derivatives

In accordance with our risk management strategy, we enter into various derivative contracts to hedge our interest rate and foreign currency exposures. To the extent these derivative instruments qualify for hedge accounting requirements, we designate them in accounting hedge relationships.

In order for a derivative instrument to qualify as an accounting hedge, the hedging relationship must be designated and formally documented at its inception, detailing the particular risk management objective and strategy for the hedge and the specific asset, liability or cash flow being hedged, as well as how its effectiveness is being assessed. Changes in the fair value of the derivative must be highly effective in offsetting changes either in the fair value or changes in the amount of future cash flows of the hedged item.

Hedge effectiveness is evaluated at the inception of the hedging relationship and on an ongoing basis, retrospectively and prospectively, primarily using quantitative statistical measures of correlation. Any ineffectiveness in the hedging relationship is recognized as it arises in non-interest revenue, other, in our Consolidated Statement of Income.

### *Cash Flow Hedges*

Cash flow hedges modify exposure to variability in cash flows for variable interest rate bearing instruments, foreign currency denominated assets and liabilities and certain cash-settled share-based payment grants subject to equity price risk. Variable interest rate bearing instruments include floating rate loans and deposits. Our cash flow hedges have a maximum remaining term to maturity of 18 years.

We record interest that we pay or receive on these cash flow hedge derivatives as an adjustment to net interest income in our Consolidated Statement of Income over the life of the hedge.

To the extent that changes in the fair value of the derivative offset changes in the fair value of the hedged item, they are recorded in other comprehensive income. The excess of the change in fair value of the derivative that does not offset changes in the fair value of the hedged item is recorded directly in non-interest revenue, other, in our Consolidated Statement of Income.

For cash flow hedges that are discontinued before the end of the original hedge term, the cumulative unrealized gain or loss recorded in other comprehensive income is amortized to our Consolidated Statement of Income in net interest income for interest rate swaps and in employee compensation for total return swaps as the hedged item is recorded in earnings. If the hedged item is sold or settled, the entire unrealized gain or loss is recognized immediately in net interest income in our Consolidated Statement of Income.

The amount of unrealized gains that we expect to reclassify to our Consolidated Statement of Income over the next 12 months is \$84 million (\$62 million after tax). This will adjust the interest income and interest expense recorded on assets and liabilities and employee compensation expense that were hedged.

The following table presents the impact of cash flow hedges on our financial results:

(Canadian \$ in millions)

Contract type	Fair value gains (losses) recorded in other comprehensive income	Pre-tax gains (losses) recorded in income	
		Fair value change recorded in non-interest revenue – other	Reclassification of gains on designated hedges from other comprehensive income to net income
<b>2017</b>			
Interest rate	<b>(1,158)</b>	<b>(7)</b>	<b>124</b>
Foreign exchange (1)	<b>(100)</b>	-	<b>na</b>
Share-based payment awards	<b>97</b>	-	<b>64</b>
<b>Total</b>	<b>(1,161)</b>	<b>(7)</b>	<b>188</b>
<b>2016</b>			
Interest rate	39	(4)	127
Foreign exchange (1)	(124)	(2)	na
Share-based payment awards	63	-	18
<b>Total</b>	<b>(22)</b>	<b>(6)</b>	<b>145</b>
<b>2015</b>			
Interest rate	697	2	119
Foreign exchange (1)	33	1	na
Share-based payment awards	(14)	-	(8)
<b>Total</b>	<b>716</b>	<b>3</b>	<b>111</b>

(1) Amortization of spot forward differential on foreign exchange contracts of \$270 million loss for the year ended October 31, 2017 (\$161 million loss in 2016 and \$40 million loss in 2015) was transferred from other comprehensive income to interest expense in our Consolidated Statement of Income.

na - not applicable

### Fair Value Hedges

Fair value hedges modify exposure to changes in a fixed rate instrument's fair value caused by changes in interest rates. These hedges economically convert fixed rate assets and liabilities to floating rate. Our fair value hedges include hedges of fixed rate securities, loans, deposits, subordinated debt and other liabilities.

We record interest receivable or payable on these derivatives as an adjustment to net interest income in our Consolidated Statement of Income over the life of the hedge.

For fair value hedges, the hedging derivative is recorded at fair value and any fixed rate assets and liabilities that are part of a hedging relationship are adjusted for the changes in value of the risk being hedged. To the extent that a change in the fair value of the derivative does not offset changes in the fair value of the hedged item, the net amount is recorded directly in non-interest revenue, other, in our Consolidated Statement of Income.

For fair value hedges that are discontinued, we cease adjusting the hedged item to fair value. The cumulative fair value adjustment of the hedged item is then amortized to net interest income over its remaining term to maturity. If the hedged item is sold or settled, the cumulative fair value adjustment is included in the determination of the gain or loss on sale or settlement.

The following table presents the impact of fair value hedges on our financial results.

(Canadian \$ in millions)

Contract type	Amount of gain (loss) on hedging derivatives (1)	Pre-tax gains (losses) recorded in income	
		Fair value hedge adjustment (2)	Hedge ineffectiveness recorded in non-interest revenue – other
<b>Interest rate contracts – 2017</b>	<b>(200)</b>	<b>193</b>	<b>(7)</b>
2016	(77)	72	(5)
2015	225	(219)	6

(1) Unrealized gains (losses) on hedging derivatives are recorded in Other assets, derivative instruments or Other liabilities, derivative instruments, in the Consolidated Balance Sheet.

(2) Unrealized gains (losses) on hedged items are recorded in Securities, available-for-sale, Subordinated debt, Deposits and Other liabilities.

### Net Investment Hedges

Net investment hedges mitigate our exposure to foreign currency exchange rate fluctuations related to our net investment in foreign operations. Deposit liabilities denominated in foreign currencies are designated as hedges for a portion of this exposure. The foreign currency translation of our net investment in foreign operations and the corresponding hedging instrument is recorded in unrealized gains (losses) on translation of net foreign operations in other comprehensive income. To the extent that the hedging instrument is not effective, amounts are included in the Consolidated Statement of Income in foreign exchange, other than trading. There was no hedge ineffectiveness associated with net investment hedges for the years ended October 31, 2017, 2016 and 2015. We use foreign currency deposits with a term to maturity of zero to six months as hedging instruments in net investment hedges, and the fair value of such deposits was \$5,629 million as at October 31, 2017 (\$4,795 million in 2016).

### Embedded Derivatives

From time to time, we purchase or issue financial instruments containing embedded derivatives. The embedded derivative is separated from the host contract and carried at fair value if the economic characteristics of the derivative are not closely related to those of the host contract, the terms of the embedded derivative are the same as those of a stand-alone derivative, and the combined contract is not held for trading or designated at fair value. To the extent that we cannot reliably identify and measure the embedded derivative, the entire contract is carried at fair value, with changes in fair value reflected in income. Embedded derivatives in certain of our equity linked notes are accounted for separately from the host instrument.

## Contingent Features

Certain over-the-counter derivative instruments contain provisions that link the amount of collateral we are required to post or pay to our credit ratings (as determined by the major credit rating agencies). If our credit ratings were to be downgraded, certain counterparties to these derivative instruments could demand immediate and ongoing collateralization on derivative liability positions or request immediate payment. The aggregate fair value of all derivative instruments with collateral posting requirements that were in a liability position on October 31, 2017 was \$6,006 million (\$7,495 million in 2016), for which we have posted collateral of \$4,223 million (\$7,529 million in 2016). If our credit rating had been downgraded to A or A- on October 31, 2017 (per Standard & Poor's Ratings Services), we would have been required to post collateral or meet payment demands of an additional \$100 million or \$484 million, respectively (\$841 million or \$984 million, respectively, in 2016).

## Fair Value

Fair value represents point-in-time estimates that may change in subsequent reporting periods due to market conditions or other factors. A discussion of the fair value measurement of derivatives is included in Note 17.

Fair values of our derivative instruments are as follows:

(Canadian \$ in millions)	2017			2016		
	Gross assets	Gross liabilities	Net	Gross assets	Gross liabilities	Net
<b>Trading</b>						
<b>Interest Rate Contracts</b>						
Swaps	8,390	(7,027)	1,363	16,678	(15,047)	1,631
Forward rate agreements	41	-	41	61	(2)	59
Futures	-	-	-	1	-	1
Purchased options	444	-	444	555	-	555
Written options	-	(329)	(329)	-	(552)	(552)
<b>Foreign Exchange Contracts</b>						
Cross-currency swaps	2,687	(1,752)	935	3,962	(3,026)	936
Cross-currency interest rate swaps	8,103	(9,051)	(948)	9,052	(10,996)	(1,944)
Forward foreign exchange contracts	4,954	(3,178)	1,776	4,905	(2,468)	2,437
Purchased options	267	-	267	411	-	411
Written options	-	(270)	(270)	-	(450)	(450)
<b>Commodity Contracts</b>						
Swaps	726	(717)	9	723	(647)	76
Purchased options	352	-	352	496	-	496
Written options	-	(357)	(357)	-	(524)	(524)
<b>Equity Contracts</b>						
	1,388	(3,386)	(1,998)	901	(2,388)	(1,487)
<b>Credit Default Swaps</b>						
Purchased	-	(54)	(54)	15	(31)	(16)
Written	7	(1)	6	8	(1)	7
Total fair value - trading derivatives	27,359	(26,122)	1,237	37,768	(36,132)	1,636
<b>Hedging</b>						
<b>Interest Rate Contracts</b>						
Cash flow hedges - swaps	78	(558)	(480)	442	(100)	342
Fair value hedges - swaps	274	(402)	(128)	327	(453)	(126)
Total swaps	352	(960)	(608)	769	(553)	216
<b>Foreign Exchange Contracts</b>						
Cash flow hedges	1,202	(722)	480	646	(1,539)	(893)
Total foreign exchange contracts	1,202	(722)	480	646	(1,539)	(893)
<b>Equity Contracts</b>						
Cash flow hedges	38	-	38	-	(3)	(3)
Total equity contracts	38	-	38	-	(3)	(3)
Total fair value - hedging derivatives (1)	1,592	(1,682)	(90)	1,415	(2,095)	(680)
Total fair value - trading and hedging derivatives	28,951	(27,804)	1,147	39,183	(38,227)	956
Less: impact of master netting agreements	(19,909)	19,909	-	(27,538)	27,538	-
Total	9,042	(7,895)	1,147	11,645	(10,689)	956

(1) The fair values of hedging derivatives wholly or partially offset the changes in fair values of the related on-balance sheet financial instruments or future cash flows. Certain comparative figures have been reclassified to conform with the current year's presentation.

Assets are shown net of liabilities to customers where we have a legally enforceable right to offset amounts and we intend to settle contracts on a net basis.

## Notional Amounts

The notional amounts of our derivatives represent the amount to which a rate or price is applied in order to calculate the amount of cash that must be exchanged under the contract. Notional amounts do not represent assets or liabilities and therefore are not recorded in our Consolidated Balance Sheet.

(Canadian \$ in millions)	2017				2016			
	Trading	Hedging		Total	Trading	Hedging		Total
	Cash flow	Fair value	Cash flow		Fair value			
<b>Interest Rate Contracts</b>								
Over-the-counter								
Swaps	3,073,490	61,730	67,145	3,202,365	2,596,259	60,793	69,649	2,726,701
Forward rate agreements	195,142	-	-	195,142	430,507	-	-	430,507
Purchased options	29,107	-	-	29,107	29,508	-	-	29,508
Written options	37,247	-	-	37,247	43,921	-	-	43,921
	<b>3,334,986</b>	<b>61,730</b>	<b>67,145</b>	<b>3,463,861</b>	3,100,195	60,793	69,649	3,230,637
Exchange-traded								
Futures	89,053	-	-	89,053	133,864	-	-	133,864
Purchased options	10,407	-	-	10,407	30,849	-	-	30,849
Written options	9,284	-	-	9,284	30,821	-	-	30,821
	<b>108,744</b>	-	-	<b>108,744</b>	195,534	-	-	195,534
Total interest rate contracts	<b>3,443,730</b>	<b>61,730</b>	<b>67,145</b>	<b>3,572,605</b>	3,295,729	60,793	69,649	3,426,171
<b>Foreign Exchange Contracts</b>								
Over-the-counter								
Cross-currency swaps	50,534	35,052	-	85,586	58,488	30,866	-	89,354
Cross-currency interest rate swaps	430,808	3,402	-	434,210	382,525	141	-	382,666
Forward foreign exchange contracts	392,924	9,784	-	402,708	397,272	11,917	-	409,189
Purchased options	23,812	-	-	23,812	29,876	-	-	29,876
Written options	29,101	-	-	29,101	30,405	-	-	30,405
	<b>927,179</b>	<b>48,238</b>	-	<b>975,417</b>	898,566	42,924	-	941,490
Exchange-traded								
Futures	794	-	-	794	356	-	-	356
Purchased options	6,001	-	-	6,001	2,846	-	-	2,846
Written options	1,249	-	-	1,249	1,441	-	-	1,441
	<b>8,044</b>	-	-	<b>8,044</b>	4,643	-	-	4,643
Total foreign exchange contracts	<b>935,223</b>	<b>48,238</b>	-	<b>983,461</b>	903,209	42,924	-	946,133
<b>Commodity Contracts</b>								
Over-the-counter								
Swaps	18,713	-	-	18,713	13,603	-	-	13,603
Purchased options	7,080	-	-	7,080	6,828	-	-	6,828
Written options	4,905	-	-	4,905	4,672	-	-	4,672
	<b>30,698</b>	-	-	<b>30,698</b>	25,103	-	-	25,103
Exchange-traded								
Futures	28,139	-	-	28,139	24,232	-	-	24,232
Purchased options	5,031	-	-	5,031	6,048	-	-	6,048
Written options	6,896	-	-	6,896	8,159	-	-	8,159
	<b>40,066</b>	-	-	<b>40,066</b>	38,439	-	-	38,439
Total commodity contracts	<b>70,764</b>	-	-	<b>70,764</b>	63,542	-	-	63,542
<b>Equity Contracts</b>								
Over-the-counter	63,184	344	-	63,528	57,994	319	-	58,313
Exchange-traded	14,253	-	-	14,253	7,835	-	-	7,835
Total equity contracts	<b>77,437</b>	<b>344</b>	-	<b>77,781</b>	65,829	319	-	66,148
<b>Credit Default Swaps</b>								
Over-the-counter purchased	2,658	-	-	2,658	3,033	-	-	3,033
Over-the-counter written	448	-	-	448	981	-	-	981
Total credit default swaps	<b>3,106</b>	-	-	<b>3,106</b>	4,014	-	-	4,014
Total	<b>4,530,260</b>	<b>110,312</b>	<b>67,145</b>	<b>4,707,717</b>	4,332,323	104,036	69,649	4,506,008

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

## Derivative-Related Market Risk

Derivative instruments are subject to market risk. Market risk arises from the potential for a negative impact on the balance sheet and/or statement of income due to adverse changes in the value of derivative instruments as a result of changes in certain market variables. These variables include interest rates, foreign exchange rates, equity and commodity prices and their implied volatilities, as well as credit spreads, credit migration and default. We strive to limit market risk by employing comprehensive governance and management processes for all market risk-taking activities.



## Derivative-Related Credit Risk

Over-the-counter derivative instruments are subject to credit risk arising from the possibility that counterparties may default on their obligations. The credit risk associated with a derivative is normally a small fraction of the notional amount of the derivative instrument. Derivative contracts generally expose us to potential credit loss if changes in market rates affect a counterparty's position unfavourably and the counterparty defaults on payment. The credit risk is represented by the positive fair value of the derivative instrument. We strive to limit credit risk by dealing with counterparties that we believe are creditworthy, and we manage our credit risk for derivatives using the same credit risk process that is applied to loans and other credit assets.

We also pursue opportunities to reduce our exposure to credit losses on derivative instruments, including through collateral and by entering into master netting agreements with counterparties. The credit risk associated with favourable contracts is mitigated by legally enforceable master netting agreements to the extent that unfavourable contracts with the same counterparty must be settled concurrently with favourable contracts.

Exchange-traded derivatives have limited potential for credit exposure, as they are settled net daily with each exchange.

Terms used in the credit risk table below are as follows:

**Replacement cost** represents the cost of replacing all contracts that have a positive fair value, determined using current market rates. It represents in effect the unrealized gains on our derivative instruments. Replacement costs disclosed below represent the net of the asset and liability to a specific counterparty where we have a legally enforceable right to offset the amount owed to us with the amount owed by us and we intend either to settle on a net basis or to realize the asset and settle the liability simultaneously.

**Credit risk equivalent** represents the total replacement cost plus an amount representing the potential future credit exposure, as outlined in OSFI's Capital Adequacy Guideline.

**Risk-weighted assets** represent the credit risk equivalent, weighted on the basis of the creditworthiness of the counterparty, and considering collateral, netting and other credit risk mitigants, as prescribed by OSFI.

(Canadian \$ in millions)	2017			2016		
	Replacement cost	Credit risk equivalent	Risk-weighted assets	Replacement cost	Credit risk equivalent	Risk-weighted assets
<b>Interest Rate Contracts</b>						
Swaps	8,742	11,603	-	17,447	20,506	-
Forward rate agreements	41	42	-	61	61	-
Purchased options	440	381	-	551	589	-
Total interest rate contracts	9,223	12,026	1,537	18,059	21,156	1,345
<b>Foreign Exchange Contracts</b>						
Cross-currency swaps	3,727	8,345	-	4,351	8,959	-
Cross-currency interest rate swaps	8,157	17,210	-	9,054	17,386	-
Forward foreign exchange contracts	5,062	8,389	-	5,160	8,806	-
Purchased options	250	420	-	380	586	-
Total foreign exchange contracts	17,196	34,364	2,701	18,945	35,737	2,444
<b>Commodity Contracts</b>						
Swaps	726	2,971	-	723	2,389	-
Purchased options	120	1,034	-	91	1,135	-
Total commodity contracts	846	4,005	971	814	3,524	670
<b>Equity Contracts</b>						
	1,322	4,750	461	713	4,180	347
<b>Credit Default Swaps</b>						
	7	46	27	23	92	13
Total derivatives	28,594	55,191	5,697	38,554	64,689	4,819
Less: impact of master netting agreements	(19,909)	(33,025)	-	(27,538)	(42,248)	-
Total	8,685	22,166	5,697	11,016	22,441	4,819

The total derivatives and the impact of master netting agreements for replacement cost do not include exchange-traded derivatives with a fair value of \$357 million as at October 31, 2017 (\$629 million in 2016).

Transactions are conducted with counterparties in various geographic locations and industry sectors. Set out below is the replacement cost of contracts with customers located in the following countries, based on country of ultimate risk:

(Canadian \$ in millions, except as noted)	Before master netting agreements				After master netting agreements			
	2017		2016		2017		2016	
Canada	15,447	54	20,472	53	5,045	58	6,196	56
United States	7,149	25	8,335	22	1,940	22	2,666	24
United Kingdom	1,079	4	3,274	8	182	2	600	6
Other countries (1)	4,919	17	6,473	17	1,518	18	1,554	14
Total	28,594	100%	38,554	100%	8,685	100%	11,016	100%

(1) No other country represented 15% or more of our replacement cost in 2017 or 2016.

Transactions are conducted with various counterparties. Set out below is the replacement cost of contracts (before the impact of master netting agreements) with customers in the following industries:

As at October 31, 2017 (Canadian \$ in millions)	Interest rate contracts	Foreign exchange contracts	Commodity contracts	Equity contracts	Credit default swaps	Total
Financial institutions	6,063	13,898	227	1,141	7	21,336
Governments	1,895	1,202	66	-	-	3,163
Natural resources	-	22	74	-	-	96
Energy	155	479	226	-	-	860
Other	1,110	1,595	253	181	-	3,139
<b>Total</b>	<b>9,223</b>	<b>17,196</b>	<b>846</b>	<b>1,322</b>	<b>7</b>	<b>28,594</b>

  

As at October 31, 2016 (Canadian \$ in millions)	Interest rate contracts	Foreign exchange contracts	Commodity contracts	Equity contracts	Credit default swaps	Total
Financial institutions	12,453	13,319	235	631	23	26,661
Governments	3,306	3,038	51	-	-	6,395
Natural resources	2	25	70	-	-	97
Energy	261	690	128	-	-	1,079
Other	2,037	1,873	330	82	-	4,322
<b>Total</b>	<b>18,059</b>	<b>18,945</b>	<b>814</b>	<b>713</b>	<b>23</b>	<b>38,554</b>

## Term to Maturity

Our derivative contracts have varying maturity dates. The remaining contractual terms to maturity for the notional amounts of our derivative contracts are set out below:

(Canadian \$ in millions)	Term to maturity					2017	2016
	Within 1 year	1 to 3 years	3 to 5 years	5 to 10 years	Over 10 years	Total notional amounts	Total notional amounts
<b>Interest Rate Contracts</b>							
Swaps	1,033,126	583,698	1,055,300	491,160	39,081	3,202,365	2,726,701
Forward rate agreements, futures and options	310,472	44,979	8,110	6,544	135	370,240	699,470
<b>Total interest rate contracts</b>	<b>1,343,598</b>	<b>628,677</b>	<b>1,063,410</b>	<b>497,704</b>	<b>39,216</b>	<b>3,572,605</b>	<b>3,426,171</b>
<b>Foreign Exchange Contracts</b>							
Cross-currency swaps	5,098	34,290	23,893	20,096	2,209	85,586	89,354
Cross-currency interest rate swaps	118,739	146,025	83,859	71,488	14,099	434,210	382,666
Forward foreign exchange contracts, futures and options	454,697	7,649	1,069	190	60	463,665	474,113
<b>Total foreign exchange contracts</b>	<b>578,534</b>	<b>187,964</b>	<b>108,821</b>	<b>91,774</b>	<b>16,368</b>	<b>983,461</b>	<b>946,133</b>
<b>Commodity Contracts</b>							
Swaps	3,925	9,121	4,952	686	29	18,713	13,603
Futures and options	22,087	25,723	3,482	759	-	52,051	49,939
<b>Total commodity contracts</b>	<b>26,012</b>	<b>34,844</b>	<b>8,434</b>	<b>1,445</b>	<b>29</b>	<b>70,764</b>	<b>63,542</b>
<b>Equity Contracts</b>							
	66,579	6,307	2,638	785	1,472	77,781	66,148
<b>Credit Contracts</b>							
	567	871	1,040	351	277	3,106	4,014
<b>Total notional amount</b>	<b>2,015,290</b>	<b>858,663</b>	<b>1,184,343</b>	<b>592,059</b>	<b>57,362</b>	<b>4,707,717</b>	<b>4,506,008</b>

## Note 9: Premises and Equipment

We record all premises and equipment at cost less accumulated amortization, and less any accumulated impairment, except land, which is recorded at cost. Buildings, computer equipment and operating system software, other equipment and leasehold improvements are amortized on a straight-line basis over their estimated useful lives. When the major components of a building have different useful lives, they are accounted for separately and amortized over each component's estimated useful life. The maximum estimated useful lives we use to amortize our assets are as follows:

Buildings	10 to 40 years
Computer equipment and operating system software	5 years
Other equipment	10 years
Leasehold improvements	Lease term to a maximum of 10 years

Amortization methods, useful lives and the residual values of premises and equipment are reviewed annually for any change in circumstances and are adjusted if appropriate. At each reporting period, we review whether there are any indications that premises and equipment need to be tested for impairment. If there is an indication that an asset may be impaired, we test for impairment by comparing the asset's carrying value to its recoverable amount. The recoverable amount is calculated as the higher of the value in use and the fair value less costs to sell. Value in use is the present value of the future cash flows expected to be derived from the asset. An impairment charge is recorded when the recoverable amount is less than the carrying value. There were no significant write-downs of premises and equipment due to impairment during the years ended October 31, 2017 and 2016. Gains and losses on disposal are included in non-interest expense, premises and equipment, in our Consolidated Statement of Income.

Net rent expense for premises and equipment reported in non-interest expense, premises and equipment, in our Consolidated Statement of Income for the years ended October 31, 2017, 2016 and 2015 was \$501 million, \$502 million and \$476 million, respectively.

	2017						2016					
	Land	Buildings	Computer equipment	Other equipment	Leasehold improvements	Total	Land	Buildings	Computer equipment	Other equipment	Leasehold improvements	Total
<b>Cost</b>												
Balance at beginning of year	207	1,784	1,844	902	1,347	6,084	280	1,908	1,631	901	1,285	6,005
Additions	-	72	156	69	105	402	1	87	228	77	66	459
Disposals (1)	(28)	(95)	(13)	(13)	(10)	(159)	(80)	(236)	(26)	(81)	(22)	(445)
Foreign exchange and other	(5)	(35)	7	(45)	(13)	(91)	6	25	11	5	18	65
Balance at end of year	174	1,726	1,994	913	1,429	6,236	207	1,784	1,844	902	1,347	6,084
<b>Accumulated Depreciation and Impairment</b>												
Balance at beginning of year	-	1,055	1,306	649	927	3,937	-	1,076	1,146	651	847	3,720
Disposals (1)	-	(32)	(11)	(8)	(8)	(59)	-	(121)	(19)	(67)	(18)	(225)
Amortization	-	63	185	49	94	391	-	66	172	54	92	384
Foreign exchange and other	-	(23)	(15)	(16)	(12)	(66)	-	34	7	11	6	58
Balance at end of year	-	1,063	1,465	674	1,001	4,203	-	1,055	1,306	649	927	3,937
Net carrying value	174	663	529	239	428	2,033	207	729	538	253	420	2,147

(1) Includes fully depreciated assets written off.

## Note 10: Acquisitions

The cost of an acquisition is measured at the fair value of the consideration transferred, including contingent consideration. Acquisition-related costs are recognized as an expense in the period in which they are incurred. The identifiable assets acquired and liabilities assumed and contingent consideration are measured at their fair values at the date of acquisition. Goodwill is measured as the excess of the aggregate of the consideration transferred over the net of the fair value of identifiable assets acquired and liabilities assumed. The results of operations of acquired businesses are included in our consolidated financial statements beginning on the date of acquisition.

### Greene Holcomb Fisher ("GHF")

On August 1, 2016, we completed the acquisition of the business of Greene Holcomb Fisher for cash consideration of US\$53 million (CAD\$69 million). The acquisition complements our existing capital markets activity in the U.S. by increasing the number of experienced mergers and acquisitions professionals and our presence in the marketplace. The acquisition was accounted for as a business combination, and the acquired business and corresponding goodwill are included in our BMO Capital Markets reporting segment.

As part of this acquisition, we acquired intangible assets of \$4 million and goodwill of \$65 million. The intangible assets are being amortized over a maximum of three years on a straight-line basis. Goodwill of \$65 million related to this acquisition is deductible for tax purposes.

### GE Capital Transportation Finance Business ("BMO TF")

On December 1, 2015, we completed the acquisition of the net assets of the GE Capital Transportation Finance business for cash consideration of US\$9.0 billion (CAD\$12.1 billion).

The acquisition is consistent with our commercial banking activities in both Canada and the U.S. and has expanded our commercial customer base. The acquisition was accounted for as a business combination, and the acquired business and corresponding goodwill are included in our U.S. Personal and Commercial Banking and Canadian Personal and Commercial Banking reporting segments.

As part of this acquisition, we primarily acquired loans, assets subject to operating leases, and goodwill. We recorded a credit mark of \$100 million and an interest rate premium of \$41 million on the acquired loan portfolio. Additionally, we recorded a fair value adjustment of \$72 million to reduce the value of assets subject to operating leases. A dealer and customer relationship intangible asset is being amortized over a 15-year period on an accelerated basis, and a technology intangible asset is being amortized over five years on a straight-line basis. Goodwill of \$410 million related to this acquisition is deductible for tax purposes.

BMO TF contributed approximately 14% to revenue and expenses of U.S. Personal and Commercial Banking in 2017 (14% in 2016).

The fair values of the assets acquired and liabilities assumed at the date of acquisition are as follows:

	BMO TF	GHF
Loans	10,793	-
Goodwill	410	65
Intangible assets	63	4
Other assets	1,087	-
Total assets	12,353	69
Other liabilities	275	-
Purchase price	12,078	69

The purchase price allocations for BMO TF and GHF have been completed.

## Note 11: Goodwill and Intangible Assets

### Goodwill

When we complete an acquisition, we allocate the purchase price paid to the assets acquired, including identifiable intangible assets, and the liabilities assumed. Any portion of the consideration transferred that is in excess of the fair value of those net assets is considered to be goodwill. Goodwill is not amortized and is instead tested for impairment annually.

In performing the impairment test, we utilize the fair value less costs to sell for each group of CGUs based on discounted cash flow projections. Cash flows were projected for the first 10 years based on actual operating results, expected future business performance and past experience. Beyond 10 years, cash flows were assumed to grow at perpetual annual rates of up to 3% (3% in 2016). The discount rates we applied in determining the recoverable amounts in 2017 ranged from 8.3% to 12.2% (6.0% to 12.7% in 2016), and were based on our estimate of the cost of capital for each CGU. The cost of capital for each CGU was estimated using the Capital Asset Pricing Model, based on the historical betas of publicly traded peer companies that are comparable to the CGU.

There were no write-downs of goodwill due to impairment during the years ended October 31, 2017 and 2016.

The key assumptions described above may change as market and economic conditions change. However, we estimate that reasonably possible changes in these assumptions are not expected to cause recoverable amounts of our CGUs to decline below their carrying amounts.

A continuity of our goodwill by group of CGUs for the years ended October 31, 2017 and 2016 is as follows:

(Canadian \$ in millions)	Personal and Commercial Banking			Wealth Management		BMO Capital Markets	Total	
	Canadian P&C	U.S. P&C	Total	Traditional Wealth Management	Insurance	Total		
Balance – October 31, 2015	68	3,393	3,461	2,374	2	2,376	232	6,069
Acquisitions (disposals) during the year	29	379	408	(11)	-	(11)	65	462
Other (1)	-	89	89	(246)	-	(246)	7	(150)
Balance – October 31, 2016	97	3,861	3,958	2,117	2	2,119	304	6,381
Acquisitions (disposals) during the year	-	-	-	(4)	-	(4)	-	(4)
Other (1)	-	(142)	(142)	24	-	24	(15)	(133)
Balance – October 31, 2017	<b>97</b> (2)	<b>3,719</b> (3)	<b>3,816</b>	<b>2,137</b> (4)	<b>2</b> (5)	<b>2,139</b>	<b>289</b> (6)	<b>6,244</b>

(1) Other changes in goodwill included the effects of translating goodwill denominated in foreign currencies into Canadian dollars and purchase accounting adjustments related to prior-year purchases.

(2) Relates primarily to bcpbank Canada, Diners Club, Aver Media LP and GE Transportation Finance.

(3) Relates primarily to First National Bank & Trust, Ozaukee Bank, Merchants and Manufacturers Bancorporation, Inc., Diners Club, AMCORE, M&I and GE Transportation Finance.

(4) Relates to BMO Nesbitt Burns Inc., Guardian Group of Funds Ltd., Pyrford International plc, LGM Investments Limited, M&I, Harris, myCFO, Inc., Stoker Ostler Wealth Advisors, Inc., CTC Consulting LLC, AWMB and F&C Asset Management plc.

(5) Relates to AIG.

(6) Relates to Gerard Klauer Mattison, BMO Nesbitt Burns Inc., Paloma Securities L.L.C., M&I and Greene Holcomb Fisher.

### Intangible Assets

Intangible assets related to our acquisitions are initially recorded at their fair value at the acquisition date and subsequently at cost less accumulated amortization. Software is recorded at cost less accumulated amortization. Amortization expense is recorded in amortization of intangible assets in our Consolidated Statement of Income. The following table presents the changes in the balance of these intangible assets:

(Canadian \$ in millions)	Customer relationships	Core deposits	Branch distribution networks	Purchased software – amortizing	Developed software – amortizing	Software under development	Other	Total
Cost as at October 31, 2015	683	944	190	562	2,320	369	421	5,489
Additions/disposals	-	-	-	3	284	100	-	387
Acquisitions	59	-	-	-	-	-	8	67
Foreign exchange and other	(38)	24	4	203	(183)	7	(64)	(47)
Cost as at October 31, 2016	704	968	194	768	2,421	476	365	5,896
Additions/disposals	(33)	-	-	22	524	(67)	-	446
Foreign exchange and other	(17)	(37)	(7)	(4)	(35)	(11)	11	(100)
Cost as at October 31, 2017	<b>654</b>	<b>931</b>	<b>187</b>	<b>786</b>	<b>2,910</b>	<b>398</b>	<b>376</b>	<b>6,242</b>

The following table presents the accumulated amortization of our intangible assets:

(Canadian \$ in millions)	Customer relationships	Core deposits	Branch distribution networks	Purchased software – amortizing	Developed software – amortizing	Software under development	Other	Total
Accumulated amortization at October 31, 2015	338	655	190	505	1,540	–	53	3,281
Amortization	79	63	–	32	251	–	19	444
Foreign exchange and other	(19)	17	4	138	(137)	–	(10)	(7)
Accumulated amortization at October 31, 2016	398	735	194	675	1,654	–	62	3,718
Amortization	68	56	–	31	305	–	25	485
Disposals	(22)	–	–	–	(11)	–	–	(33)
Foreign exchange and other	(13)	(29)	(7)	(1)	(35)	–	(2)	(87)
Accumulated amortization at October 31, 2017	431	762	187	705	1,913	–	85	4,083
Carrying value at October 31, 2017	223	169	–	81	997	398	291	2,159
Carrying value at October 31, 2016	306	233	–	93	767	476	303	2,178

Intangible assets are amortized to income over the period during which we believe the assets will benefit us, on either a straight-line or an accelerated basis, over a period not to exceed 15 years. We have \$169 million as at October 31, 2017 (\$162 million as at October 31, 2016) in intangible assets with indefinite lives that relate primarily to fund management contracts.

The useful lives of intangible assets are reviewed annually for any changes in circumstances. We test definite-life intangible assets for impairment when events or changes in circumstances indicate that their carrying value may not be recoverable. Indefinite-life intangible assets are tested annually for impairment. If any intangible assets are determined to be impaired, we write them down to their recoverable amount, the higher of value in use and fair value less costs to sell, when this is less than the carrying value.

There were write-downs of intangible assets of \$5 million during the year ended October 31, 2017 (\$nil in 2016).

## Note 12: Other Assets

### Customers' Liability under Acceptances

Acceptances represent a form of negotiable short-term debt that is issued by our customers, which we guarantee for a fee. The fees earned are recorded in lending fees in our Consolidated Statement of Income over the term of the acceptance. The amount potentially due under the acceptances is recorded in other liabilities on our Consolidated Balance Sheet. We record the bank's equivalent claim against our customers in the event of a call on these commitments in other assets on our Consolidated Balance Sheet.

### Other

The components of other within other assets are as follows:

(Canadian \$ in millions)	2017	2016
Accounts receivable, prepaid expenses and other items	8,018	7,862
Accrued interest receivable	1,079	971
Due from clients, dealers and brokers	156	199
Insurance-related assets	644	405
Pension asset (Note 22)	508	118
Total	10,405	9,555

## Note 13: Deposits

(Canadian \$ in millions)	Payable on demand				Payable after notice		Payable on a fixed date		Total	
	Interest bearing	Non-interest bearing	Interest bearing	Non-interest bearing	2017	2016	2017	2016	2017	2016
Deposits by:										
Banks (1)	818	450	1,864	1,415	3,488	3,448	24,937	28,958	31,107	34,271
Businesses and governments	20,621	17,578	33,968	35,378	62,584	60,331	166,897	162,927	284,070	276,214
Individuals	3,278	3,307	20,044	17,594	89,859	87,627	55,130	54,359	168,311	162,887
Total (2) (3)	24,717	21,335	55,876	54,387	155,931	151,406	246,964	246,244	483,488	473,372
Booked in:										
Canada	21,557	18,937	44,380	40,037	82,905	77,800	145,648	152,894	294,490	289,668
United States	2,259	1,540	11,496	14,229	71,708	73,155	75,517	65,850	160,980	154,774
Other countries	901	858	–	121	1,318	451	25,799	27,500	28,018	28,930
Total	24,717	21,335	55,876	54,387	155,931	151,406	246,964	246,244	483,488	473,372

(1) Includes regulated and central banks.

(2) Includes structured notes designated at fair value through profit or loss.

(3) As at October 31, 2017 and 2016, total deposits payable on a fixed date included \$30,419 million and \$36,261 million, respectively, of federal funds purchased, commercial paper issued and other deposit liabilities. Included in deposits as at October 31, 2017 and 2016 are \$239,279 million and \$233,005 million, respectively, of deposits denominated in U.S. dollars, and \$27,914 million and \$24,097 million, respectively, of deposits denominated in other foreign currencies.

Deposits payable on demand are comprised primarily of our customers' chequing accounts, some of which we pay interest on. Our customers need not notify us prior to withdrawing money from their chequing accounts.

Deposits payable after notice are comprised primarily of our customers' savings accounts, on which we pay interest. Deposits payable on a fixed date are comprised of:

- Various investment instruments purchased by our customers to earn interest over a fixed period, such as term deposits and guaranteed investment certificates. The terms of these deposits can vary from one day to 10 years.
- Federal funds purchased, which are overnight borrowings of other banks' excess reserve funds at the United States Federal Reserve Bank. As at October 31, 2017, we had borrowed \$707 million of federal funds (\$906 million in 2016).
- Commercial paper, which totalled \$8,430 million as at October 31, 2017 (\$9,461 million in 2016).
- Covered bonds, which totalled \$23,108 million as at October 31, 2017 (\$19,705 million in 2016).

The following table presents the maturity schedule for our deposits payable on a fixed date:

(Canadian \$ in millions)	2017	2016
Within 1 year	145,039	155,548
1 to 2 years	25,620	24,683
2 to 3 years	23,323	20,637
3 to 4 years	19,345	11,659
4 to 5 years	15,850	18,005
Over 5 years	17,787	15,712
<b>Total (1)</b>	<b>246,964</b>	<b>246,244</b>

(1) Includes \$221,954 million of deposits, each greater than one hundred thousand dollars, of which \$130,197 million were booked in Canada, \$65,963 million were booked in the United States and \$25,794 million were booked in other countries (\$221,957 million, \$136,382 million, \$58,077 million and \$27,498 million, respectively, in 2016). Of the \$130,197 million of deposits booked in Canada, \$41,418 million mature in less than three months, \$7,922 million mature in three to six months, \$10,574 million mature in six to twelve months and \$70,283 million mature after 12 months (\$136,382 million, \$54,904 million, \$5,020 million, \$13,737 million and \$62,721 million, respectively, in 2016). We have unencumbered liquid assets of \$213,757 million to support these and other deposit liabilities (\$197,722 million in 2016).

Most of our structured note liabilities have been designated at fair value through profit or loss and are accounted for at fair value, which aligns the accounting result with the way the portfolio is managed. The change in fair value of these structured notes was recorded as a decrease of \$72 million in non-interest revenue, trading revenues, and a decrease of \$169 million before tax was recorded in other comprehensive income related to changes in our own credit spread for the year ended October 31, 2017 (a decrease of \$73 million recorded in non-interest revenue, trading revenues, and a decrease of \$201 million related to changes in our own credit spread in 2016). The impact of changes in our own credit spread is measured based on movements in our own credit spread year over year.

The cumulative change in fair value related to changes in our own credit spread that has been recognized since the notes were designated at fair value to October 31, 2017 was an unrealized loss of approximately \$303 million (unrealized loss of approximately \$134 million in 2016), of which \$227 million of this unrealized loss has been recorded in other comprehensive income (\$58 million in 2016).

The fair value and notional amount due at contractual maturity of these notes as at October 31, 2017 were \$13,674 million and \$13,563 million, respectively (\$11,604 million and \$11,768 million, respectively, in 2016).

## Note 14: Other Liabilities

### Acceptances

Acceptances represent a form of negotiable short-term debt that is issued by our customers, which we guarantee for a fee. The fees earned are recorded in lending fees in our Consolidated Statement of Income over the term of the acceptance. The amount potentially due under acceptances is recorded in other liabilities on our Consolidated Balance Sheet. We record the bank's equivalent claim against our customers in the event of a call on these commitments in other assets on our Consolidated Balance Sheet.

### Securities Lending and Borrowing

Securities lending and borrowing transactions are generally collateralized by securities or cash. Cash advanced or received as collateral is recorded in other assets or other liabilities, respectively. Interest earned on cash collateral is recorded in interest, dividend and fee income in our Consolidated Statement of Income, and interest expense on cash collateral is recorded in interest expense, other liabilities, in our Consolidated Statement of Income. The transfer of the securities to counterparties is only reflected in our Consolidated Balance Sheet if the risks and rewards of ownership have also been transferred. Securities borrowed are not recognized in our Consolidated Balance Sheet unless they are then sold to third parties, in which case the obligation to return the securities is recorded in Securities sold but not yet purchased at fair value, with any gains or losses recorded in non-interest revenue, trading revenues.

### Securities Sold but not yet Purchased

Securities sold but not yet purchased represent our obligations to deliver securities that we did not own at the time of sale. These obligations are recorded at their fair value. Adjustments to the fair value as at the balance sheet date and gains and losses on the settlement of these obligations are recorded in trading revenues in our Consolidated Statement of Income.

### Securities Lent or Sold Under Repurchase Agreements

Securities lent or sold under repurchase agreements represent short-term funding transactions in which we sell securities that we own and simultaneously commit to repurchase the same securities at a specified price on a specified date in the future. The obligation to repurchase these securities is recorded at the amount owing. The interest expense related to these liabilities is recorded on an accrual basis in interest expense, other liabilities, in our Consolidated Statement of Income.



## Securitization and Structured Entities' Liabilities

Securitization and structured entities' liabilities include notes issued by our consolidated bank securitization vehicles and liabilities associated with the securitization of our Canadian mortgage loans as part of the Canada Mortgage Bond program, the National Housing Act Mortgage-Backed Securities program and our own program. Additional information on our securitization program and associated liabilities is provided in Notes 6 and 7. These liabilities are initially measured at fair value plus any directly attributable costs and are subsequently measured at amortized cost. The interest expense related to these liabilities is recorded in interest expense, other liabilities, in our Consolidated Statement of Income.

## Other

The components of other within other liabilities are as follows:

(Canadian \$ in millions)	2017	2016
Accounts payable, accrued expenses and other items	10,071	10,030
Accrued interest payable	1,037	1,037
Liabilities of subsidiaries, other than deposits	6,931	7,250
Insurance-related liabilities	8,959	7,909
Pension liability (Note 22)	364	455
Other employee future benefits liability (Note 22)	1,303	1,343
<b>Total</b>	<b>28,665</b>	<b>28,024</b>

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

We designate the obligation related to certain investment contracts in our insurance business at fair value through profit or loss, which eliminates a measurement inconsistency that would otherwise arise from measuring the investment contract liabilities and offsetting changes in the fair value of the investments supporting them on a different basis. The fair value of these investment contract liabilities as at October 31, 2017 of \$749 million (\$682 million as at October 31, 2016) is recorded in other liabilities in our Consolidated Balance Sheet. The change in fair value of these investment contract liabilities resulted in a decrease of \$41 million in insurance claims, commissions and changes in policy benefit liabilities for the year ended October 31, 2017 (increase of \$55 million in 2016 and \$24 million in 2015). For the year ended October 31, 2017, a loss of \$32 million was recorded in other comprehensive income related to changes in our credit spread (loss of \$7 million in 2016 and a gain of \$20 million in 2015). The impact of changes in our own credit spread is measured based on movements in our own credit spread year over year. Changes in the fair value of investments backing these investment contract liabilities are recorded in non-interest revenue, insurance revenue.

## Insurance-Related Liabilities

We are engaged in insurance businesses related to life and health insurance, annuities and reinsurance.

Insurance claims and policy benefit liabilities represent current claims and estimates of future insurance policy benefit liabilities. Liabilities for life insurance contracts are determined using the Canadian Asset Liability Method, which incorporates best-estimate assumptions for mortality, morbidity, policy lapses, surrenders, future investment yields, policy dividends, administration costs and margins for adverse deviation. These assumptions are reviewed at least annually and updated to reflect actual experience and market conditions.

A reconciliation of the change in insurance-related liabilities is as follows:

(Canadian \$ in millions)	2017	2016
Insurance-related liabilities, beginning of year	7,909	7,060
Increase (decrease) in life insurance policy benefit liabilities from:		
New business	545	348
In-force policies	66	300
Changes in actuarial assumptions and methodology	(52)	41
Foreign currency	(1)	(1)
Net increase in life insurance policy benefit liabilities	558	688
Change in other insurance-related liabilities	492	161
Insurance-related liabilities, end of year	8,959	7,909

## Reinsurance

In the ordinary course of business, our insurance subsidiaries reinsure risks to other insurance and reinsurance companies in order to provide greater diversification, limit loss exposure to large risks, and provide additional capacity for future growth. These ceding reinsurance arrangements do not relieve our insurance subsidiaries of their direct obligation to the insured parties. We evaluate the financial condition of the reinsurers and monitor their credit ratings to minimize our exposure to losses from reinsurer insolvency.

Reinsurance premiums ceded are recorded net against direct premium income and are included in non-interest revenue, insurance revenue, in our Consolidated Statement of Income for the years ended October 31, 2017, 2016 and 2015, as shown in the table below:

(Canadian \$ in millions)	2017	2016	2015
Direct premium income	1,750	1,561	2,027
Ceded premiums	(157)	(271)	(466)
	1,593	1,290	1,561

## Note 15: Subordinated Debt

Subordinated debt represents our direct unsecured obligations, in the form of notes and debentures, to our debt holders and forms part of our regulatory capital. Subordinated debt is recorded at amortized cost using the effective interest rate method. Where appropriate, we enter into fair value hedges to hedge the risks caused by changes in interest rates (see Note 8). The rights of the holders of our notes and debentures are subordinate to the claims of depositors and certain other creditors. We require approval from OSFI before we can redeem any part of our subordinated debt.

The term to maturity and repayments of our subordinated debt required over the next two years and thereafter are as follows:

(Canadian \$ in millions, except as noted)	Face value	Maturity date	Interest rate (%)	Redeemable at our option beginning in	2017 Total	2016 Total
Debentures Series 16	100	February 2017	10.00	February 2012 (1)	–	100
Debentures Series 20	150	December 2025 to 2040	8.25	Not redeemable	150	150
Series F Medium-Term Notes First Tranche	900	March 2023	6.17	March 2018 (2)	900	900
Series H Medium-Term Notes First Tranche (7)	1,000	September 2024	3.12	September 2019 (3)	1,000	1,000
Series H Medium-Term Notes Second Tranche (7)	1,000	December 2025	3.34	December 2020 (4)	1,000	1,000
Series I Medium-Term Notes First Tranche (7)	1,250	June 2026	3.32	June 2021 (5)	1,250	1,250
Series I Medium-Term Notes Second Tranche (7)	850	June 2027	2.57	June 2022 (6)	850	–
<b>Total (8)</b>					<b>5,150</b>	<b>4,400</b>

(1) All \$100 million Subordinated Debentures, Series 16 matured on February 20, 2017.

(2) Redeemable at the greater of par and the Canada Yield Price prior to March 28, 2018, and redeemable at par together with accrued and unpaid interest to, but excluding, their redemption date commencing March 28, 2018.

(3) Redeemable at par together with accrued and unpaid interest to, but excluding, their redemption date commencing September 19, 2019.

(4) Redeemable at the greater of par and the Canada Yield Price prior to December 8, 2020, and redeemable at par together with accrued and unpaid interest to, but excluding, their redemption date commencing December 8, 2020.

(5) Redeemable at the greater of par and the Canada Yield Price prior to June 1, 2021, and redeemable at par together with accrued and unpaid interest to, but excluding, their redemption date commencing June 1, 2021.

(6) Redeemable at the greater of par and the Canada Yield Price prior to June 1, 2022, and redeemable at par together with accrued and unpaid interest to, but excluding, their redemption date commencing June 1, 2022.

(7) These notes include a non-viability contingent capital provision, which is necessary for notes issued after a certain date to qualify as regulatory capital under Basel III. As such, the notes are convertible into a variable number of our common shares if OSFI announces that the bank is, or is about to become, non-viable or if a federal or provincial government in Canada publicly announces that the bank has accepted or agreed to accept a capital injection, or equivalent support, to avoid non-viability.

(8) Certain amounts of subordinated debt were issued at a premium or discount and include fair value hedge adjustments, which together decreased their carrying value as at October 31, 2017 by \$121 million (increased by \$39 million in 2016); see Note 8 for further details. Subordinated debt that we repurchase is excluded from the carrying value.

All \$700 million Series D Medium-Term Notes, First Tranche were redeemed on April 21, 2016 for 100% of the principal amount plus accrued and unpaid interest to, but excluding, the redemption date. All \$1,500 million Series G Medium-Term Notes, First Tranche were redeemed on July 8, 2016 for 100% of the principal amount plus accrued and unpaid interest to, but excluding, the redemption date.

Please refer to the offering circular related to each of the above issues for further details on Canada Yield Price calculations and the definition of CDOR.

## Note 16: Equity

### Share Capital

(Canadian \$ in millions, except as noted)

	2017			2016		
	Number of shares	Amount	Dividends declared per share	Number of shares	Amount	Dividends declared per share
<b>Preferred Shares – Classified as Equity</b>						
Class B – Series 14 (1)	-	-	0.66	10,000,000	250	1.31
Class B – Series 15 (2)	-	-	0.73	10,000,000	250	1.45
Class B – Series 16	6,267,391	157	0.85	6,267,391	157	0.85
Class B – Series 17	5,732,609	143	0.55	5,732,609	143	0.53
Class B – Series 25	9,425,607	236	0.45	9,425,607	236	0.84
Class B – Series 26	2,174,393	54	0.43	2,174,393	54	0.10
Class B – Series 27	20,000,000	500	1.00	20,000,000	500	1.00
Class B – Series 29	16,000,000	400	0.98	16,000,000	400	0.98
Class B – Series 31	12,000,000	300	0.95	12,000,000	300	0.95
Class B – Series 33	8,000,000	200	0.95	8,000,000	200	0.95
Class B – Series 35	6,000,000	150	1.25	6,000,000	150	1.25
Class B – Series 36	600,000	600	58.50	600,000	600	65.03
Class B – Series 38 (3)	24,000,000	600	1.33	24,000,000	600	-
Class B – Series 40 (4)	20,000,000	500	0.80	-	-	-
Class B – Series 42 (5)	16,000,000	400	0.45	-	-	-
		<b>4,240</b>			<b>3,840</b>	
<b>Common Shares</b>						
Balance at beginning of year	645,761,333	12,539		642,583,341	12,313	
Issued under the Shareholder Dividend Reinvestment and Share Purchase Plan	4,821,184	448		1,074,601	90	
Issued/cancelled under the Stock Option Plan and other stock-based compensation plans (Note 21)	2,233,801	146		2,103,391	136	
Repurchased for cancellation	(5,000,000)	(101)		-	-	
<b>Balance at End of Year</b>	<b>647,816,318</b>	<b>13,032</b>	<b>3.56</b>	<b>645,761,333</b>	<b>12,539</b>	<b>3.40</b>
<b>Share Capital</b>		<b>17,272</b>			<b>16,379</b>	

- (1) On May 25, 2017, we redeemed all 10 million Non-Cumulative Perpetual Class B Preferred Shares, Series 14, at a price of \$25.00 cash per share plus all declared and unpaid dividends. Dividends declared for the year ended October 31, 2017 were \$0.66 per share and 10 million shares were outstanding at the time of the dividend declaration.
- (2) On May 25, 2017, we redeemed all 10 million Non-Cumulative Perpetual Class B Preferred Shares, Series 15, at a price of \$25.00 cash per share plus all declared and unpaid dividends. Dividends declared for the year ended October 31, 2017 were \$0.73 per share and 10 million shares were outstanding at the time of the dividend declaration.
- (3) On October 21, 2016, we issued 24 million Non-Cumulative 5-Year Rate Reset Class B Preferred Shares, Series 38, at a price of \$25.00 cash per share for gross proceeds of \$600 million.
- (4) On March 9, 2017, we issued 20 million Non-Cumulative 5-Year Rate Reset Class B Preferred Shares, Series 40, at a price of \$25.00 cash per share for gross proceeds of \$500 million.
- (5) On June 29, 2017, we issued 16 million Non-Cumulative 5-Year Rate Reset Class B Preferred Shares, Series 42, at a price of \$25.00 cash per share for gross proceeds of \$400 million.

### Preferred Share Rights and Privileges

(Canadian \$, except as noted)

	Redemption amount	Quarterly non-cumulative dividend (1)	Reset premium	Date redeemable / convertible	Convertible to
Class B – Series 16	25.00	\$0.211875 (2)	1.65%	August 25, 2018 (3)(4)	Class B – Series 17 (8)
Class B – Series 17	25.00	Floating (7)	1.65%	August 25, 2018 (3)(5)	Class B – Series 16 (8)
Class B – Series 25	25.00	\$0.112813 (2)	1.15%	August 25, 2021 (3)(4)	Class B – Series 26 (8)
Class B – Series 26	25.00	Floating (7)	1.15%	August 25, 2021 (3)(5)	Class B – Series 25 (8)
Class B – Series 27	25.00	\$ 0.2500 (2)	2.33%	May 25, 2019 (3)(4)	Class B – Series 28 (8)
Class B – Series 29	25.00	\$ 0.24375 (2)	2.24%	August 25, 2019 (3)(4)	Class B – Series 30 (8)
Class B – Series 31	25.00	\$ 0.2375 (2)	2.22%	November 25, 2019 (3)(4)	Class B – Series 32 (8)
Class B – Series 33	25.00	\$ 0.2375 (2)	2.71%	August 25, 2020 (3)(4)	Class B – Series 34 (8)
Class B – Series 35	25.00	\$ 0.3125	Does not reset	August 25, 2020 (6)	Not convertible
Class B – Series 36	1,000.00	\$ 14.6250 (2)	4.97%	November 25, 2020 (3)(4)	Class B – Series 37 (8)
Class B – Series 38	25.00	\$0.303125 (2)	4.06%	February 25, 2022 (3)(4)	Class B – Series 39 (8)
Class B – Series 40	25.00	\$ 0.28125 (2)	3.33%	May 25, 2022 (3)(4)	Class B – Series 41 (8)
Class B – Series 42	25.00	\$ 0.2750 (2)	3.17%	August 25, 2022 (3)(4)	Class B – Series 43 (8)

- (1) Non-cumulative dividends are payable quarterly as and when declared by the Board of Directors.
- (2) The dividend rate will reset on the date redeemable and every five years thereafter at a rate equal to the 5-year Government of Canada bond yield plus the reset premium noted. If converted to a floating rate series, the rate will be set as and when declared at the 3-month Government of Canada treasury bill yield plus the reset premium noted.
- (3) Redeemable on the date noted and every five years thereafter.
- (4) Convertible on the date noted and every five years thereafter if not redeemed. If converted, Series 17, 26, 28, 30, 32, 34, 37, 39, 41 and 43 are floating rate preferred shares.
- (5) Convertible on the date noted and every five years thereafter if not redeemed. If converted, Series 16 and 25 are fixed rate preferred shares.
- (6) Series 35 is subject to a redemption premium if redeemed prior to August 25, 2024.
- (7) Floating rate will be set as and when declared at the 3-month Government of Canada treasury bill yield plus a reset premium.
- (8) If converted, the holders have the option to convert back to the original preferred shares on subsequent redemption dates.

## Authorized Share Capital

We classify financial instruments that we issue as financial liabilities, equity instruments or compound instruments. Financial instruments that will be settled by a variable number of our common shares upon conversion by the holders are classified as liabilities on our Consolidated Balance Sheet. Dividends and interest payments on financial liabilities are classified as interest expense in our Consolidated Statement of Income. Financial instruments are classified as equity instruments when there is no contractual obligation to transfer cash or other financial assets. Further, issued instruments that are not mandatorily redeemable or that are not convertible into a variable number of our common shares at the holder's option, are classified as equity and presented in share capital. Dividend payments on equity instruments are recognized as a reduction in equity.

### Common Shares

We are authorized by our shareholders to issue an unlimited number of our common shares without par value, for unlimited consideration. Our common shares are not redeemable or convertible. Dividends are declared by our Board of Directors at their discretion. Historically, the Board of Directors has declared dividends on a quarterly basis and the amount can vary from quarter to quarter.

### Preferred Shares

We are authorized by our shareholders to issue an unlimited number of Class A Preferred Shares and Class B Preferred Shares without par value, in series, for unlimited consideration. Class B Preferred Shares may be issued in a foreign currency.

### Treasury Shares

When we purchase our common shares as part of our trading business, we record the cost of those shares as a reduction in shareholders' equity. If those shares are resold at a price higher than their cost, the premium is recorded as an increase in contributed surplus. If those shares are resold at a price below their cost, the discount is recorded as a reduction first to contributed surplus and then to retained earnings for any amount in excess of total contributed surplus related to treasury shares.

## Non-Viability Contingent Capital

Class B – Series 27, Class B – Series 29, Class B – Series 31, Class B – Series 33, Class B – Series 35, Class B – Series 36, Class B – Series 38, Class B – Series 40 and Class B – Series 42 preferred share issues include a non-viability contingent capital provision, which is necessary for the shares to qualify as regulatory capital under Basel III. As such, the shares are convertible into a variable number of our common shares if OSFI announces that the bank is, or is about to become, non-viable or if a federal or provincial government in Canada publicly announces that the bank has accepted or agreed to accept a capital injection, or equivalent support, to avoid non-viability.

## Normal Course Issuer Bid

We renewed our normal course issuer bid ("NCIB"), effective May 1, 2017 for one year. Under this NCIB, we may repurchase up to 15 million of our common shares for cancellation. In June 2017, the Toronto Stock Exchange approved amendments to the NCIB that allow us to repurchase common shares under the NCIB by way of private agreement or under a specific share repurchase program. The timing and amount of purchases under the NCIB are subject to management discretion based on factors such as market conditions and capital levels. The bank will consult with OSFI before making purchases under the NCIB.

During the year ended October 31, 2017, we repurchased 5 million of our common shares at an average cost of \$87.88 per share, all under the current NCIB.

Our previous NCIB, which allowed us to repurchase for cancellation up to 15 million of our common shares, expired on January 31, 2017. We did not make any purchases under the previous NCIB.

## Share Redemption and Dividend Restrictions

OSFI must approve any plan to redeem any of our preferred share issues for cash.

We are prohibited from declaring dividends on our preferred or common shares when we would be, as a result of paying such a dividend, in contravention of the capital adequacy, liquidity or any other regulatory directive issued under the *Bank Act (Canada)*. In addition, common share dividends cannot be paid unless all dividends declared and payable on our preferred shares have been paid or sufficient funds have been set aside to do so.

In addition, we have agreed that if BMO Capital Trust II (the "Trust"), an unconsolidated structured entity, fails to pay any required distribution on its capital trust securities, we will not declare dividends of any kind on any of our preferred or common shares for a period of time following the Trust's failure to pay the required distribution (as defined in the applicable prospectuses) unless the Trust first pays such distribution to the holders of its capital trust securities.

Currently, these limitations do not restrict the payment of dividends on common or preferred shares.

## Shareholder Dividend Reinvestment and Share Purchase Plan

We offer a Dividend Reinvestment and Share Purchase Plan ("DRIP") for our shareholders. Participation in the plan is optional. Under the terms of the DRIP, cash dividends on common shares are reinvested to purchase additional common shares. Shareholders also have the opportunity to make optional cash payments to acquire additional common shares.

For the dividends paid in the first two quarters of 2017, common shares to supply the DRIP were issued from treasury with a two percent discount. For the dividends paid in the third quarter of 2017, common shares to supply the DRIP were issued from treasury without a discount. For the dividends paid in the fourth quarter, common shares to supply the DRIP were purchased on the open market.

For the dividends paid in the first two quarters of 2016, common shares to supply the DRIP were purchased on the open market. For the dividends paid in the last two quarters of 2016, common shares to supply the DRIP were issued from treasury without a discount.

During the year ended October 31, 2017, we issued a total of 4,821,184 common shares from treasury (1,074,601 in 2016) and purchased 504,873 common shares in the open market (1,279,488 in 2016) for delivery to shareholders under the DRIP.

## Potential Share Issuances

As at October 31, 2017, we had reserved 39,947,147 common shares (44,768,331 in 2016) for potential issuance in respect of the DRIP. We have also reserved 7,525,296 common shares (9,805,299 in 2016) for the potential exercise of stock options, as further described in Note 21.

## Non-Controlling Interest

During the year ended October 31, 2016, our subsidiary, BMO Capital Trust, redeemed all remaining BMO Capital Trust Securities for an aggregate redemption amount of \$450 million, plus accrued and unpaid distributions. These securities were recorded in non-controlling interest in the prior period and had formed part of our Tier 1 regulatory capital. Non-controlling interest in other consolidated entities was \$nil at October 31, 2017 (\$24 million in 2016).

## Note 17: Fair Value of Financial Instruments and Trading-Related Revenue

We record trading assets and liabilities, derivatives, available-for-sale securities and securities sold but not yet purchased at fair value, and other non-trading assets and liabilities at amortized cost less allowances or write-downs for impairment. The fair values presented in this note are based upon the amounts estimated for individual assets and liabilities and do not include an estimate of the fair value of any of the legal entities or underlying operations that comprise our business.

Fair value represents the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between willing market participants at the measurement date. The fair value amounts disclosed represent point-in-time estimates that may change in subsequent reporting periods due to changes in market conditions or other factors. Some financial instruments are not typically exchangeable or exchanged and therefore it is difficult to determine their fair value. Where there is no quoted market price, we determine fair value using management's best estimates based on a range of valuation techniques and assumptions; since these involve uncertainties, the fair values may not be realized in an actual sale or immediate settlement of the asset or liability.

### Governance Over the Determination of Fair Value

Senior executive oversight of our valuation processes is provided through various valuation and risk committees. In order to ensure that all financial instruments carried at fair value are reasonably measured for risk management and financial reporting purposes, we have established governance structures and controls, such as model validation and approval, independent price verification ("IPV") and profit or loss attribution analysis ("PAA"), consistent with industry practice. These controls are applied independently of the relevant operating groups.

We establish and regularly update valuation methodologies for each financial instrument that is required to be measured at fair value. The application of valuation models for products or portfolios is subject to independent approval to ensure only validated models are used. The impact of known limitations of models and data inputs is also monitored on an ongoing basis. IPV is a process that regularly and independently verifies the accuracy and appropriateness of market prices or model inputs used in the valuation of financial instruments. This process assesses fair values using a variety of different approaches to verify and validate the valuations. PAA is a daily process used by management to identify and explain changes in fair value positions across all operating lines of business within BMO Capital Markets. This process works in concert with other processes to ensure that the fair values being reported are reasonable and appropriate.

### Securities

For traded securities, quoted market value is considered to be fair value. Quoted market value is based on bid or ask prices, depending on which is the most appropriate to measure fair value. Securities for which no active market exists are valued using all reasonably available market information. Our fair value methodologies are described below.

#### *Government Securities*

The fair value of government issued or guaranteed debt securities in active markets is determined by reference to recent transaction prices, broker quotes or third-party vendor prices. The fair value of securities that are not traded in an active market is modelled using implied yields derived from the prices of similar actively traded government securities and observable spreads. Market inputs to the model include coupon, maturity and duration.

#### *Mortgage-Backed Securities and Collateralized Mortgage Obligations*

The fair value of mortgage-backed securities and collateralized mortgage obligations is determined using independent prices obtained from third-party vendor prices, broker quotes and relevant market indices, as applicable. If such prices are not available, fair value is determined using cash flow models that make maximum use of observable market inputs or benchmark prices for similar instruments. Valuation assumptions for mortgage-backed securities and collateralized mortgage obligations include discount rates, expected prepayments, credit spreads and recoveries.

#### *Corporate Debt Securities*

The fair value of corporate debt securities is determined using prices observed in the most recent transactions. When observable price quotations are not available, fair value is determined based on discounted cash flow models using discounting curves and spreads obtained from independent dealers, brokers and multi-contributor pricing sources.

#### *Corporate Equity Securities*

The fair value of equity securities is based on quoted prices in active markets, where available. Where quoted prices in active markets are not readily available, fair value is determined using either quoted market prices for similar securities or using valuation techniques, which include discounted cash flow analysis and multiples of earnings.

#### *Privately Issued Securities*

Privately issued debt and equity securities are valued using prices observed in recent market transactions, where available. Otherwise, fair value is derived from valuation models using a market or income approach. These models consider various factors, including projected cash flows, earnings, revenue and other third-party evidence, as available. The fair value of limited partnership investments is based upon net asset values published by third-party fund managers.

Prices from brokers and multi-contributor pricing sources are corroborated as part of our independent review process, which may include using valuation techniques or obtaining consensus or composite prices from other pricing services. We validate the estimates of fair value by independently obtaining multiple quotes for external market prices and input values. We review the approach taken by third-party vendors to ensure that the vendor employs a valuation model which maximizes the use of observable inputs such as benchmark yields, bid-ask spreads, underlying collateral, weighted-average terms to maturity and prepayment rate assumptions. Fair value estimates from internal valuation techniques are verified, where possible, by reference to prices obtained from third-party vendors.

## Loans

In determining the fair value of our fixed rate performing loans, we discount the remaining contractual cash flows, adjusted for estimated prepayment, at market interest rates currently offered for loans with similar terms and risks. For floating rate performing loans, changes in interest rates have minimal impact on the fair value since interest rates are repriced or reset frequently. On that basis, fair value is assumed to be equal to carrying value.

The value of our loan balances determined using this approach is further adjusted by a credit mark that represents an estimate of the expected credit losses in our loan portfolio.

## Derivative Instruments

A number of valuation techniques are employed to estimate fair value, including discounted cash flow analysis, the Black-Scholes model, Monte Carlo simulation and other accepted market models. These independently validated models incorporate current market data for interest rates, currency exchange rates, equity and commodity prices and indices, credit spreads, recovery rates, corresponding market volatility levels, spot prices, correlation levels and other market-based pricing factors. Option implied volatilities, an input into many valuation models, are either obtained directly from market sources or calculated from market prices. Multi-contributor pricing sources are used wherever possible.

In determining the fair value of complex and customized derivatives, we consider all reasonably available information, including dealer and broker quotations, multi-contributor pricing sources and any relevant observable market inputs. Our model calculates fair value based on inputs specific to the type of contract, which may include stock prices, correlation for multiple assets, interest rates, foreign exchange rates, yield curves and volatilities.

We calculate a credit valuation adjustment ("CVA") to recognize the risk that any given derivative counterparty may not ultimately be able to fulfill its obligations. The CVA is derived from market-observed credit spreads or proxy credit spreads and our assessment of the net counterparty credit risk exposure, taking into account credit mitigants such as collateral, master netting agreements and novation to central counterparties. We also calculate a funding valuation adjustment ("FVA") to recognize the implicit funding costs associated with over-the-counter derivative positions. The FVA is determined by reference to market funding spreads.

## Deposits

In determining the fair value of our deposits, we incorporate the following assumptions:

- For fixed rate, fixed maturity deposits, we discount the remaining contractual cash flows for these deposits, adjusted for expected redemptions, at market interest rates currently offered for deposits with similar terms and risks.
- For fixed rate deposits with no defined maturities, we consider fair value to equal carrying value, based on carrying value being equivalent to the amount payable on the reporting date.
- For floating rate deposits, changes in interest rates have minimal impact on fair value since deposits reprice to market frequently. On that basis, fair value is assumed to equal carrying value.

A portion of our structured note liabilities that have coupons or repayment terms linked to the performance of interest rates, foreign currencies, commodities or equity securities have been designated at fair value through profit or loss. The fair value of these structured notes is estimated using internally validated valuation models and incorporates observable market prices for identical or comparable securities, as well as other inputs such as interest rate yield curves, option volatilities and foreign exchange rates, where appropriate. Where observable prices or inputs are not available, management judgment is required to determine the fair value by assessing other relevant sources of information, such as historical data and proxy information from similar transactions.

## Securities Sold But Not Yet Purchased

The fair value of these obligations is based on the fair value of the underlying securities, which can be equity or debt securities. As these obligations are fully collateralized, the method used to determine fair value would be the same as that used for the relevant underlying equity or debt securities.

## Securitization and Structured Entities' Liabilities

The determination of the fair value of securitization and structured entities' liabilities is based on quoted market prices or quoted market prices for similar financial instruments, where available. Where quoted prices are not available, fair value is determined using valuation techniques, such as discounted cash flows, that maximize the use of observable inputs.

## Subordinated Debt

The fair value of our subordinated debt is determined by referring to current market prices for the same or similar instruments.

## Financial Instruments with a Carrying Value Approximating Fair Value

### Short-term Financial Instruments

The carrying value of certain financial assets and liabilities, such as interest bearing deposits with banks, securities borrowed or purchased under resale agreements, customers' liability under acceptances, certain other assets, acceptances, securities lent or sold under repurchase agreements and certain other liabilities, is a reasonable estimate of fair value due to their short-term nature or because they are frequently repriced to current market rates.



*Other Financial Instruments*

Carrying value is assumed to be a reasonable estimate of fair value for our cash and cash equivalents and certain other securities.

For longer-term financial instruments recorded within other liabilities, fair value is determined as the present value of contractual cash flows using discount rates at which liabilities with similar remaining maturities could be issued as at the balance sheet date.

Certain assets, including premises and equipment, goodwill and intangible assets, as well as shareholders' equity, are not considered financial instruments and therefore no fair value has been determined for these items.

**Fair Value Hierarchy**

We use a fair value hierarchy to categorize financial instruments according to the inputs we use in valuation techniques to measure fair value.

**Fair Value of Financial Instruments Not Carried at Fair Value on the Balance Sheet**

Set out in the following tables are the amounts that would be reported if all financial assets and liabilities not currently carried at fair value were reported at their fair values.

(Canadian \$ in millions)

	2017				
	Carrying value	Fair value	Valued using quoted market prices	Valued using models (with observable inputs)	Valued using models (without observable inputs)
<b>Securities</b>					
Held to maturity	9,094	9,096	2,522	6,574	-
Other (1)	627	2,907	-	-	2,907
	9,721	12,003	2,522	6,574	2,907
<b>Loans</b>					
Residential mortgages	115,258	114,313	-	-	114,313
Consumer instalment and other personal	61,944	61,031	-	-	61,031
Credit cards	8,071	7,828	-	-	7,828
Businesses and governments	178,232	175,927	-	-	175,927
	363,505	359,099	-	-	359,099
<b>Deposits (2)</b>	469,814	470,137	-	470,137	-
<b>Securitization and structured entities' liabilities</b>	23,054	23,148	-	23,148	-
<b>Other liabilities (3)</b>	-	-	-	-	-
<b>Subordinated debt</b>	5,029	5,255	-	5,255	-

This table excludes financial instruments with a carrying value approximating fair value, such as cash and cash equivalents, interest bearing deposits with banks, securities borrowed or purchased under resale agreements, customers' liability under acceptances, certain other assets, acceptances, securities lent or sold under repurchase agreements and certain other liabilities.

(1) Excluded from other securities is \$333 million of securities related to our merchant banking business that are carried at fair value on the balance sheet.

(2) Excludes \$13,674 million of structured note liabilities designated at fair value through profit or loss and accounted for at fair value.

(3) Other liabilities includes certain other liabilities of subsidiaries, other than deposits. Excludes \$28,665 million of other liabilities for which carrying value approximates fair value or are designated at fair value through profit or loss.

(Canadian \$ in millions)

	2016				
	Carrying value	Fair value	Valued using quoted market prices	Valued using models (with observable inputs)	Valued using models (without observable inputs)
<b>Securities</b>					
Held to maturity	8,965	9,073	864	8,209	-
Other (1)	579	2,778	-	-	2,778
	9,544	11,851	864	8,209	2,778
<b>Loans</b>					
Residential mortgages	112,277	112,400	-	-	112,400
Consumer instalment and other personal	64,680	64,043	-	-	64,043
Credit cards	8,101	7,862	-	-	7,862
Businesses and governments	175,597	173,601	-	-	173,601
	360,655	357,906	-	-	357,906
<b>Deposits (2)</b>	461,768	462,732	-	462,732	-
<b>Securitization and structured entities' liabilities</b>	22,377	22,506	-	22,506	-
<b>Other liabilities (3)</b>	703	1,104	-	1,104	-
<b>Subordinated debt</b>	4,439	4,580	-	4,580	-

This table excludes financial instruments with a carrying value approximating fair value, such as cash and cash equivalents, interest bearing deposits with banks, securities borrowed or purchased under resale agreements, customers' liability under acceptances, certain other assets, acceptances, securities lent or sold under repurchase agreements and certain other liabilities.

(1) Excluded from other securities is \$320 million of securities related to our merchant banking business that are carried at fair value on the balance sheet.

(2) Excludes \$11,604 million of structured note liabilities designated at fair value through profit or loss and accounted for at fair value.

(3) Other liabilities includes certain other liabilities of subsidiaries, other than deposits. Excludes \$27,321 million of other liabilities for which carrying value approximates fair value or are designated at fair value through profit or loss.

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

## Valuation Techniques and Significant Inputs

We determine the fair value of publicly traded fixed maturity debt and equity securities using quoted prices in active markets (Level 1) when these are available. When quoted prices in active markets are not available, we determine the fair value of financial instruments using models such as discounted cash flows, with observable market data for inputs, such as yield and prepayment rates or broker quotes and other third-party vendor quotes (Level 2). Fair value may also be determined using models where significant market inputs are not observable due to inactive markets or minimal market activity (Level 3). We maximize the use of observable market inputs to the extent possible.

Our Level 2 trading securities are primarily valued using discounted cash flow models with observable spreads or broker quotes. The fair value of Level 2 available-for-sale securities is determined using discounted cash flow models with observable spreads or third-party vendor quotes. Level 2 structured note liabilities are valued using models with observable market information. Level 2 derivative assets and liabilities are valued using industry-standard models and observable market information.

The extent of our use of actively quoted market prices (Level 1), internal models using observable market information as inputs (Level 2) and internal models without observable market information as inputs (Level 3) in the valuation of securities, fair value liabilities, derivative assets and derivative liabilities was as follows:

				2017		2016		
	Valued using quoted market prices	Valued using models (with observable inputs)	Valued using models (without observable inputs)	Total	Valued using quoted market prices	Valued using models (with observable inputs)	Valued using models (without observable inputs)	Total
<b>Trading Securities</b>								
Issued or guaranteed by:								
Canadian federal government	8,712	2,115	-	10,827	10,998	1,954	-	12,952
Canadian provincial and municipal governments	3,177	4,150	-	7,327	3,404	4,018	-	7,422
U.S. federal government	9,417	56	-	9,473	6,012	136	-	6,148
U.S. states, municipalities and agencies	189	1,942	-	2,131	-	1,124	-	1,124
Other governments	630	193	-	823	316	286	-	602
Mortgage-backed securities and collateralized mortgage obligations	-	931	-	931	-	1,062	-	1,062
Corporate debt	1,485	10,278	-	11,763	565	8,857	91	9,513
Loans	3	150	-	153	-	139	-	139
Corporate equity	55,640	1	-	55,641	44,459	1,037	-	45,496
	<b>79,253</b>	<b>19,816</b>	<b>-</b>	<b>99,069</b>	<b>65,754</b>	<b>18,613</b>	<b>91</b>	<b>84,458</b>
<b>Available-for-Sale Securities</b>								
Issued or guaranteed by:								
Canadian federal government	8,283	897	-	9,180	6,286	1,882	-	8,168
Canadian provincial and municipal governments	920	2,707	-	3,627	3,995	2,237	-	6,232
U.S. federal government	14,269	-	-	14,269	9,557	-	-	9,557
U.S. states, municipalities and agencies	18	4,077	1	4,096	-	4,449	1	4,450
Other governments	2,290	1,268	-	3,558	3,083	2,144	-	5,227
Mortgage-backed securities and collateralized mortgage obligations	-	13,216	-	13,216	-	13,122	-	13,122
Corporate debt	1,551	2,972	2	4,525	4,974	2,314	4	7,292
Corporate equity	37	126	1,441	1,604	33	126	1,456	1,615
	<b>27,368</b>	<b>25,263</b>	<b>1,444</b>	<b>54,075</b>	<b>27,928</b>	<b>26,274</b>	<b>1,461</b>	<b>55,663</b>
<b>Other Securities</b>	-	-	333	333	-	-	320	320
<b>Fair Value Liabilities</b>								
Securities sold but not yet purchased	22,992	2,171	-	25,163	23,552	1,554	-	25,106
Structured note liabilities and other note liabilities	-	13,674	-	13,674	-	11,613	-	11,613
Annuity liabilities	-	749	-	749	-	682	-	682
	<b>22,992</b>	<b>16,594</b>	<b>-</b>	<b>39,586</b>	<b>23,552</b>	<b>13,849</b>	<b>-</b>	<b>37,401</b>
<b>Derivative Assets</b>								
Interest rate contracts	4	9,223	-	9,227	5	18,059	-	18,064
Foreign exchange contracts	17	17,196	-	17,213	31	18,945	-	18,976
Commodity contracts	232	846	-	1,078	405	814	-	1,219
Equity contracts	93	1,333	-	1,426	188	713	-	901
Credit default swaps	-	7	-	7	-	23	-	23
	<b>346</b>	<b>28,605</b>	<b>-</b>	<b>28,951</b>	<b>629</b>	<b>38,554</b>	<b>-</b>	<b>39,183</b>
<b>Derivative Liabilities</b>								
Interest rate contracts	7	8,309	-	8,316	16	16,138	-	16,154
Foreign exchange contracts	6	14,967	-	14,973	17	18,462	-	18,479
Commodity contracts	239	835	-	1,074	262	909	-	1,171
Equity contracts	166	3,220	-	3,386	69	2,322	-	2,391
Credit default swaps	-	55	-	55	-	32	-	32
	<b>418</b>	<b>27,386</b>	<b>-</b>	<b>27,804</b>	<b>364</b>	<b>37,863</b>	<b>-</b>	<b>38,227</b>

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

### Quantitative Information about Level 3 Fair Value Measurements

The table below presents the fair values of our significant Level 3 financial instruments, the valuation techniques used to determine their fair values and the value ranges of significant unobservable inputs used in the valuations. We have not applied any other reasonably possible alternative assumption to the significant Level 3 categories of private equity investments and merchant banking securities, as the net asset values are provided by the investment or fund managers.

As at October 31, 2017 (Canadian \$ in millions, except as noted)	Reporting line in fair value hierarchy table	Fair value of assets	Valuation techniques	Significant unobservable inputs	Range of input values (1)	
					Low	High
<b>Securities</b>						
Private equity (2)	Corporate equity	<b>1,441</b>	Net Asset Value EV/EBITDA	Net Asset Value Multiple	<b>na</b> <b>6x</b>	<b>na</b> <b>17x</b>
Merchant banking securities	Other	<b>333</b>	Net Asset Value EV/EBITDA	Net Asset Value Multiple	<b>na</b> <b>4.8x</b>	<b>na</b> <b>10.9x</b>

(1) The low and high input values represent the actual highest and lowest level of inputs used to value a group of financial instruments in a particular product category. These input ranges do not reflect the level of input uncertainty, but are affected by the specific underlying instruments within the product category. The input ranges will therefore vary from period to period based on the characteristics of the underlying instruments held at each balance sheet date.

(2) Included in private equity is \$777 million of Federal Reserve Bank and U.S. Federal Home Loan Bank shares that we hold to meet regulatory requirements. These shares are carried at cost, which is deemed to approximate fair value since these shares are not traded in the market.  
na - not applicable

### Significant Unobservable Inputs in Level 3 Instrument Valuations

#### Net Asset Value

Net asset value represents the estimated value of a security based on valuations received from the investment or fund manager. The valuation of certain private equity securities is based on the economic benefit we derive from our investment.

#### EV/EBITDA Multiple

The fair value of private equity and merchant banking investments is derived by calculating an enterprise value ("EV") using the EV/EBITDA multiple and then proceeding through a waterfall of the company's capital structure to determine the value of the assets or securities we hold. The EV/EBITDA multiple is determined using judgment in considering factors such as multiples for comparable listed companies, recent transactions and company-specific factors, as well as liquidity discounts that account for the lack of active trading in these assets and securities.

#### Significant Transfers

Our policy is to record transfers of assets and liabilities between fair value hierarchy levels at their fair values as at the end of each reporting period, consistent with the date of the determination of fair value. Transfers between the various fair value hierarchy levels reflect changes in the availability of quoted market prices or observable market inputs that result from changes in market conditions. The following is a discussion of the significant transfers between Level 1, Level 2 and Level 3 balances for the year ended October 31, 2017.

During the year ended October 31, 2017, \$176 million of trading securities and \$107 million of available-for-sale securities were transferred from Level 1 to Level 2 due to reduced observability of the inputs used to value these securities. During the year ended October 31, 2017, \$156 million of trading securities and \$56 million of available-for-sale securities were transferred from Level 2 to Level 1 due to increased availability of quoted prices in active markets.

During the year ended October 31, 2017, \$33 million of available-for-sale securities were transferred from Level 3 to Level 1 due to the availability of observable prices used to value these securities.

## Changes in Level 3 Fair Value Measurements

The tables below present a reconciliation of all changes in Level 3 financial instruments during the years ended October 31, 2017 and 2016, including realized and unrealized gains (losses) included in earnings and other comprehensive income.

For the year ended October 31, 2017 (Canadian \$ in millions)	Change in fair value							Fair value as at October 31, 2017	Change in unrealized gains (losses) recorded in income for instruments still held (1)	
	Balance October 31, 2016	Included in earnings	Included in other comprehensive income (2)	Purchases	Sales	Maturities/Settlement	Transfers into Level 3			Transfers out of Level 3
<b>Trading Securities</b>										
Issued or guaranteed by:										
U.S. states, municipalities and agencies	-	-	-	-	-	-	-	-	-	-
Corporate debt	91	1	1	-	-	(93)	-	-	-	-
<b>Total trading securities</b>	<b>91</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>(93)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Available-for-Sale Securities</b>										
Issued or guaranteed by:										
U.S. states, municipalities and agencies	1	-	-	-	-	-	-	-	1	na
Corporate debt	4	-	-	-	(1)	(1)	-	-	2	na
Corporate equity	1,456	(40)	(15)	190	(117)	-	-	(33)	1,441	na
<b>Total available-for-sale securities</b>	<b>1,461</b>	<b>(40)</b>	<b>(15)</b>	<b>190</b>	<b>(118)</b>	<b>(1)</b>	<b>-</b>	<b>(33)</b>	<b>1,444</b>	<b>na</b>
<b>Other Securities</b>	<b>320</b>	<b>(9)</b>	<b>(7)</b>	<b>134</b>	<b>(102)</b>	<b>(3)</b>	<b>-</b>	<b>-</b>	<b>333</b>	<b>(8)</b>

(1) Changes in unrealized gains or losses on other securities still held on October 31, 2017 are included in earnings for the year.

(2) Foreign exchange translation on trading securities held by foreign subsidiaries is included in other comprehensive income, net foreign operations.

na - not applicable

For the year ended October 31, 2016 (Canadian \$ in millions)	Change in fair value							Fair value as at October 31, 2016	Change in unrealized gains (losses) recorded in income for instruments still held (1)	
	Balance October 31, 2015	Included in earnings	Included in other comprehensive income (2)	Purchases	Sales	Maturities/Settlement	Transfers into Level 3			Transfers out of Level 3
<b>Trading Securities</b>										
Issued or guaranteed by:										
U.S. states, municipalities and agencies	98	-	-	-	-	-	-	(98)	-	-
Corporate debt	243	2	4	-	-	(158)	-	-	91	2
<b>Total trading securities</b>	<b>341</b>	<b>2</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>(158)</b>	<b>-</b>	<b>(98)</b>	<b>91</b>	<b>2</b>
<b>Available-for-Sale Securities</b>										
Issued or guaranteed by:										
U.S. states, municipalities and agencies	1	-	-	-	-	-	-	-	1	na
Corporate debt	6	-	-	9	(9)	(2)	-	-	4	na
Corporate equity	1,251	(27)	44	283	(92)	-	-	(3)	1,456	na
<b>Total available-for-sale securities</b>	<b>1,258</b>	<b>(27)</b>	<b>44</b>	<b>292</b>	<b>(101)</b>	<b>(2)</b>	<b>-</b>	<b>(3)</b>	<b>1,461</b>	<b>na</b>
<b>Other Securities</b>	<b>365</b>	<b>(40)</b>	<b>7</b>	<b>42</b>	<b>(54)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>320</b>	<b>(38)</b>
<b>Derivative Assets</b>										
Credit default swaps	1	-	-	-	-	(1)	-	-	-	-

(1) Changes in unrealized gains (losses) on trading securities and other securities still held on October 31, 2016 are included in earnings for the year.

(2) Foreign exchange translation on trading securities held by foreign subsidiaries is included in other comprehensive income, net foreign operations.

na - not applicable

## Trading-Related Revenue

Trading assets and liabilities, including derivatives, securities and financial instruments designated at fair value through profit or loss, are measured at fair value, with gains and losses recognized in Trading revenues, Non-Interest Revenue, in the Consolidated Statement of Income. Trading-related revenue includes net interest income and non-interest revenue and excludes underwriting fees and commissions on securities transactions, which are shown separately in the Consolidated Statement of Income. Net interest income arises from interest and dividends related to trading assets and liabilities and is reported net of interest expense associated with funding these assets and liabilities in the following table.

(Canadian \$ in millions)	2017	2016	2015
Interest rates	480	663	422
Foreign exchange	369	349	364
Equities	239	188	171
Commodities	84	66	56
Other	47	25	6
Total trading revenue	1,219	1,291	1,019
Reported as:			
Net interest income (1)	(133)	99	32
Non-interest revenue - trading revenue	1,352	1,192	987
Total trading revenue	1,219	1,291	1,019

(1) Amounts in brackets denote net interest expense.

## Note 18: Offsetting of Financial Assets and Financial Liabilities

Financial assets and financial liabilities are offset and the net amount is reported in our Consolidated Balance Sheet when there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis, or realize the asset and settle the liability simultaneously. The following table presents the amounts that have been offset in our Consolidated Balance Sheet, including securities purchased under resale agreements, securities sold under repurchase agreements and derivative instruments, generally under a market settlement mechanism (e.g. an exchange or clearing house) where simultaneous net settlement can be achieved to eliminate credit and liquidity risk between counterparties. Also presented are amounts not offset in the Consolidated Balance Sheet related to transactions where a master netting agreement or similar arrangement is in place with a right to offset the amounts only in the event of default, insolvency or bankruptcy, or where the offset criteria are otherwise not met.

(Canadian \$ in millions)		2017					
			Amounts not offset in the balance sheet				
	Gross amounts	Amounts offset in the balance sheet	Net amounts presented in the balance sheet	Impact of master netting agreements	Securities received/pledged as collateral (1) (2)	Cash collateral	Net amount
<b>Financial Assets</b>							
Securities borrowed or purchased under resale agreements	80,948	5,901	75,047	9,382	65,044	-	621
Derivative instruments	45,064	16,113	28,951	19,909	933	2,903	5,206
	126,012	22,014	103,998	29,291	65,977	2,903	5,827
<b>Financial Liabilities</b>							
Derivative instruments	43,917	16,113	27,804	19,909	1,263	1,642	4,990
Securities lent or sold under repurchase agreements	61,020	5,901	55,119	9,382	45,436	-	301
	104,937	22,014	82,923	29,291	46,699	1,642	5,291

(Canadian \$ in millions)		2016					
			Amounts not offset in the balance sheet				
	Gross amounts	Amounts offset in the balance sheet	Net amounts presented in the balance sheet	Impact of master netting agreements	Securities received/pledged as collateral (1) (2)	Cash collateral	Net amount
<b>Financial Assets</b>							
Securities borrowed or purchased under resale agreements	69,795	3,149	66,646	7,204	58,775	-	667
Derivative instruments	54,726	15,543	39,183	27,538	1,610	2,740	7,295
	124,521	18,692	105,829	34,742	60,385	2,740	7,962
<b>Financial Liabilities</b>							
Derivative instruments	53,770	15,543	38,227	27,538	5,677	491	4,521
Securities lent or sold under repurchase agreements	43,867	3,149	40,718	7,204	33,281	-	233
	97,637	18,692	78,945	34,742	38,958	491	4,754

(1) Financial assets received/pledged as collateral are disclosed at fair value and are limited to the net balance sheet exposure (i.e. any over-collateralization is excluded from the table).

(2) Certain amounts of collateral are restricted from being sold or repledged except in the event of default or the occurrence of other predetermined events.

## Note 19: Interest Rate Risk

We earn interest on interest bearing assets and we pay interest on interest bearing liabilities. We also hold derivative instruments, such as interest rate swaps and interest rate options, with values that are sensitive to changes in interest rates. To the extent that we hold assets, liabilities and derivative instruments maturing or repricing at different points in time, we are exposed to interest rate risk.

## Interest Rate Gap Position

The determination of the interest rate sensitivity or gap position by necessity entails numerous assumptions. It is based on the earlier of the repricing date or maturity date of assets, liabilities and derivatives used to manage interest rate risk.

The gap position presented is as at October 31, 2017 and 2016. It represents the position outstanding at the close of the business day and may change significantly in subsequent periods based on customer behaviour and the application of our asset and liability management strategies.

The assumptions for the years ended October 31, 2017 and 2016 were as follows:

### Assets

Fixed rate, fixed term assets, such as residential mortgage loans and consumer loans, are reported based upon the scheduled repayments and estimated prepayments that reflect expected borrower behaviour.

Trading and underwriting (mark-to-market) assets and interest bearing assets on which the customer interest rate changes with the prime rate or other short-term market rates are reported in the zero to three months category.

Goodwill and intangible and fixed assets are reported as non-interest sensitive. Other fixed rate and non-interest bearing assets with no defined maturity are reported based upon an assumed maturity profile that considers historical and forecasted trends in balances.

### Liabilities

Fixed rate, fixed term liabilities, such as investment certificates, are reported at scheduled maturity with estimated redemptions that reflect expected depositor behaviour.

Interest bearing deposits on which the customer interest rate changes with the prime rate or other short-term market rates are reported in the zero to three months category.

Fixed rate and non-interest bearing liabilities with no defined maturity are reported based upon an assumed maturity profile that considers historical and forecasted trends in balances.

### Capital

Common shareholders' equity is reported as non-interest sensitive.

### Yields

Yields are based upon the effective interest rates for the assets or liabilities on October 31, 2017 and 2016.

## Interest Rate Gap Position

As at October 31, 2017 (Canadian \$ in millions, except as noted)	0 to 3 months	4 to 6 months	7 to 12 months	Total within 1 year	Effective interest rate (%)	1 to 5 years	Effective interest rate (%)	Over 5 years	Effective interest rate (%)	Non- interest sensitive	Total
<b>Assets</b>											
Cash and cash equivalents	29,450	757	692	30,899	0.57	2,522	0.20	26	-	(848)	32,599
Interest bearing deposits with banks	6,490	-	-	6,490	0.84	-	-	-	-	-	6,490
Securities	102,922	3,232	4,674	110,828	1.34	22,697	2.25	28,306	2.67	1,367	163,198
Securities borrowed or purchased under resale agreements	71,154	2,354	1,490	74,998	0.58	49	0.97	-	-	-	75,047
Loans	207,556	17,359	30,572	255,487	2.95	101,322	3.51	4,863	3.92	-	361,672
Other assets	42,389	372	1,054	43,815	na	396	na	(1,265)	na	27,628	70,574
<b>Total assets</b>	<b>459,961</b>	<b>24,074</b>	<b>38,482</b>	<b>522,517</b>		<b>126,986</b>		<b>31,930</b>		<b>28,147</b>	<b>709,580</b>
<b>Liabilities and Equity</b>											
Deposits	249,185	28,195	39,694	317,074	0.97	134,907	0.89	31,507	0.68	-	483,488
Securities sold but not yet purchased	25,097	-	-	25,097	1.42	54	-	12	-	-	25,163
Securities lent or sold under repurchase agreements	54,809	290	20	55,119	0.56	-	-	-	-	-	55,119
Other liabilities	57,351	537	1,460	59,348	na	11,501	na	7,897	na	17,681	96,427
Subordinated debt	(121)	900	-	779	7.13	4,100	3.12	150	8.25	-	5,029
Total equity	(84)	-	157	73	na	3,789	na	-	na	40,492	44,354
<b>Total liabilities and shareholders' equity</b>	<b>386,237</b>	<b>29,922</b>	<b>41,331</b>	<b>457,490</b>		<b>154,351</b>		<b>39,566</b>		<b>58,173</b>	<b>709,580</b>
<b>Asset/liability gap position</b>	<b>73,724</b>	<b>(5,848)</b>	<b>(2,849)</b>	<b>65,027</b>		<b>(27,365)</b>		<b>(7,636)</b>		<b>(30,026)</b>	<b>-</b>
<b>Notional amounts of derivatives</b>	<b>(64,225)</b>	<b>1,925</b>	<b>(2,121)</b>	<b>(64,421)</b>		<b>58,009</b>		<b>6,412</b>		<b>-</b>	<b>-</b>
<b>Total interest rate gap position - 2017</b>											
Canadian dollar	(376)	(1,772)	2,722	574		17,839		(1,623)		(16,790)	-
Foreign currency	9,875	(2,151)	(7,692)	32		12,805		399		(13,236)	-
<b>Total gap</b>	<b>9,499</b>	<b>(3,923)</b>	<b>(4,970)</b>	<b>606</b>		<b>30,644</b>		<b>(1,224)</b>		<b>(30,026)</b>	<b>-</b>
<b>Total interest rate gap position - 2016</b>											
Canadian dollar	3,591	(1,006)	(1,146)	1,439		13,056		705		(15,200)	-
Foreign currency	(335)	4,653	(1,431)	2,887		9,508		(829)		(11,566)	-
<b>Total gap</b>	<b>3,256</b>	<b>3,647</b>	<b>(2,577)</b>	<b>4,326</b>		<b>22,564</b>		<b>(124)</b>		<b>(26,766)</b>	<b>-</b>

na - not applicable

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



## Note 20: Capital Management

Our objective is to maintain a strong capital position in a cost-effective structure that: is appropriate given our target regulatory capital ratios and internal assessment of required economic capital; is consistent with our target credit ratings; underpins our operating groups' business strategies; and supports depositor, investor and regulator confidence, while building long-term shareholder value.

Our approach includes establishing limits, targets and performance measures that are used to manage balance sheet positions, risk levels and capital requirements, as well as issuing and redeeming capital instruments to obtain a cost-effective capital structure.

Regulatory capital requirements and risk-weighted assets for the consolidated entity are determined in accordance with OSFI's Capital Adequacy Requirements Guideline.

Common Equity Tier 1 (CET1) capital is the most permanent form of capital. It is comprised of common shareholders' equity less deductions for goodwill, intangible assets and certain other items. Tier 1 capital is primarily comprised of regulatory common equity, preferred shares and innovative hybrid instruments, net of Tier 1 capital deductions.

Tier 2 capital is primarily comprised of subordinated debentures and the eligible portion of the collective allowance for credit losses, net of certain Tier 2 capital deductions. Total capital includes Tier 1 and Tier 2 capital. Details of the components of our capital position are presented in Notes 11, 12, 15 and 16.

CET1 Capital Ratio, Tier 1 Capital Ratio and Leverage Ratio are the primary regulatory capital measures.

- The CET1 Capital Ratio is defined as common shareholders' equity, net of capital adjustments, divided by CET1 capital risk-weighted assets.
- The Tier 1 Capital Ratio is defined as Tier 1 capital divided by Tier 1 capital risk-weighted assets.
- The Total Capital Ratio is defined as Total capital divided by Total capital risk-weighted assets.
- The Leverage Ratio is defined as Tier 1 capital divided by the sum of on-balance sheet items and specified off-balance sheet items, net of specified adjustments.

We have met OSFI's stated minimum capital ratio requirements as at October 31, 2017.

### Regulatory Capital Measures and Risk-Weighted Assets

(Canadian \$ in millions, except as noted)	2017	2016
Common Equity Tier 1 Capital	<b>30,633</b>	28,159
Tier 1 Capital	<b>35,108</b>	32,236
Total Capital	<b>40,596</b>	37,862
Common Equity Tier 1 Capital Risk-Weighted Assets	<b>269,466</b>	277,562
Tier 1 Capital Risk-Weighted Assets	<b>269,466</b>	277,562
Total Capital Risk-Weighted Assets	<b>269,466</b>	277,562
Common Equity Tier 1 Capital Ratio	<b>11.4%</b>	10.1%
Tier 1 Capital Ratio	<b>13.0%</b>	11.6%
Total Capital Ratio	<b>15.1%</b>	13.6%
Leverage Ratio	<b>4.4%</b>	4.2%

All 2017 and 2016 balances above are on an "all-in" basis.

## Note 21: Employee Compensation – Share-Based Compensation

### Stock Option Plan

We maintain a Stock Option Plan for designated officers and employees. Options are granted at an exercise price equal to the closing price of our common shares on the day before the grant date. Stock options granted on or after December 2013 vest in equal tranches of 50% on the third and fourth anniversaries of their grant date. Options granted prior to December 2013 vest in tranches over a four-year period starting from their grant date. Each tranche is treated as a separate award with a different vesting period. Certain options can only be exercised once certain performance targets are met. All options expire 10 years from their grant date.

We determine the fair value of stock options on their grant date and record this amount as compensation expense over the period that the stock options vest, with a corresponding increase to contributed surplus. When these stock options are exercised, we issue shares and record the amount of proceeds, together with the amount recorded in contributed surplus, in share capital. The estimated grant date fair value of stock options granted to employees who are eligible to retire is expensed at the date of grant.

The following table summarizes information about our Stock Option Plan:

(Canadian \$, except as noted)	2017		2016		2015	
	Number of stock options	Weighted-average exercise price (1)	Number of stock options	Weighted-average exercise price (1)	Number of stock options	Weighted-average exercise price (1)
Outstanding at beginning of year	<b>9,805,299</b>	<b>77.41</b>	12,111,153	80.19	13,337,765	79.29
Granted	<b>723,431</b>	<b>96.90</b>	754,714	77.23	641,875	78.09
Exercised	<b>2,233,801</b>	<b>57.80</b>	2,103,391	55.32	842,821	54.41
Forfeited/cancelled	<b>13,243</b>	<b>66.89</b>	104,606	71.76	71,281	64.49
Expired	<b>756,390</b>	<b>195.02</b>	852,571	179.53	954,385	151.68
Outstanding at end of year	<b>7,525,296</b>	<b>72.05</b>	9,805,299	77.41	12,111,153	80.19
Exercisable at end of year	<b>4,584,375</b>	<b>67.42</b>	5,605,485	83.34	6,959,569	91.16
Available for grant	<b>3,811,157</b>		4,151,676		4,275,858	
Outstanding stock options as a percentage of outstanding shares	<b>1.16%</b>		1.52%		1.88%	

(1) The weighted-average exercise prices reflect the conversion of foreign currency denominated options at the exchange rate as at October 31, 2017, October 31, 2016 and October 31, 2015, respectively. For foreign currency denominated options exercised or expired during the year, the weighted-average exercise prices are translated using the exchange rates as at the settlement and expiry date respectively.

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

Employee compensation expense related to this plan for the years ended October 31, 2017, 2016 and 2015 was \$8 million, \$6 million and \$6 million before tax, respectively (\$7 million, \$6 million and \$6 million after tax, respectively).

The intrinsic value of a stock option grant is the difference between the current market price of our common shares and the strike price of the option. The aggregate intrinsic value of stock options outstanding at October 31, 2017, 2016 and 2015 was \$232 million, \$211 million and \$179 million, respectively. The aggregate intrinsic value of stock options exercisable at October 31, 2017, 2016 and 2015 was \$174 million, \$146 million and \$125 million, respectively.

Options outstanding and exercisable at October 31, 2017 and 2016 by range of exercise price were as follows:

Range of exercise prices	2017						2016					
	Options outstanding			Options exercisable			Options outstanding			Options exercisable		
	Number of stock options	Weighted-average remaining contractual life (years)	Weighted-average exercise price (2)	Number of stock options	Weighted-average remaining contractual life (years)	Weighted-average exercise price (2)	Number of stock options	Weighted-average remaining contractual life (years)	Weighted-average exercise price (2)	Number of stock options	Weighted-average remaining contractual life (years)	Weighted-average exercise price (2)
\$30.01 to \$40.00	158,636	1.1	34.13	158,636	1.1	34.13	302,174	2.1	34.13	302,174	2.1	34.13
\$40.01 to \$50.00	-	-	-	-	-	-	5,683	1.4	45.00	5,683	1.4	45.00
\$50.01 to \$60.00	2,345,236	3.3	55.85	2,345,236	3.3	55.85	3,291,810	4.3	56.05	3,291,810	4.3	56.05
\$60.01 to \$70.00	2,637,146	5.1	64.25	1,753,324	5.0	62.70	4,157,498	5.1	64.05	1,291,352	5.2	60.36
\$70.01 and over (1)	2,384,278	7.2	99.13	327,179	1.0	191.74	2,048,134	6.2	145.34	714,466	1.4	271.75

(1) Certain options were issued as part of the acquisition of M&T.

(2) The weighted-average exercise prices reflect the conversion of foreign currency denominated options at the exchange rate as at October 31, 2017 and October 31, 2016.

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

The following table summarizes further information about our Stock Option Plan:

(Canadian \$ in millions, except as noted)	2017	2016	2015
Unrecognized compensation cost for non-vested stock option awards	5	4	4
Weighted-average period over which this cost will be recognized (in years)	2.7	2.5	2.3
Total intrinsic value of stock options exercised	90	55	18
Cash proceeds from stock options exercised	129	116	46
Weighted-average share price for stock options exercised (in dollars)	98.05	81.41	76.05

The fair value of options granted was estimated using a binomial option pricing model. The weighted-average fair value of options granted during the years ended October 31, 2017, 2016 and 2015 was \$11.62, \$7.60 and \$7.45, respectively. To determine the fair value of the stock option tranches on the grant date, the following ranges of values were used for each option pricing assumption:

	2017	2016	2015
Expected dividend yield	4.3%	5.5%	4.7% - 4.8%
Expected share price volatility	18.4% - 18.8%	19.8% - 20.0%	16.9% - 17.0%
Risk-free rate of return	1.7% - 1.8%	1.3% - 1.4%	1.9% - 2.0%
Expected period until exercise (in years)	6.5 - 7.0	6.5 - 7.0	6.5 - 7.0

Changes to the input assumptions can result in different fair value estimates.

Expected dividend yield is based on market expectations of future dividends on our common shares. Expected share price volatility is determined based on the market consensus implied volatility for traded options on our common shares. The risk-free rate is based on the yields of a Canadian swap curve with maturities similar to the expected period until exercise of the options. The weighted-average exercise price on the grant date for the years ended October 31, 2017, 2016 and 2015 was \$96.90, \$77.23 and \$78.09, respectively.

## Other Share-Based Compensation

### Share Purchase Plans

We offer various employee share purchase plans. The largest of these plans provides the employee the option of directing a portion of their gross salary toward the purchase of our common shares. We match 50% of employee contributions up to 6% of their individual gross salary to a maximum of \$100,000. Our contributions during the first two years vest after two years of participation in the plan, with subsequent contributions vesting immediately. The shares held in the employee share purchase plan are purchased on the open market and are considered outstanding for purposes of computing earnings per share. The dividends earned on our common shares held by the plan are used to purchase additional common shares on the open market.

We account for our contribution as employee compensation expense when it is contributed to the plan.

Employee compensation expense related to these plans for the years ended October 31, 2017, 2016 and 2015 was \$53 million, \$51 million and \$52 million, respectively. There were 18.3 million, 18.9 million and 19.0 million common shares held in these plans for the years ended October 31, 2017, 2016 and 2015, respectively.

### Mid-Term Incentive Plans

We offer mid-term incentive plans for executives and certain senior employees. Payment amounts are adjusted to reflect reinvested dividends and changes in the market value of our common shares. Depending on the plan, the recipient receives either a single cash payment at the end of the three-year period of the plan, or cash payments over the three years of the plan. As the awards are cash settled, they are recorded as liabilities. Amounts payable under such awards are recorded as compensation expense over the vesting period. Amounts related to units granted to employees who are eligible to retire are expensed at the time of grant. Subsequent changes in the fair value of the liability are recorded in compensation expense in the period in which they arise.

Mid-term incentive plan units granted during the years ended October 31, 2017, 2016 and 2015 totalled 5.9 million, 6.4 million and 5.8 million, respectively.

Prior to 2015, we entered into agreements with third parties to assume our liabilities related to a portion of units granted for a fixed up-front payment. For units subject to such arrangements, we no longer have any obligation for future cash payments and as a result no liability is recorded related to these awards. All cash payments made under such arrangements are deferred in the Consolidated Balance Sheet as other assets and are recognized on a straight-line basis over the vesting period. Subsequent changes in the market value of our common shares do not affect the amount of compensation expense related to these awards. During the year ended October 31, 2017, all remaining deferred compensation relating to these arrangements was recognized.

Employee compensation expense related to plans where we entered into agreements with third parties for the years ended October 31, 2017, 2016 and 2015 was \$(7) million, \$26 million and \$81 million before tax, respectively (\$5 million, \$19 million and \$60 million after tax, respectively).

Mid-term incentive plan units for which we did not enter into agreements with third parties for the years ended October 31, 2017, 2016 and 2015 totalled 5.9 million, 6.4 million and 5.8 million units, respectively. The grant date fair value of these awards as at October 31, 2017, 2016 and 2015 was \$515 million, \$492 million and \$475 million, respectively, for which we recorded employee compensation expense of \$703 million, \$537 million and \$303 million before tax, respectively (\$516 million, \$397 million and \$224 million after tax, respectively). Beginning in November 2014, we no longer enter into agreements with third parties; however, we economically hedge the impact of the change in market value of our common shares by entering into total return swaps (equity contracts). Gains (losses) on total return swaps recognized for the years ended October 31, 2017, 2016 and 2015 were \$183 million, \$111 million and \$(27) million, respectively, resulting in net employee compensation expense of \$520 million, \$426 million and \$330 million, respectively.

A total of 17.0 million, 17.0 million and 16.1 million mid-term incentive plan units were outstanding as at October 31, 2017, 2016 and 2015, respectively, and the intrinsic value of those awards which had vested was \$1,253 million, \$883 million and \$497 million, respectively. Cash payments made in relation to these liabilities were \$343 million, \$131 million and \$127 million, respectively.

#### *Deferred Incentive Plans*

We offer deferred incentive plans for members of our Board of Directors, executives and key employees in BMO Capital Markets and Wealth Management. Under these plans, fees, annual incentive payments and/or commissions can be deferred as share units of our common shares. These share units are either fully vested on the grant date or vest at the end of three years. The value of these share units is adjusted to reflect reinvested dividends and changes in the market value of our common shares.

Deferred incentive plan payments are paid in cash upon the participant's departure from the bank.

Employee compensation expense for these plans is recorded in the year the fees, incentive payments and/or commissions are earned. Changes in the amount of the incentive plan payments as a result of dividends and share price movements are recorded as increases or decreases in employee compensation expense in the period of the change.

Deferred incentive plan units granted during the years ended October 31, 2017, 2016 and 2015 totalled 0.3 million, 0.4 million and 0.3 million, respectively, and the grant date fair value of these units was \$32 million, \$28 million and \$26 million, respectively.

Liabilities related to these plans are recorded in other liabilities in our Consolidated Balance Sheet and totalled \$499 million and \$414 million as at October 31, 2017 and 2016, respectively. Payments made under these plans for the years ended October 31, 2017, 2016 and 2015 were \$32 million, \$53 million and \$25 million, respectively.

Employee compensation expense related to these plans for the years ended October 31, 2017, 2016 and 2015 was \$91 million, \$67 million and \$(2) million before tax, respectively (\$67 million, \$50 million and \$(1) million after tax, respectively). We have entered into derivative instruments to hedge our exposure related to these plans. Changes in the fair value of these derivatives are recorded as employee compensation expense in the period in which they arise. Gains (losses) on these derivatives for the years ended October 31, 2017, 2016 and 2015 were \$78 million, \$57 million and \$(16) million before tax, respectively. These gains (losses) resulted in net employee compensation expense for the years ended October 31, 2017, 2016 and 2015 of \$13 million, \$10 million and \$14 million before tax, respectively (\$10 million, \$7 million and \$10 million after tax, respectively).

A total of 5.0 million, 4.8 million and 4.9 million deferred incentive plan units were outstanding as at October 31, 2017, 2016 and 2015, respectively.

## Note 22: Employee Compensation – Pension and Other Employee Future Benefits

### Pension and Other Employee Future Benefit Plans

We sponsor a number of arrangements globally, with the largest of such arrangements located in Canada, the United States and the United Kingdom, that provide pension and other employee future benefits to our retired and current employees. The largest of these arrangements, by defined benefit obligation, are the primary defined benefit pension plans for employees in Canada and the United States and the primary other employee future benefit plan for employees in Canada.

Pension arrangements include defined benefit pension plans, as well as supplementary arrangements that provide pension benefits in excess of statutory limits. Generally, under these plans we provide retirement benefits based on an employee's years of service and average annual earnings over a period of time prior to retirement. Our pension and other employee future benefit expenses, recorded in employee compensation expense, mainly comprise the current service cost plus or minus the interest on net defined benefit assets or liabilities. In addition, we provide defined contribution pension plans to employees in some of our subsidiaries. The costs of these plans, recorded in employee compensation expense, are equal to our contributions to the plans.

The defined benefit pension plans for our employees in the United States were closed to new members on April 1, 2016 and closed to future accruals on March 1, 2017. A defined contribution pension plan was made available for employees affected by the closure. As a result of the closure of these plans, we recorded a curtailment gain of \$52 million in non-interest expense, employee compensation, in our Consolidated Statement of Income in 2016.

We also provide other employee future benefits, including health and dental care benefits and life insurance, for eligible current and retired employees.

Short-term employee benefits, such as salaries, paid absences, bonuses and other benefits, are accounted for on an accrual basis over the period in which the employees provide the related services.

## Investment Policy

The assets of the defined benefit pension plans are managed in accordance with all applicable laws and regulations. The plans are administered under a defined governance structure, with the oversight resting with the Board of Directors.

The plans are managed under a framework that considers both assets and liabilities in the development of an investment policy and in managing risk. Over the past several years, we have implemented a liability-driven investment strategy for the primary Canadian plan to enhance risk-adjusted returns while reducing the plan's surplus volatility. This strategy has reduced the impact of the plan on our regulatory capital.

The plans invest in asset classes that include equities, fixed income and alternative strategies, under established investment guidelines. Plan assets are diversified across asset classes and by geographic exposure. They are managed by asset management firms that are responsible for the selection of investment securities. Derivative instruments are permitted under policy guidelines and are generally used to hedge foreign currency exposures, manage interest rate exposures or replicate the return of an asset.

## Asset Allocations

The asset allocation ranges and weighted-average actual asset allocations of our primary pension plans, based on the fair market values at October 31, are as follows:

	Pension benefit plans		
	Target Range 2017	Actual 2017	Actual 2016
Equities	25% – 50%	40%	42%
Fixed income investments	25% – 55%	46%	44%
Other	10% – 40%	14%	14%

Our pension and other employee future benefit plan assets are measured at fair value on a recurring basis.

## Risk Management

The plans are exposed to various risks, including market risk (interest rate, equity and foreign currency risks), credit risk, operational risk, surplus risk and longevity risk. We follow a number of approaches to monitor and actively manage these risks, including:

- monitoring surplus-at-risk, which measures a plan's risk in an asset-liability framework;
- stress testing and scenario analyses to evaluate the volatility of the plans' financial positions and any potential impact on the bank;
- hedging of currency exposures and interest rate risk within policy limits;
- controls related to asset mix allocations, geographic allocations, portfolio duration, credit quality of debt securities, sector guidelines, issuer/counterparty limits and others; and
- ongoing monitoring of exposures, performance and risk levels.

## Pension and Other Employee Future Benefit Liabilities

Our actuaries perform valuations of our defined benefit obligations for pension and other employee future benefits as at October 31 of each year using the projected unit credit method based on management's assumptions about discount rates, rates of compensation increase, retirement age, mortality and health care cost trend rates.

The discount rates for the primary Canadian and U.S. pension and other employee future benefit plans were selected based on the yields of high-quality AA rated corporate bond yields with terms matching the plans' cash flows.

The fair value of plan assets is deducted from the defined benefit obligation to determine the net defined benefit asset or liability. For defined benefit pension plans that are in a net defined benefit asset position, the recognized asset is limited to the present value of economic benefits available in the form of future refunds from the plan or reductions in future contributions to the plan (the "asset ceiling"). Changes in the asset ceiling are recognized in other comprehensive income. Components of the change in our net defined benefit assets or liabilities and our pension and other employee future benefit expense are as follows:

**Current service cost** represents benefits earned in the current year. The cost is determined with reference to the current workforce and the amount of benefits to which employees will be entitled upon retirement, based on the provisions of our benefit plans.

**Interest on net defined benefit asset or liability** represents the increase in the net defined benefit asset or liability that results from the passage of time and is determined by applying the discount rate to the net defined benefit asset or liability.

**Actuarial gains and losses** may arise in two ways. First, each year our actuaries recalculate the defined benefit obligations and compare them to those estimated as at the previous year end. Any differences that result from changes in demographic and economic assumptions or from plan member experience being different from management's expectations at the previous year end are considered actuarial gains or losses. Second, actuarial gains and losses arise when there are differences between the discount rate and actual returns on plan assets. Actuarial gains and losses are recognized immediately in other comprehensive income as they occur and are not subsequently reclassified to income in future periods.

**Plan amendments** are changes in our defined benefit obligations that result from changes to provisions of the plans. The effects of plan amendments are recognized immediately in income when a plan is amended.

**Settlements** occur when defined benefit obligations for plan participants are settled, usually through lump sum cash payments, and as a result we no longer have any obligation to provide such participants with benefit payments in the future.

## Funding of Pension and Other Employee Future Benefit Plans

We fund our defined benefit pension plans in Canada and the United States in accordance with statutory requirements, and the assets in these plans are used to pay benefits to retirees and other employees. Some groups of employees are also eligible to make voluntary contributions in order to receive enhanced benefits. Our supplementary pension plan in Canada is funded, while in the United States the supplementary pension plan is unfunded.

Our other employee future benefit plans in Canada and the United States are either partially funded or unfunded. Benefit payments related to these plans are paid either through the respective plan or directly by us.

We measure the fair value of plan assets for our plans in Canada and the United States as at October 31. In addition to actuarial valuations for accounting purposes, we are required to prepare valuations for determining our minimum funding requirements for our pension arrangements in accordance with the relevant statutory framework (our "funding valuation"). An annual funding valuation is performed for our plans in Canada and the United States. The most recent funding valuation for our primary Canadian pension plan was performed as at October 31, 2017 and the most recent funding valuation for our primary U.S. pension plan was performed as at January 1, 2017. Benefit payments for fiscal 2018 are estimated to be \$508 million.

A summary of plan information for the past three years is as follows:

(Canadian \$ in millions)	Pension benefit plans			Other employee future benefit plans		
	2017	2016	2015	2017	2016	2015
Defined benefit obligation	<b>8,846</b>	8,992	7,934	<b>1,460</b>	1,493	1,323
Fair value of plan assets	<b>8,990</b>	8,655	8,072	<b>157</b>	150	131
Surplus (deficit) and net defined benefit asset (liability)	<b>144</b>	(337)	138	<b>(1,303)</b>	(1,343)	(1,192)
Surplus (deficit) is comprised of:						
Funded or partially funded plans	<b>339</b>	(127)	362	<b>28</b>	7	(32)
Unfunded plans	<b>(195)</b>	(210)	(224)	<b>(1,331)</b>	(1,350)	(1,160)
Surplus (deficit) and net defined benefit asset (liability)	<b>144</b>	(337)	138	<b>(1,303)</b>	(1,343)	(1,192)

## Pension and Other Employee Future Benefit Expenses

Pension and other employee future benefit expenses are determined as follows:

(Canadian \$ in millions)	Pension benefit plans			Other employee future benefit plans		
	2017	2016	2015	2017	2016	2015
<b>Annual benefits expense</b>						
Current service cost	<b>254</b>	224	286	<b>32</b>	25	29
Net interest (income) expense on net defined benefit (asset) liability	<b>7</b>	(10)	(5)	<b>47</b>	52	50
Gain on settlement	-	-	(13)	-	-	-
Administrative expenses	<b>5</b>	5	4	-	-	-
Remeasurement of other long-term benefits	-	-	-	<b>(6)</b>	6	4
Benefits expense	<b>266</b>	219	272	<b>73</b>	83	83
Canada and Quebec pension plan expense	<b>75</b>	73	73	-	-	-
Defined contribution expense	<b>123</b>	96	86	-	-	-
Total annual pension and other employee future benefit expenses recognized in the Consolidated Statement of Income	<b>464</b>	388	431	<b>73</b>	83	83

## Weighted-average assumptions used to determine benefit expenses

	Pension benefit plans			Other employee future benefit plans		
	2017	2016	2015	2017	2016	2015
Discount rate at beginning of year (2)(3)	<b>3.4%</b>	4.2%	4.1%	<b>3.6%</b>	4.4%	4.2%
Rate of compensation increase	<b>2.8%</b>	2.7%	2.9%	<b>2.4%</b>	2.4%	2.6%
Assumed overall health care cost trend rate	<b>na</b>	na	na	<b>5.2%</b> (1)	5.3% (1)	5.5% (1)

(1) Trending to 4.5% in 2031 and remaining at that level thereafter.

(2) The pension benefit current service cost is calculated using a separate discount rate of 3.68% and 4.48% for 2017 and 2016, respectively.

(3) The other employee future benefit plans current service cost is calculated using a separate discount rate of 3.78% and 4.66% for 2017 and 2016, respectively.

na - not applicable

Assumptions regarding future mortality are based on published statistics and mortality tables calibrated to plan experience, when applicable. The current life expectancies underlying the amounts of the defined benefit obligations for our primary plans are as follows:

(Years)	Canada		United States	
	2017	2016	2017	2016
<b>Life expectancy for those currently age 65</b>				
Males	<b>23.6</b>	23.5	<b>22.0</b>	22.2
Females	<b>24.0</b>	23.9	<b>23.4</b>	23.8
<b>Life expectancy at age 65 for those currently age 45</b>				
Males	<b>24.6</b>	24.5	<b>23.2</b>	23.4
Females	<b>24.9</b>	24.9	<b>24.6</b>	25.0

Changes in the estimated financial positions of our pension benefit plans and other employee future benefit plans are as follows:

(Canadian \$ in millions, except as noted)	Pension benefit plans		Other employee future benefit plans	
	2017	2016	2017	2016
<b>Defined benefit obligation</b>				
Defined benefit obligation at beginning of year	8,992	7,934	1,493	1,323
Current service cost	254	224	32	25
Interest cost	300	326	52	57
Benefits paid	(448)	(406)	(45)	(42)
Employee contributions	15	13	5	4
Actuarial (gains) losses due to:				
Changes in demographic assumptions	(127)	(34)	(107)	(37)
Changes in financial assumptions	(150)	1,041	(2)	164
Plan member experience	45	(9)	39	(6)
Foreign exchange and other	(35)	(97)	(7)	5
Defined benefit obligation at end of year	8,846	8,992	1,460	1,493
Wholly or partially funded defined benefit obligation	8,651	8,782	129	143
Unfunded defined benefit obligation	195	210	1,331	1,350
Total defined benefit obligation	8,846	8,992	1,460	1,493
<b>Weighted-average assumptions used to determine the defined benefit obligation</b>				
Discount rate at end of year	3.5%	3.4%	3.6%	3.6%
Rate of compensation increase	2.4%	2.8%	2.0%	2.4%
Assumed overall health care cost trend rate	na	na	5.2% (1)	5.3% (1)
<b>Fair value of plan assets</b>				
Fair value of plan assets at beginning of year	8,655	8,072	150	131
Interest income	293	336	5	5
Return on plan assets (excluding interest income)	277	532	8	10
Employer contributions	219	235	40	38
Employee contributions	15	13	5	4
Benefits paid	(448)	(406)	(45)	(42)
Administrative expenses	(5)	(5)	-	-
Foreign exchange and other	(16)	(122)	(6)	4
Fair value of plan assets at end of year	8,990	8,655	157	150
Surplus (deficit) and net defined benefit asset (liability) at end of year	144	(337)	(1,303)	(1,343)
<b>Recorded in:</b>				
Other assets	508	118	-	-
Other liabilities	(364)	(455)	(1,303)	(1,343)
Surplus (deficit) and net defined benefit asset (liability) at end of year	144	(337)	(1,303)	(1,343)
<b>Actuarial gains (losses) recognized in other comprehensive income</b>				
Net actuarial gains on plan assets	277	532	8	10
Actuarial gains (losses) on defined benefit obligation due to:				
Changes in demographic assumptions	127	34	104	34
Changes in financial assumptions	150	(1,041)	-	(160)
Plan member experience	(45)	9	(41)	12
Foreign exchange and other	(3)	(8)	-	-
<b>Actuarial gains (losses) recognized in other comprehensive income for the year</b>	<b>506</b>	<b>(474)</b>	<b>71</b>	<b>(104)</b>

(1) Trending to 4.5% in 2031 and remaining at that level thereafter.

na - not applicable



Our pension and other employee future benefit plan assets are measured at fair value on a recurring basis. The fair values of plan assets held by our primary plans as at October 31 are as follows:

(Canadian \$ in millions)	Canadian plans		U.S. plans (1)	
	2017	2016	2017	2016
Cash and money market funds (2)	85	68	55	48
Securities issued or guaranteed by: (3)				
Canadian federal government	192	144	-	-
Canadian provincial and municipal governments	797	722	-	-
U.S. federal government	20	3	307	145
U.S. states, municipalities and agencies	-	-	16	18
Pooled funds (4)	3,673	3,451	82	106
Derivative instruments	(29)	(26)	-	-
Corporate debt (5)	747	881	520	481
Corporate equity (2)	938	832	354	539
	<b>6,423</b>	<b>6,075</b>	<b>1,334</b>	<b>1,337</b>

(1) All of the U.S. plans' assets have quoted prices in active markets, except pooled funds, corporate debt and securities issued or guaranteed by U.S. states, municipalities and agencies.

(2) \$80 million (\$61 million in 2016) of the cash and money market funds and corporate equity are held by Canadian plans as at October 31, 2017 and 2016 have quoted prices in active markets.

(3) \$622 million (\$537 million in 2016) of securities issued or guaranteed by governments held by Canadian plans have quoted prices in active markets.

(4) \$1,743 million (\$1,607 million in 2016) of pooled funds held by Canadian plans have quoted prices in active markets.

(5) \$9 million (\$7 million in 2016) of corporate debt held by Canadian plans has quoted prices in active markets.

No plan assets are directly invested in the bank's or related parties' securities as at October 31, 2017 and 2016. As at October 31, 2017, our primary Canadian plan indirectly held, through pooled funds, approximately \$3 million (\$13 million in 2016) of our common shares. The plans do not hold any property we occupy or other assets we use.

The plans paid \$4 million in the year ended October 31, 2017 (\$4 million in 2016) to the bank and certain of our subsidiaries for investment management, record-keeping, custodial and administrative services rendered.

### Sensitivity of Assumptions

Key weighted-average assumptions used in measuring the defined benefit obligations for our primary plans are outlined in the following table. The sensitivity analysis provided in the table should be used with caution as it is hypothetical and the impact of changes in each key assumption may not be linear. The sensitivities to changes in each key variable have been calculated independently of the impact of changes in other key variables. Actual experience may result in simultaneous changes in a number of key assumptions, which would amplify or reduce certain sensitivities.

(Canadian \$ in millions, except as noted)	Defined benefit obligation	
	Pension benefit plans	Other employee future benefit plans
Discount rate (%)	3.5	3.6
Impact of: 1% increase (\$)	(891)	(170)
1% decrease (\$)	1,125	216
Rate of compensation increase (%)	2.4	2.0
Impact of: 0.25% increase (\$)	43	1
0.25% decrease (\$)	(42)	(1)
Mortality		
Impact of: 1 year shorter life expectancy (\$)	(150)	(34)
1 year longer life expectancy (\$)	147	35
Assumed overall health care cost trend rate (%)	na	5.2 (1)
Impact of: 1% increase (\$)	na	81
1% decrease (\$)	na	(82)

(1) Trending to 4.5% in 2031 and remaining at that level thereafter.

na - not applicable

### Disaggregation of Defined Benefit Obligation

Disaggregation of the defined benefit obligation for our primary plans is as follows:

	2017	2016
<b>Canadian pension plans</b>		
Active members	43%	45%
Inactive and retired members	57%	55%
	<b>100%</b>	<b>100%</b>
<b>U.S. pension plans</b>		
Active members	66%	68%
Inactive and retired members	34%	32%
	<b>100%</b>	<b>100%</b>
<b>Canadian other employee future benefit plans</b>		
Active members	41%	44%
Inactive and retired members	59%	56%
	<b>100%</b>	<b>100%</b>

## Maturity Profile

The duration of the defined benefit obligation for our primary plans is as follows:

(Years)	2017	2016
Canadian pension plans	14.7	16.0
U.S. pension plans	8.0	8.3
Canadian other employee future benefit plans	16.5	17.2

## Cash Flows

Cash payments we made during the year in connection with our employee future benefit plans are as follows:

(Canadian \$ in millions)	Pension benefit plans			Other employee future benefit plans		
	2017	2016	2015	2017	2016	2015
Contributions to defined benefit plans	187	192	198	-	-	-
Contributions to defined contribution plans	123	96	86	-	-	-
Benefits paid directly to pensioners	32	43	33	40	38	35
	342	331	317	40	38	35

Our best estimate of the contributions we expect to make for the year ending October 31, 2018 is approximately \$196 million to our defined benefit pension plans and \$45 million to our other employee future benefit plans.

## Note 23: Income Taxes

We report our provision for income taxes in our Consolidated Statement of Income based upon transactions recorded in our consolidated financial statements regardless of when they are recognized for income tax purposes, with the exception of repatriation of retained earnings from our subsidiaries, as noted below.

In addition, we record an income tax expense or benefit in other comprehensive income or directly in shareholders' equity when the taxes relate to amounts recorded in other comprehensive income or shareholders' equity. For example, income tax expense (recovery) on hedging gains (losses) related to our net investment in foreign operations is recorded in our Consolidated Statement of Comprehensive Income as part of unrealized gains (losses) on translation of net foreign operations.

Current tax is the amount of income tax recoverable (payable) in respect of the taxable loss (profit) for a period. Deferred income tax assets and liabilities are measured at the tax rates expected to apply when temporary differences reverse. Changes in deferred income tax assets and liabilities related to a change in tax rates are recorded in income in the period the tax rate is substantively enacted, except to the extent that the tax arises from a transaction or event which is recognized either in other comprehensive income or directly in shareholders' equity. Current and deferred taxes are only offset when they are levied by the same taxing authority, levied on the same entity or group of entities and when there is a legal right to offset.

Included in deferred income tax assets is \$126 million (\$nil in 2016) related to Canadian tax loss carryforwards that will expire in 2037, \$1,091 million (\$1,328 million in 2016) related to U.S. tax loss carryforwards that will expire in various amounts in U.S. taxation years from 2029 through 2034 and \$16 million (\$15 million in 2016) related to U.K. tax loss carryforwards that are available for use indefinitely against relevant profits generated in the U.K. On the evidence available, including management projections of income, we believe that there will be sufficient taxable income generated by our business operations to support these deferred tax assets. The amount of tax on temporary differences, unused tax losses and unused tax credits for which no deferred tax asset is recognized in our Consolidated Balance Sheet as at October 31, 2017 is \$282 million (\$240 million as at October 31, 2016). Deferred tax assets have not been recognized in respect of these items because it is not probable that realization of these assets will occur.

Income that we earn in foreign countries through our branches or subsidiaries is generally subject to tax in those countries. We are also subject to Canadian taxation on the income earned in our foreign branches. Canada allows a credit for certain foreign taxes paid on this income. Upon repatriation of retained earnings from certain foreign subsidiaries, we would be required to pay tax on certain of these earnings. As repatriation of such earnings is not planned in the foreseeable future, we have not recorded the related deferred income tax liability.

Taxable temporary differences associated with investments in certain subsidiaries, branches, associates and interests in joint ventures for which deferred tax liabilities have not been recognized are \$12 billion as at October 31, 2017 (\$11 billion in 2016).

## Provision for Income Taxes

(Canadian \$ in millions)	2017	2016	2015
<b>Consolidated Statement of Income</b>			
Current			
Provision for income taxes for the current period	1,254	927	685
Adjustments in respect of current tax for prior periods	18	8	18
Deferred			
Origination and reversal of temporary differences	80	183	253
Effect of changes in tax rates	(2)	(2)	(15)
Previously unrecognized tax loss, tax credit or temporary difference of a prior period	(54)	(15)	(5)
	<b>1,296</b>	<b>1,101</b>	<b>936</b>
<b>Other Comprehensive Income and Shareholders' Equity</b>			
Income tax expense (recovery) related to:			
Gains (losses) on remeasurement of pension and other employee future benefit plans	157	(156)	51
Unrealized gains (losses) on available-for-sale securities, net of hedging activities	21	64	(63)
Reclassification to earnings of (gains) on available-for-sale securities	(36)	(11)	(24)
Gains (losses) on remeasurement of own credit risk on financial liabilities designated at fair value	(53)	(55)	43
Gains (losses) on cash flow hedges	(322)	4	188
Reclassification to earnings of (gains) losses on cash flow hedges	21	6	(14)
Hedging of unrealized (gains) losses on translation of net foreign operations	8	10	(167)
Share-based compensation	(12)	-	-
Total	<b>1,080</b>	<b>963</b>	<b>950</b>

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

## Components of Total Provision for Income Taxes

(Canadian \$ in millions)	2017	2016	2015
Canada: Current income taxes			
Federal	470	434	352
Provincial	272	248	191
	<b>742</b>	<b>682</b>	<b>543</b>
Canada: Deferred income taxes			
Federal	2	(120)	131
Provincial	-	(67)	71
	<b>2</b>	<b>(187)</b>	<b>202</b>
Total Canadian	<b>744</b>	<b>495</b>	<b>745</b>
Foreign: Current income taxes	281	220	103
Deferred income taxes	55	248	102
Total foreign	<b>336</b>	<b>468</b>	<b>205</b>
Total	<b>1,080</b>	<b>963</b>	<b>950</b>

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

Set out below is a reconciliation of our statutory tax rates and income taxes that would be payable at these rates to the effective income tax rates and provision for income taxes that we have recorded in our Consolidated Statement of Income:

(Canadian \$ in millions, except as noted)	2017	2016	2015
Combined Canadian federal and provincial income taxes at the statutory tax rate	1,768	26.6%	1,525
Increase (decrease) resulting from:			
Tax-exempt income from securities	(409)	(6.2)	(367)
Foreign operations subject to different tax rates	22	0.3	13
Change in tax rate for deferred income taxes	(2)	-	(2)
Previously unrecognized tax loss, tax credit or temporary difference of a prior period	(54)	(0.8)	(15)
Income attributable to investments in associates and joint ventures	(103)	(1.5)	(47)
Adjustments in respect of current tax for prior periods	18	0.2	8
Other	56	0.9	(14)
Provision for income taxes and effective tax rate	<b>1,296</b>	<b>19.5%</b>	<b>1,101</b>
			<b>19.2%</b>
			<b>17.5%</b>

(1) The combined statutory tax rate changed during the year as a result of legislation that became substantively enacted with respect to the year.

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

## Components of Deferred Income Tax Balances

(Canadian \$ in millions)

Deferred Income Tax Assets (1)	Allowance for credit losses	Employee future benefits	Deferred compensation benefits	Other comprehensive income	Tax loss carryforwards	Other	Total
As at October 31, 2015	1,019	382	431	(31)	1,324	674	3,799
Benefit (expense) to income statement	(149)	8	30	-	7	23	(81)
Benefit (expense) to equity	-	34	-	(51)	-	-	(17)
Translation and other	13	-	1	-	12	(5)	21
As at October 31, 2016	883	424	462	(82)	1,343	692	3,722
Benefit (expense) to income statement	(118)	12	102	-	(18)	106	84
Benefit (expense) to equity	-	(14)	-	112	-	12	110
Translation and other	(55)	(6)	(19)	(3)	(92)	(36)	(211)
As at October 31, 2017	710	416	545	27	1,233	774	3,705

  

Deferred Income Tax Liabilities (2)	Premises and equipment	Pension benefits	Goodwill and intangible assets	Securities	Other	Total
As at October 31, 2015	(454)	(33)	(316)	9	(108)	(902)
Benefit (expense) to income statement	(160)	(3)	65	2	11	(85)
Benefit (expense) to equity	-	122	-	-	-	122
Translation and other	1	3	(2)	1	(1)	2
As at October 31, 2016	(613)	89	(253)	12	(98)	(863)
Benefit (expense) to income statement	(83)	5	(23)	11	(18)	(108)
Benefit (expense) to equity	-	(143)	-	-	-	(143)
Translation and other	32	(3)	15	(2)	(1)	41
As at October 31, 2017	(664)	(52)	(261)	21	(117)	(1,073)

(1) Deferred tax assets of \$2,865 million and \$3,101 million as at October 31, 2017 and 2016, respectively, are presented on the balance sheet net by legal jurisdiction.

(2) Deferred tax liabilities of \$233 million and \$242 million as at October 31, 2017 and 2016, respectively, are presented on the balance sheet net by legal jurisdiction.

During the year ended October 31, 2017, we were reassessed by the Canada Revenue Agency ("CRA") for additional income taxes and interest in an amount of approximately \$116 million in respect of certain 2012 Canadian corporate dividends. Previously, during the year ended October 31, 2016, we were reassessed by the CRA for additional income taxes of approximately \$76 million in respect of certain 2011 Canadian corporate dividends. In its reassessments, the CRA denied dividend deductions on the basis that the dividends were received as part of a "dividend rental arrangement." The tax rules dealing with dividend rental arrangements were revised in the 2015 Canadian Federal Budget, which introduced rules that applied as of May 1, 2017. It is possible that we may be reassessed for significant income tax for similar activities in 2013 and subsequent years. We remain of the view that our tax filing positions were appropriate and intend to challenge any reassessment.

The U.S. government is currently working on comprehensive tax reform legislation. The final legislation is currently unknown and any changes in tax law will be incorporated in our financial statements when they are enacted.

## Note 24: Earnings Per Share

Basic earnings per share is calculated by dividing net income attributable to our shareholders, after deducting preferred share dividends, by the daily average number of fully paid common shares outstanding throughout the year.

Diluted earnings per share is calculated in the same manner, with further adjustments made to reflect the dilutive impact of instruments convertible into our common shares.

The following table presents our basic and diluted earnings per share:

Basic Earnings per Share	2017	2016	2015
(Canadian \$ in millions, except as noted)			
Net income attributable to bank shareholders	5,348	4,622	4,370
Dividends on preferred shares	(184)	(150)	(117)
Net income available to common shareholders	5,164	4,472	4,253
Weighted-average number of common shares outstanding (in thousands)	649,650	644,049	644,916
Basic earnings per share (Canadian \$)	7.95	6.94	6.59
<b>Diluted Earnings per Share</b>			
Net income available to common shareholders adjusted for impact of dilutive instruments	5,164	4,472	4,253
Weighted-average number of common shares outstanding (in thousands)	649,650	644,049	644,916
Effect of dilutive instruments			
Stock options potentially exercisable (1)	6,859	8,706	9,470
Common shares potentially repurchased	(4,548)	(6,629)	(7,245)
Weighted-average number of diluted common shares outstanding (in thousands)	651,961	646,126	647,141
Diluted earnings per share (Canadian \$)	7.92	6.92	6.57

(1) In computing diluted earnings per share, we excluded average stock options outstanding of 1,330,564, 1,353,464 and 1,909,518 with weighted-average exercise prices of \$182.70, \$238.45 and \$226.11 for the years ended October 31, 2017, 2016 and 2015, respectively, as the average share price for the period did not exceed the exercise price.

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

## Note 25: Commitments, Guarantees, Pledged Assets, Provisions and Contingent Liabilities

In the normal course of business, we enter into a variety of contracts under which we may be required to make payments to reimburse a counterparty for a loss if a third party does not perform according to the terms of a contract or does not make payments when due under the terms of a debt instrument, and contracts under which we provide indirect guarantees of the indebtedness of another party, all of which are considered guarantees.

Guarantees that qualify as derivatives are accounted for in accordance with the policy for derivative instruments (see Note 8). For guarantees that do not qualify as derivatives, the liability is initially recorded at fair value, which is generally the fee received. Subsequently, guarantees are recorded at the higher of the initial fair value, less amortization to recognize any fee income earned over the period, and the best estimate of the amount required to settle the obligation. Any change in the liability is reported in our Consolidated Statement of Income.

We enter into a variety of commitments, including off-balance sheet credit instruments such as backstop liquidity facilities, securities lending, letters of credit, credit default swaps and commitments to extend credit, as a method of meeting the financial needs of our customers. These commitments include contracts where we may be required to make payments to a counterparty, based on changes in the value of an asset, liability or equity security that the counterparty holds, due to changes in an underlying interest rate, foreign exchange rate or other variable. The contractual amount of our commitments represents our maximum undiscounted potential exposure, before possible recoveries under recourse and collateral provisions. Collateral requirements for these instruments are consistent with collateral requirements for loans.

A large majority of these commitments expire without being drawn upon. As a result, the total contractual amounts may not be representative of the funding likely to be required for these commitments.

We strive to limit credit risk by dealing only with counterparties that we believe are creditworthy, and we manage our credit risk for these instruments using the same credit risk process that is applied to loans and other credit assets.

The maximum amount payable related to our various commitments is as follows:

(Canadian \$ in millions)	2017	2016
<b>Financial Guarantees</b>		
Standby letters of credit	<b>18,126</b>	16,853
Credit default swaps (1)	<b>448</b>	981
<b>Other Credit Instruments</b>		
Backstop liquidity facilities	<b>5,044</b>	5,776
Securities lending	<b>5,336</b>	6,022
Documentary and commercial letters of credit	<b>1,030</b>	1,135
Commitments to extend credit (2)	<b>122,881</b>	121,499
Other commitments	<b>4,329</b>	4,379
<b>Total</b>	<b>157,194</b>	156,645

(1) The fair value of the related derivatives included in our Consolidated Balance Sheet was \$6 million as at October 31, 2017 (\$7 million in 2016).

(2) Commitments to extend credit exclude personal lines of credit and credit cards that are unconditionally cancellable at our discretion.

### Financial Guarantees

Standby letters of credit represent our obligation to make payments to third parties on behalf of customers if they are unable to make the required payments or meet other contractual requirements. The majority have a term of one year or less. Collateral requirements for standby letters of credit and guarantees are consistent with our collateral requirements for loans. Standby letters of credit and guarantees include our guarantee of a subsidiary's debt directly provided to a third party.

Written credit default swaps require us to compensate a counterparty following the occurrence of a credit event in relation to a specified reference obligation, such as a bond or a loan. The terms of these contracts range from less than one year to 10 years. Refer to Note 8 for details.

### Other Credit Instruments

Backstop liquidity facilities are provided to asset-backed commercial paper ("ABCP") programs administered by either us or third parties as an alternative source of financing in the event that such programs are unable to access ABCP markets or when predetermined performance measures of the financial assets held by these programs are not met. The terms of the backstop liquidity facilities do not require us to advance money to these programs in the event of insolvency of the borrower. The facilities' terms are generally no longer than one year, but can be several years.

We lend eligible customers' securities to third-party borrowers who have been evaluated for credit risk using the same credit risk process that is applied to loans and other credit assets. In connection with these activities, we may provide indemnification to clients against losses resulting from the failure of the borrower to return loaned securities when due. All borrowings are fully collateralized with cash or marketable securities. As securities are loaned, we require borrowers to maintain collateral which is equal to or in excess of 100% of the fair value of the securities borrowed. The collateral is revalued on a daily basis.

Documentary and commercial letters of credit represent our agreement to honour drafts presented by a third party upon completion of specific activities.

Commitments to extend credit represent our commitment to our customers to grant them credit in the form of loans or other financings for specific amounts and maturities, subject to their meeting certain conditions.

As a participant in merchant banking activities, we enter into commitments to fund external private equity funds and investments in equity and debt securities at market value at the time the commitments are drawn. In addition, we act as underwriter for certain new issuances under which we, alone or together with a syndicate of financial institutions, purchase the new issue for resale to investors.

### Indemnification Agreements

In the normal course of operations, we enter into various agreements that provide general indemnifications. These indemnifications typically occur in connection with sales of assets, securities offerings, service contracts, membership agreements, clearing arrangements, derivative contracts and leasing transactions. Based on historical experience, we expect the risk of loss to be remote.

## Exchange and Clearinghouse Guarantees

We are a member of several securities and futures exchanges and central counterparties. Membership in certain of these organizations may require us to pay a pro rata share of the losses incurred by the organization in the event of default of another member. It is difficult to estimate our maximum exposure under these membership agreements, since this would require an assessment of future claims that may be made against us that have not yet occurred. Based on historical experience, we expect the risk of loss to be remote.

## Pledged Assets

In the normal course of business, we pledge assets as security for various liabilities that we incur.

The following tables summarize our pledged assets and collateral, and the activities to which they relate:

(Canadian \$ in millions)	2017	2016
<b>Bank Assets</b>		
Cash and securities (1)		
Issued or guaranteed by the Government of Canada	7,440	7,502
Issued or guaranteed by a Canadian province, municipality or school corporation	6,170	6,018
Other	51,848	52,164
Mortgages, securities borrowed or purchased under resale agreements and other	99,474	82,667
	<b>164,932</b>	148,351

(Canadian \$ in millions)	2017	2016
<b>Assets pledged in relation to:</b>		
Central counterparties, payment systems and depositories	1,757	1,518
Foreign governments and central banks	3	3
Obligations related to securities sold under repurchase agreements	42,450	29,014
Securities borrowing and lending	51,120	49,218
Derivatives transactions	2,471	7,818
Securitization	27,632	26,530
Covered bonds	24,983	20,285
Other	14,516	13,965
Total pledged assets and collateral (1)	<b>164,932</b>	148,351

(1) Excludes cash pledged with central banks disclosed as restricted cash in Note 2.

## Collateral

When entering into trading activities such as purchases under resale agreements, securities borrowing and lending activities or financing for certain derivative transactions, we require our counterparties to provide us with collateral that will protect us from losses in the event of their default. Collateral transactions (received or pledged) are typically conducted under terms that are usual and customary in standard trading activities. If there is no default, the securities or their equivalents must be returned to or returned by the counterparty at the end of the contract.

The fair value of counterparty collateral that we are permitted to sell or repledge (in the absence of default by the owner of the collateral) was \$118,324 million as at October 31, 2017 (\$115,895 million as at October 31, 2016). The fair value of collateral that we have sold or repledged was \$76,909 million as at October 31, 2017 (\$67,917 million as at October 31, 2016).

## Lease Commitments

We have entered into a number of non-cancellable leases for premises and equipment. Our computer and software leases are typically fixed for one term and our premises leases have various renewal options and rights. Our total contractual rental commitments as at October 31, 2017 were \$2,433 million. The commitments for each of the next five years and thereafter are \$360 million for 2018, \$329 million for 2019, \$291 million for 2020, \$232 million for 2021, \$189 million for 2022 and \$1,032 million thereafter. Included in these amounts are commitments related to 1,045 leased branch locations as at October 31, 2017.

## Provisions and Contingent Liabilities

Provisions are recognized when we have a legal or constructive obligation as a result of past events, such as contractual commitments, legal or other obligations where we can reliably estimate the obligation, and it is probable we will be required to settle the obligation. We recognize as a provision the best estimate of the amount required to settle the obligations as of the balance sheet date, taking into account the risks and uncertainties surrounding the obligations.

Changes in the provision balance during the year were as follows:

(Canadian \$ in millions)	2017	2016
Balance at beginning of year	268	211
Additional provisions/increase in provisions	153	274
Provisions utilized	(172)	(185)
Amounts reversed	(75)	(34)
Exchange differences and other movements	(4)	2
Balance at end of year (1)	<b>170</b>	268

(1) Balance included severance obligations, restructuring charges and legal provisions.

Contingent liabilities are potential obligations arising from past events, the existence of which will only be confirmed by the occurrence or non-occurrence of one or more future events not wholly within our control and are not included in the table above.



## Legal Proceedings

The bank and its subsidiaries are party to legal proceedings, including regulatory investigations, in the ordinary course of business. While there is inherent difficulty in predicting the outcome of these proceedings, management does not expect the outcome of any of these proceedings, individually or in the aggregate, to have a material adverse effect on the consolidated financial position or the results of operations of the bank.

BMO Nesbitt Burns Inc., an indirect subsidiary of the bank, has been named as a defendant in several individual actions and proposed class actions in Canada and the United States brought on behalf of shareholders of Bre-X Minerals Ltd. Many of the actions have been resolved as to BMO Nesbitt Burns Inc., including two during the year ended October 31, 2010. Management believes that there are strong defences to the remaining claims and will vigorously defend them.

## Note 26: Operating and Geographic Segmentation

### Operating Groups

We conduct our business through three operating groups, each of which has a distinct mandate. We determine our operating groups based on our management structure and therefore these groups, and the results attributed to them, may not be comparable with those of other financial services companies. We evaluate the performance of our groups using reported and adjusted measures such as net income, revenue growth, return on equity, and non-interest expense-to-revenue (productivity) ratio, as well as operating leverage.

### Personal and Commercial Banking

Personal and Commercial Banking ("P&C") is comprised of two operating segments: Canadian Personal and Commercial Banking and U.S. Personal and Commercial Banking.

#### *Canadian Personal and Commercial Banking*

Canadian Personal and Commercial Banking ("Canadian P&C") provides a full range of financial products and services to eight million customers. Personal Banking provides financial solutions for everyday banking, financing, investing, credit card and creditor insurance needs. Commercial Banking provides our small business and commercial banking customers with a broad suite of integrated commercial and capital markets products, as well as financial advisory services.

#### *U.S. Personal and Commercial Banking*

U.S. Personal and Commercial Banking ("U.S. P&C") offers a broad range of products and services. Our retail and small and mid-sized business banking customers are served through our branches, contact centres, online and mobile banking platforms and automated banking machines across eight states. Our commercial banking customers are offered in-depth specific industry knowledge, as well as strategic capital markets solutions.

### Wealth Management

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

### BMO Capital Markets

BMO Capital Markets ("BMO CM") is a North American-based financial services provider offering a complete range of products and services to corporate, institutional and government clients. Through our Investment and Corporate Banking and Trading Products lines of business, we operate in 30 locations around the world, including 16 offices in North America.

### Corporate Services

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

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

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

### Basis of Presentation

The results of these operating groups are based on our internal financial reporting systems. The accounting policies used in these segments are generally consistent with those followed in the preparation of our consolidated financial statements, as disclosed in Note 1 and throughout the consolidated financial statements. Income taxes presented below may not be reflective of taxes paid in each jurisdiction where we operate. Income taxes are generally applied to each segment based on a statutory tax rate and may be adjusted for items and activities specific to each segment. A notable accounting measurement difference is the taxable equivalent basis adjustment as described below.

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

#### Taxable Equivalent Basis

We analyze revenue on a taxable equivalent basis ("teb") at the operating group level. Revenue and the provision for income taxes are increased on tax-exempt securities to an equivalent before-tax basis to facilitate comparisons of income between taxable and tax-exempt sources. The offset to the groups' teb adjustments is reflected in Corporate Services revenue and provision for income taxes. The teb adjustment for the year ended October 31, 2017 was \$567 million (\$510 million in 2016 and \$524 million in 2015).

#### Inter-Group Allocations

Various estimates and allocation methodologies are used in the preparation of the operating groups' financial information. We allocate expenses directly related to earning revenue to the groups that earned the related revenue. Expenses not directly related to earning revenue, such as overhead expenses, are allocated to operating groups using allocation formulas applied on a consistent basis. Operating group net interest income reflects internal funding charges and credits on the groups' assets, liabilities and capital, at market rates, taking into account relevant terms and currency considerations. The offset of the net impact of these charges and credits is reflected in Corporate Services. These inter-group allocations are also applied to the geographical segmentation.

Our results and average assets, grouped by operating segment, are as follows:

(Canadian \$ in millions)	Canadian P&C	U.S. P&C	Wealth Management	BMO CM	Corporate Services (1)	Total
<b>2017</b>						
Net interest income (2)	5,262	3,607	700	1,288	(850)	10,007
Non-interest revenue	2,182	1,066	5,492	3,336	177	12,253
Total Revenue	7,444	4,673	6,192	4,624	(673)	22,260
Provision for credit losses	505	295	8	44	(78)	774
Insurance claims, commissions and changes in policy benefit liabilities	-	-	1,538	-	-	1,538
Amortization	308	434	241	120	-	1,103
Non-interest expense	3,292	2,508	3,106	2,658	635	12,199
Income before taxes and non-controlling interest in subsidiaries	3,339	1,436	1,299	1,802	(1,230)	6,646
Provision for income taxes	827	370	346	487	(734)	1,296
Reported net income (loss)	2,512	1,066	953	1,315	(496)	5,350
Non-controlling interest in subsidiaries	-	-	2	-	-	2
Net Income (loss) attributable to bank shareholders	2,512	1,066	951	1,315	(496)	5,348
Average Assets	217,685	104,090	32,562	306,319	61,970	722,626
(Canadian \$ in millions)	Canadian P&C	U.S. P&C	Wealth Management	BMO CM	Corporate Services (1)	Total
<b>2016</b>						
Net interest income (2)	5,060	3,538	614	1,483	(823)	9,872
Non-interest revenue	1,909	1,119	5,274	2,855	58	11,215
Total Revenue	6,969	4,657	5,888	4,338	(765)	21,087
Provision for credit losses	542	257	9	81	(74)	815
Insurance claims, commissions and changes in policy benefit liabilities	-	-	1,543	-	-	1,543
Amortization	276	433	233	105	-	1,047
Non-interest expense	3,188	2,473	3,104	2,469	716	11,950
Income before taxes and non-controlling interest in subsidiaries	2,963	1,494	999	1,683	(1,407)	5,732
Provision for income taxes	761	409	238	430	(737)	1,101
Reported net income (loss)	2,202	1,085	761	1,253	(670)	4,631
Non-controlling interest in subsidiaries	-	-	2	-	7	9
Net Income (loss) attributable to bank shareholders	2,202	1,085	759	1,253	(677)	4,622
Average Assets	208,018	105,998	30,642	304,031	58,433	707,122
(Canadian \$ in millions)	Canadian P&C	U.S. P&C	Wealth Management	BMO CM	Corporate Services (1)	Total
<b>2015</b>						
Net interest income (2)	4,806	2,845	565	1,307	(760)	8,763
Non-interest revenue	1,833	787	5,198	2,528	280	10,626
Total Revenue	6,639	3,632	5,763	3,835	(480)	19,389
Provision for credit losses	496	119	7	26	(36)	612
Insurance claims, commissions and changes in policy benefit liabilities	-	-	1,254	-	-	1,254
Amortization	236	223	231	98	-	788
Non-interest expense	3,106	2,169	3,127	2,382	610	11,394
Income before taxes and non-controlling interest in subsidiaries	2,801	1,121	1,144	1,329	(1,054)	5,341
Provision for income taxes	698	284	295	320	(661)	936
Reported net income (loss)	2,103	837	849	1,009	(393)	4,405
Non-controlling interest in subsidiaries	-	-	5	-	30	35
Net Income (loss) attributable to bank shareholders	2,103	837	844	1,009	(423)	4,370
Average Assets	197,209	88,954	29,147	290,672	58,409	664,391

(1) Corporate Services includes Technology and Operations.

(2) Operating groups report on a taxable equivalent basis - see Basis of Presentation section.

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

*Geographic Information*

We operate primarily in Canada and the United States, but we also have operations in the United Kingdom, Europe, the Caribbean and Asia, which are grouped in other countries. We allocate our results by geographic region based on the location of the unit responsible for managing the related assets, liabilities, revenues and expenses.

Our results and average assets, grouped by geographic region, are as follows:

(Canadian \$ in millions)	Canada	United States	Other countries	Total
<b>2017</b>				
Total Revenue	<b>13,420</b>	<b>7,134</b>	<b>1,706</b>	<b>22,260</b>
Income before taxes and non-controlling interest in subsidiaries	<b>4,548</b>	<b>1,649</b>	<b>449</b>	<b>6,646</b>
Reported net income	<b>3,782</b>	<b>1,255</b>	<b>313</b>	<b>5,350</b>
Average Assets	<b>430,570</b>	<b>264,473</b>	<b>27,583</b>	<b>722,626</b>
(Canadian \$ in millions)	Canada	United States	Other countries	Total
2016				
Total Revenue	12,826	6,847	1,414	21,087
Income before taxes and non-controlling interest in subsidiaries	3,860	1,550	322	5,732
Reported net income	3,257	1,141	233	4,631
Average Assets	420,155	260,018	26,949	707,122
(Canadian \$ in millions)	Canada	United States	Other countries	Total
2015				
Total Revenue	11,764	5,902	1,723	19,389
Income before taxes and non-controlling interest in subsidiaries	3,851	1,190	300	5,341
Reported net income	3,200	950	255	4,405
Average Assets	402,199	234,475	27,717	664,391

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

## Note 27: Significant Subsidiaries

As at October 31, 2017, the bank, either directly or indirectly through its subsidiaries, controls the following significant operating subsidiaries.

Significant subsidiaries (1)	Head or principal office	Book value of shares owned by the bank (Canadian \$ in millions)
Bank of Montreal Capital Markets (Holdings) Limited and subsidiaries, including:	London, England	307
BMO Capital Markets Limited	London, England	
Pyrford International Limited	London, England	
Bank of Montreal (China) Co. Ltd.	Beijing, China	432
Bank of Montreal Holding Inc. and subsidiaries, including:	Calgary, Canada	23,844
BMO Investments Limited	Hamilton, Bermuda	
BMO Reinsurance Limited	St. Michaels, Barbados	
BMO Nesbitt Burns Holdings Corporation	Toronto, Canada	
BMO Nesbitt Burns Inc.	Toronto, Canada	
BMO Investments Inc.	Toronto, Canada	
BMO InvestorLine Inc.	Toronto, Canada	
Bank of Montreal Ireland plc	Dublin, Ireland	969
Bank of Montreal Mortgage Corporation	Calgary, Canada	2,967
BMO Mortgage Corp.	Vancouver, Canada	
BMO Financial Corp. and subsidiaries, including:	Chicago, United States	20,425
BMO Asset Management Corp. and subsidiaries	Chicago, United States	
BMO Capital Markets Corp.	New York, United States	
BMO Harris Bank National Association and subsidiaries, including:	Chicago, United States	
BMO Harris Investment Company LLC	Las Vegas, United States	
BMO Harris Financial Advisors, Inc.	Chicago, United States	
BMO Harris Financing, Inc. and subsidiaries	Chicago, United States	
CTC my CFO, LLC	Palo Alto, United States	
BMO Global Asset Management (Europe) Limited and subsidiaries, including:	London, England	729
F&C Asset Management plc and subsidiaries	London, England	
BMO Life Insurance Company and subsidiaries, including:	Toronto, Canada	1,059
BMO Life Holdings (Canada), ULC	Halifax, Canada	
BMO Life Assurance Company	Toronto, Canada	
BMO Trust Company	Toronto, Canada	788
BMO Trustee Asia Limited	Hong Kong, China	2
LGM (Bermuda) Limited and subsidiaries, including:	Hamilton, Bermuda	112
BMO Global Asset Management (Asia) Limited	Hong Kong, China	
LGM Investments Limited	London, England	

(1) Each subsidiary is incorporated or organized under the law of the state or country in which the principal office is situated, except for BMO Financial Corp., BMO Asset Management Corp., BMO Capital Markets Corp., BMO Harris Financial Advisors, Inc., BMO Harris Financing, Inc., and CTC myCFO, LLC, which are incorporated under the laws of the State of Delaware, United States. F&C Asset Management plc is incorporated under the laws of Scotland.

### Significant Restrictions

Our ability to transfer funds between our subsidiaries may be restricted by statutory, contractual, capital and regulatory requirements. Restrictions include:

- Assets pledged as security for various liabilities we incur. Refer to Note 25 for details.
- Assets of our consolidated structured entities that are held for the benefit of the note holders. Refer to Note 7 for details.
- Assets held by our insurance subsidiaries. Refer to Note 12 for details.
- Regulatory and statutory requirements that reflect capital and liquidity requirements. Refer to Note 20 for details.
- Funds required to be held with central banks. Refer to Note 2 for details.

## Note 28: Related Party Transactions

Related parties include subsidiaries, associates, joint ventures, key management personnel and employee future benefit plans. Transactions with our subsidiaries are eliminated on consolidation, and are not disclosed as related party transactions.

### Key Management Personnel Compensation

Key management personnel is defined as those persons having authority and responsibility for planning, directing and/or controlling the activities of an entity, being the members of our Board of Directors ("directors") and certain senior executives.

The following table presents the compensation of key management personnel:

(Canadian \$ in millions)	2017	2016	2015
Base salary and incentives	23	22	20
Post-employment benefits	1	2	2
Share-based payments (1)	38	32	27
Total key management personnel compensation	62	56	49

(1) Amounts included in share-based payments are the fair values of awards granted in the year.

We offer senior executives preferential interest rates on credit card balances, a fee-based subsidy on annual credit card fees, and a select suite of customer loan and mortgage products at rates normally accorded to preferred customers. At October 31, 2017, loans to key management personnel totalled \$10 million (\$7 million in 2016).

Directors receive a specified amount of their annual retainers in deferred stock units. Until a director's shareholdings (including deferred stock units) are eight times greater than their annual retainer, they are required to take 100% of their annual retainer and other fees in the form of either our common shares or deferred stock units. They may elect to receive the remainder of such retainer fees and other remuneration in cash, common shares or deferred stock units.

Directors of our wholly owned subsidiary, BMO Financial Corp., are required to take a specified minimum amount of their annual retainers and other fees in the form of deferred stock units.

### Joint Ventures and Associates

We provide banking services to our joint ventures and associates on the same terms offered to our customers for these services. Our investment in a joint venture of which we own 50% totalled \$182 million as at October 31, 2017 (\$187 million in 2016). Our investments in associates over which we exert significant influence totalled \$444 million as at October 31, 2017 (\$390 million in 2016).

The following table presents transactions with our joint ventures and associates:

(Canadian \$ in millions)	2017	2016
Loans	178	323
Deposits	132	205
Fees paid for services received	66	83
Fees received for services provided	3	-
Interest income, loans	4	5
Interest expense	1	3

## Note 29: Contractual Maturities of Assets and Liabilities and Off-Balance Sheet Commitments

The tables below show the remaining contractual maturity of on-balance sheet assets and liabilities and off-balance sheet commitments. The contractual maturity of financial assets and liabilities is an input to, but is not necessarily consistent with, the expected maturity of assets and liabilities that is used in the management of liquidity and funding risk. We forecast asset and liability cash flows, both under normal market conditions and under a number of stress scenarios, to manage liquidity and funding risk. Stress scenarios include assumptions for loan repayments, deposit withdrawals, and credit commitment and liquidity facility drawdowns by counterparty and product type. Stress scenarios also consider the time horizon over which liquid assets can be monetized and the related haircuts and potential collateral requirements that may result from both market volatility and credit rating downgrades, among other assumptions. For further details, see the blue-tinted font portion of the Liquidity and Funding Risk section of Management's Discussion and Analysis.

(Canadian \$ in millions)

2017

	0 to 1 month	1 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	1 to 2 years	2 to 5 years	Over 5 years	No maturity	Total
<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										
Trading securities	1,036	1,470	1,975	2,643	2,054	4,424	8,930	20,896	55,641	99,069
Available-for-sale securities	2,434	939	3,093	2,649	859	2,719	13,051	26,727	1,604	54,075
Held-to-maturity securities	150	501	865	553	712	523	836	4,954	-	9,094
Other securities	-	7	-	-	-	9	25	38	881	960
Total securities	3,620	2,917	5,933	5,845	3,625	7,675	22,842	52,615	58,126	163,198
Securities borrowed or purchased under resale agreements	57,919	13,236	2,353	1,241	249	49	-	-	-	75,047
Loans										
Residential mortgages	1,045	1,551	4,531	7,687	6,201	19,866	65,547	8,830	-	115,258
Consumer instalment and other personal	517	371	1,084	1,374	1,285	4,211	20,845	8,590	23,667	61,944
Credit cards	-	-	-	-	-	-	-	-	8,071	8,071
Businesses and governments	13,379	7,352	6,454	6,169	18,694	17,948	63,614	11,380	33,242	178,232
Allowance for credit losses	-	-	-	-	-	-	-	-	(1,833)	(1,833)
Total loans and acceptances, net of allowance	14,941	9,274	12,069	15,230	26,180	42,025	150,006	28,800	63,147	361,672
Other Assets										
Derivative instruments	1,701	3,748	1,580	1,229	1,306	3,272	7,426	8,689	-	28,951
Customers' liability under acceptances	14,179	2,263	104	-	-	-	-	-	-	16,546
Premises and equipment	-	-	-	-	-	-	-	-	2,033	2,033
Goodwill	-	-	-	-	-	-	-	-	6,244	6,244
Intangible assets	-	-	-	-	-	-	-	-	2,159	2,159
Current tax assets	-	-	-	-	-	-	-	-	1,371	1,371
Deferred tax assets	-	-	-	-	-	-	-	-	2,865	2,865
Other	1,340	475	129	17	11	11	131	4,431	3,860	10,405
Total other assets	17,220	6,486	1,813	1,246	1,317	3,283	7,557	13,120	18,532	70,574
Total Assets	129,125	33,492	22,794	23,881	31,553	53,032	180,405	94,535	140,763	709,580

(Canadian \$ in millions)										2017
	0 to 1 month	1 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	1 to 2 years	2 to 5 years	Over 5 years	No maturity	Total
<b>Liabilities and Equity</b>										
Deposits (1)										
Banks	12,462	9,321	2,633	496	25	-	-	-	6,170	31,107
Businesses and governments	23,917	25,224	19,112	12,897	10,806	16,522	42,707	15,712	117,173	284,070
Individuals	3,835	5,081	5,569	5,662	7,999	9,098	15,811	2,075	113,181	168,311
Total deposits	40,214	39,626	27,314	19,055	18,830	25,620	58,518	17,787	236,524	483,488
Other liabilities										
Derivative instruments	1,876	3,227	1,512	1,510	1,206	3,477	6,885	8,111	-	27,804
Acceptances	14,179	2,263	104	-	-	-	-	-	-	16,546
Securities sold but not yet purchased	25,163	-	-	-	-	-	-	-	-	25,163
Securities lent or sold under repurchase agreements	53,165	1,644	290	20	-	-	-	-	-	55,119
Current tax liabilities	-	-	-	-	-	-	-	-	125	125
Deferred tax liabilities	-	-	-	-	-	-	-	-	233	233
Securitization and structured entities' liabilities	10	709	1,523	556	845	3,931	11,812	3,668	-	23,054
Other	12,616	2,536	517	43	239	752	154	2,361	9,447	28,665
Total other liabilities	107,009	10,379	3,946	2,129	2,290	8,160	18,851	14,140	9,805	176,709
Subordinated debt	-	-	-	-	-	-	-	5,029	-	5,029
Total Equity	-	-	-	-	-	-	-	-	44,354	44,354
Total Liabilities and Equity	147,223	50,005	31,260	21,184	21,120	33,780	77,369	36,956	290,683	709,580

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

(Canadian \$ in millions)										2017
	0 to 1 month	1 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	1 to 2 years	2 to 5 years	Over 5 years	No maturity	Total
<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.



(Canadian \$ in millions)

2016

	0 to 1 month	1 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	1 to 2 years	2 to 5 years	Over 5 years	No maturity	Total
<b>On-Balance Sheet Financial Instruments</b>										
<b>Assets</b>										
Cash and cash equivalents	30,745	-	-	-	-	-	-	-	908	31,653
Interest bearing deposits with banks	2,930	728	421	363	7	-	-	-	-	4,449
Securities										
Trading securities	412	1,449	1,058	2,794	2,645	6,507	7,122	16,975	45,496	84,458
Available-for-sale securities	826	740	1,401	431	376	5,771	19,695	24,808	1,615	55,663
Held-to-maturity securities	-	-	294	-	350	2,841	1,270	4,210	-	8,965
Other securities	-	-	-	-	-	8	54	13	824	899
Total securities	1,238	2,189	2,753	3,225	3,371	15,127	28,141	46,006	47,935	149,985
Securities borrowed or purchased under resale agreements	51,085	10,993	4,167	338	-	63	-	-	-	66,646
Loans										
Residential mortgages	1,001	1,212	3,347	4,772	3,930	24,555	64,044	9,416	-	112,277
Consumer instalment and other personal	371	374	791	828	887	5,431	24,041	8,542	23,415	64,680
Credit cards	-	-	-	-	-	-	-	-	8,101	8,101
Businesses and governments	11,473	5,904	7,155	6,727	20,547	18,140	63,049	11,380	31,222	175,597
Allowance for credit losses	-	-	-	-	-	-	-	-	(1,925)	(1,925)
Total loans and acceptances, net of allowance	12,845	7,490	11,293	12,327	25,364	48,126	151,134	29,338	60,813	358,730
Other Assets										
Derivative instruments	2,508	4,483	1,443	1,480	1,804	3,826	9,796	13,843	-	39,183
Customers' liability under acceptances	11,230	1,748	42	-	1	-	-	-	-	13,021
Premises and equipment	-	-	-	-	-	-	-	-	2,147	2,147
Goodwill	-	-	-	-	-	-	-	-	6,381	6,381
Intangible assets	-	-	-	-	-	-	-	-	2,178	2,178
Current tax assets	-	-	-	-	-	-	-	-	906	906
Deferred tax assets	-	-	-	-	-	-	-	-	3,101	3,101
Other	1,274	453	106	18	4	3	-	4,324	3,373	9,555
Total other assets	15,012	6,684	1,591	1,498	1,809	3,829	9,796	18,167	18,086	76,472
Total Assets	113,855	28,084	20,225	17,751	30,551	67,145	189,071	93,511	127,742	687,935

(Canadian \$ in millions)

2016

	0 to 1 month	1 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	1 to 2 years	2 to 5 years	Over 5 years	No maturity	Total
<b>Liabilities and Equity</b>										
<b>Deposits (1)</b>										
Banks	11,940	12,327	2,239	1,488	464	500	-	-	5,313	34,271
Businesses and governments	33,833	29,737	15,216	13,174	8,359	15,499	34,103	13,006	113,287	276,214
Individuals	2,733	5,072	6,082	5,632	7,252	8,684	16,198	2,706	108,528	162,887
Total deposits	48,506	47,136	23,537	20,294	16,075	24,683	50,301	15,712	227,128	473,372
Other liabilities										
Derivative instruments	1,956	3,064	2,315	1,373	1,240	5,434	9,303	13,542	-	38,227
Acceptances	11,230	1,748	42	-	1	-	-	-	-	13,021
Securities sold but not yet purchased	25,106	-	-	-	-	-	-	-	-	25,106
Securities lent or sold under repurchase agreements	38,004	2,532	182	-	-	-	-	-	-	40,718
Current tax liabilities	-	-	-	-	-	-	-	-	81	81
Deferred tax liabilities	-	-	-	-	-	-	-	-	242	242
Securitization and structured entities' liabilities	7	1,881	589	648	876	3,248	9,756	5,372	-	22,377
Other	8,651	1,152	701	22	4,809	1,704	140	2,444	8,401	28,024
Total other liabilities	84,954	10,377	3,829	2,043	6,926	10,386	19,199	21,358	8,724	167,796
Subordinated debt	-	-	100	-	-	-	-	4,339	-	4,439
Total Equity	-	-	-	-	-	-	-	-	42,328	42,328
Total Liabilities and Equity	133,460	57,513	27,466	22,337	23,001	35,069	69,500	41,409	278,180	687,935

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

(Canadian \$ in millions)

2016

	0 to 1 month	1 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	1 to 2 years	2 to 5 years	Over 5 years	No maturity	Total
<b>Off-Balance Sheet Commitments</b>										
Commitments to extend credit (1)	2,267	2,120	3,776	8,293	12,289	16,236	75,998	3,013	-	123,992
Backstop liquidity facilities	-	-	-	-	-	5,776	-	-	-	5,776
Operating leases	30	61	90	88	88	317	709	602	-	1,985
Securities lending	6,022	-	-	-	-	-	-	-	-	6,022
Purchase obligations	45	96	128	132	129	148	172	99	-	949

(1) A large majority of these commitments expire without being drawn upon. As a result, the total contractual amounts may not be representative of the funding likely to be required for these commitments.

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